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Elisabeth Angela Kuhn

Strategies That Affect Individuals' Gender-Fair Language Use

NTNU
Norwegian University of Science and Technology
Thesis for the Degree of
Philosophiae Doctor
Faculty of Social and Educational Sciences
Department of Psychology



Norwegian University of
Science and Technology

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Definitions and Abbreviations

Definitions

Ability to use gender-fair language = Individuals' potential to use gender-fair language, representing a specific language competence to avoid gender-bias in language use. It is operationalized as "instructed gender-fair language use" in Paper II.

Cued recall task = A task that consists of questions formulated in a way that the response must be a cued role noun. The task is applied to assess the use of the different role noun forms.

Gender-fair language = Language use that avoids gender bias, such as masculine generics, and uses neutral forms, feminized forms, or formulations that avoid the use of personal nouns.

Gender bias in language = A gender bias in language occurs when semantic or grammatical gender is used in a biased way, such as using a masculine generic personal noun or pronoun to refer to a group of men and women or persons of unknown gender.

Gender-marked role noun form = A role noun with a lexical gender-mark that is either male or female, such as the suffix *-menn* in *politmenn* [policemen].

Instructed gender-fair language use = The use of gender-fair forms when instructed to avoid gender-biased forms, reflecting individuals' ability to use gender-fair language.

Masculine generic = The masculine form used for a mixed group of men and women or persons of unknown gender.

Pair form = A form to avoid gender bias in language by using the masculine and feminine forms.

Personal noun = A noun that is referring to a person.

Prevalence of a word = Defined as the percentage of people who know a certain word (Brysbeart et al., 2018).

Prevalence of a role noun form = The prevalence of a role noun refers to how common a role noun is, namely the frequency of how often a role noun is used. To compare the prevalence of two role noun forms, one counts the frequency of both through a corpus analysis and the role noun form with the higher frequency is defined as more prevalent.

Role noun = A noun describing a person with a specific function in a particular situation.

Suffix = A suffix is a word ending after the word stem that can carry grammatical, lexical, or semantic information. An example is the suffix *-menn* in *politmenn* [policemen], carrying masculine lexical and grammatical information.

Syntactical structure = Sentence structure

Spontaneous gender-fair language use = The use of gender-fair forms without any manipulations to increase their use, representing individuals' actual gender-fair language use.

Unmarked role noun form = A role noun without any lexical gender-marks.

Abbreviations

CAT = Communication accommodation theory

Fem = Feminine

Masc = Masculine

MODE model = Motivation and opportunity as determinants model

RQ I – VIII = Research questions I to VIII.

List of Publications

Paper I: Gabriel, U., Gygax, P., & **Kuhn, E. A.** (2018). Neutralising linguistic sexism: Promising but cumbersome? *Group Processes & Intergroup Relations*, 21(5), 844–858. <https://doi.org/10.1177/1368430218771742>

Paper II: **Kuhn, E. A.**, & Gabriel, U. (2014). Actual and potential gender-fair language use: The role of language competence and the motivation to use accurate language. *Journal of Language and Social Psychology*, 33(2), 214–225. <https://doi.org/10.1177/0261927x13504297>

Paper III: Koeser, S., **Kuhn, E. A.**, & Sczesny, S. (2015). Just reading? How gender-fair language triggers readers' use of gender-fair forms. *Journal of Language and Social Psychology*, 34(3), 343–357. <https://doi.org/10.1177/0261927x14561119>

Paper IV: **Kuhn, E. A.**, Koeser, S., & Gabriel, U. (2021). *Spreading the gender-neutral word: Recency and prevalence effects in Norwegian gender-marked and unmarked role nouns*. Manuscript in revision.

Abstract

Language reproduces and produces gender and reality, hence plays a significant role in pursuing an equitable society without discrimination based on gender categories. The promotion of gender-fair language through feminization and neutralization strategies has led to an increase in the use of gender-fair language in recent decades. The change strongly affected formal texts yet only partially influenced everyday language use. In order to further encourage gender-fair language use, it is crucial to better understand what affects individuals' gender-fair language use.

Gender-fair language use is the result of a complex language production process that must be understood in a social context. Accordingly, this thesis was based on written language production and employed both a social-cognitive (motivation and opportunity as determinants model) and a social-interaction perspective (communication accommodation theory) to identify relevant factors that on the one hand could explain individuals' current gender-fair language use and on the other hand how individuals can change and adapt toward more gender-fair language use. Concerning deliberate language use, language competence, the ability to use gender-fair language, and motivation to use accurate language were identified as relevant elements. Regarding automated processes implicit and explicit exposure to gender-fair language and the prevalence of word forms were investigated.

Six experiments (four in German; two in Norwegian) were conducted. To operationalize key concepts new materials and scales needed to be developed, such as text materials in gender-fair and gender-biased forms. Experiments were conducted with samples of university students and trainees and either paper-and-pencil or online.

Results did not support a relation between gender-fair language use and general language competence or motivation to use accurate language. Explicit instruction increased individuals' gender-fair language use but did not result in exclusive use of gender-fair language. Implicit exposure to gender-fair language (reading) leads in the Norwegian samples and in the female German samples to an increase in gender-fair language use. Explicit exposure (being made aware that a text is formulated in a gender-fair manner) leads in the male German sample to an increased use of gender-fair language. With reference to word forms, participants tended to select the more prevalent form.

In sum, the findings of the present study suggest amongst the investigated strategies to promote gender-fair language the most effective are giving instructions and exposing people to—and making them aware of—gender-fair language. These approaches can create a cascade effect, those who use gender-fair language expose other people to its use, which in turn can lead to them using gender-fair language, again exposing others. As gender-fair forms become more prevalent, individuals can access them more easily and, as such, are more likely to use them.

Introduction

Mille vie ducunt hominem per secula Romam (Original in medieval Latin)

A thousand roads lead men forever to Rome (Translation, gender-biased)

Right as diverse pathes leden diverse folk the righte way to Rome (Translation in 1391, gender-fair)

All roads lead to Rome (Contemporary use, gender-fair)

—Simpson and Speake, 2008

The Universal Declaration of Human Rights has proclaimed the equal rights of men and women for over 70 years (UN General Assembly, 1948). Despite significant efforts, gender inequality still exists on a global scale. According to the Global Gender Gap Report (World Economic Forum, 2018), a gender gap is considered to exist in all countries. While improvements have been registered in many countries, it is essential to broaden our knowledge about the factors that maintain gender inequality or support gender equality.

I chose to begin my thesis with a proverb from ancient Rome, as it reflects different meaningful aspects. First, the proverb’s linguistic development shows how language use can change over time. The *Oxford Dictionary of Proverbs* translates the original grammatical masculine form *hominem*_{masc}, into to the gender-biased “men” in English (Simpson & Speake, 2008). They reported that in 1391 the proverb in English translated “hominem” into the gender-fair form “folk” and over time, the personal noun disappeared from the proverb altogether. Second, the proverb states that a “thousand” (or “all”) roads lead to Rome. In the same spirit, gender equality can be approached from different directions. The direction chosen for this thesis is that of language. Linguistic sexism—that is, language use that reflects gender bias—has been controversially debated and investigated. The discussion started with the introduction of the Sapir–Whorf hypothesis, which states that people’s perceptions are relative to their spoken language (Whorf, 1956). Gender is incorporated in language, and language produces and reproduces gender (in)equality (see, e.g., Prewitt-Freilino et al., 2012). In many languages, women are rendered invisible by the generic use of masculine forms, namely by using the male form for mixed groups of men and women or persons of unknown

gender (generic masculine). Such asymmetries can be found in different languages and have been shown to contribute to gender-biases: for example, the Germanic languages German and Norwegian. Gender-fair language use aims to overcome this bias, which can be achieved through feminization strategies (i.e. explicitly referring to women) or neutralization strategies (i.e. no reference to any gender). Both strategies have advantages and disadvantages and have been promoted differently between the languages. In recent decades, the use of gender-fair language has increased, especially in formal texts. Since the use of gender-fair language, whereby women and men are treated equally, encourages more gender equality in society (Sczesny et al., 2016), it is crucial to understand which factors influence people's gender-fair language use. An understanding of such factors and how they affect people's language use is necessary to facilitate changing people's language use toward a more gender-fair nature.

To substantiate these claims, I will first summarize how gender, language, and society are related to one another; second, I will introduce theoretical models and discuss them in the light of previous findings before identifying the leading research questions. The introduction begins with a presentation of gender in language, explaining how gender can be expressed semantically and grammatically. This foundation is followed by a description of possible gender bias in languages, focusing on masculine generics and the influence gender bias has with regard to gender inequality. The question—what can be done to counteract gender bias in language—is addressed by presenting neutralization and feminization strategies as possible approaches to promoting gender-fair language use. Then, I will discuss their application to German and Norwegian, analyzing the guidelines of both languages and how gender-fair language has evolved in both.

Two theoretical approaches — the MODE model to explain social behavior and the Communication Accommodation Theory — will be introduced to allow for a better understanding of what leads individuals to use gender-fair language, and the language process and previous findings will be discussed within the framework of those theories. The introduction ends by explaining how these theories will be used in the present research and why Norwegian and German were chosen. Finally, the section concludes with eight research questions to investigate the relevant factors leading to gender-fair language use.

Gender Bias in Language

What is Gender Bias in Language?

There are different forms of gender bias relating to human referents in language that can occur. In this chapter, I will describe the two forms of bias that the empirical research of this thesis will focus on and how those two forms present themselves in different language groups.

The two predominant forms that create gender bias in language are using a grammatical gendered personal noun or pronoun as a generic (form a) and using a semantically gendered personal noun or a personal noun with semantically gendered information as a generic (form b).

There is a tradition of using grammatically masculine personal nouns generically (form a). One example is the German personal noun *der Lehrer* [the teacher_{masc}], which is used to represent a group of female and male teachers. There are some exceptions where the grammatically feminine forms are used generically; an example of such an exception is *die Wache* [the guard_{fem}]

There is also a tradition of using semantically masculine personal nouns or personal nouns with lexical gender marks in both a generic and gender-specific way (form b). These so-called masculine generics are used when referring to mixed-gender groups, persons with an unknown gender, or cases where the person's gender is considered irrelevant. An example of using a semantically masculine personal noun generically is when the word "men" is used to refer to a group of men and women. An example of a personal noun with a masculine lexical gender mark is when "fire-man" is used to refer to a firefighter of unknown gender. There are, however, some exceptions concerning the generic use of lexical feminine gender marks, such as the use of the occupational title *mid-wife*.

Gender and language are interrelated: gender is incorporated in language in different ways, for example, grammatically, lexically, or semantically. In every language, it is possible to mark gender in some way, although to different extents. In the present thesis, I will focus on grammatical and semantic markers in written language use. Following Hellinger and Bußmann (2001, 2002, 2003), languages can roughly be divided into three types: genderless languages, natural gender languages, and grammatical gender

languages. In each type, gender is represented differently; therefore, gender bias occurs on different levels.

- Examples of genderless languages are Turkish, Finnish, Persian, and Japanese. In genderless languages, gender is not directly incorporated within the grammar and thus bears no bias on a purely grammatical level. However, gender can be represented on a semantic level, in form of semantically gender-marked personal nouns (e.g., “husband”). As such, in genderless languages, gender bias can occur only on a semantic level (form b).
- An example of a natural gender language is English. Natural gender languages have no grammatical gender categories that allow nouns to be assigned to a (grammatical) gender. However, when referring to people, nouns and pronouns can, in a few cases, contain gender information (e.g., the masculine pronoun “he”). Gender information can also be reflected in suffixes bearing lexical gender marks, such as the feminine form *act-ress*. In natural gender languages, gender bias can occur on both lexical and semantic levels (form b).
- Examples of grammatical gender languages are German or Spanish. Grammatical gender languages are based on a system wherein nouns are classified into grammatical gender categories. Where nouns and pronouns are used to refer to people, grammatical and biological gender usually agree with one other, with a few exceptions (e.g., *das Mädchen* [the girl; grammatically neuter, biologically female]). In grammatical gender languages, gender bias can occur on a grammatical level (form a), and on lexical and semantic levels (form b).

Why is Gender Bias a Problem?

Why is gender-biased language not just a linguistic phenomenon but rather seen as a social phenomenon? The general answer to this question is that a linguistic gender bias affects the mental representation of gender and the evaluation of status and fit and can even play a role in decision making with far-reaching consequences.

The effect of linguistic gender cues on mental representations has been studied using a wide variety of methods and in different languages (for an overview, see, e.g., Sczesny et al., 2016). Applied methods included the continuation of a story, describing a

person, naming persons, or a sentence evaluation paradigm. Some exemplary studies are presented below.

One example is the effect of thinking first of a male person when reading the pronoun “he” in English, which was found repeatedly (e.g., Moulton et al., 1978; Gastil, 1990). In German, an effect whereby more masculine forms were used in response to masculine generics versus gender-fair forms was found in a variety of contexts, such as naming heroes or musicians (Stahlberg et al., 2001), politicians (Braun et al., 2005, Experiment 5), and athletes (Braun et al., 1998), or in a scientific context (Braun et al., 1998). Similar effects were also identified in French (Gygax et al., 2008, Gabriel & Gygax, 2008a) and in Norwegian (Gabriel & Gygax, 2008b).

Gender bias in language does not only shapes people’s immediate thoughts but also lead to differences in social perceptions, expectations, and behavior. For example, women expect it to be easier to get a job when a when a job announcement refers to the candidate as “he or she” than when they are only described as “he” in English (Stericker, 1981). The grammatical form used affects the evaluation of the depicted person. In German, school children were shown to evaluate job status less favorably when presented in the feminine form than when presented in the masculine form (Vervecken & Hannover, 2015). In Italian, the social status of a lawyer was determined lower if the feminine form with the suffix *-essa* was used than when the traditional masculine form was used (Merkel et al., 2012). Similar effects were found in Polish, where applicants were evaluated less positively when introduced with a feminine job title compared with a masculine job title (Formanowicz et al., 2013).

Moreover, using the masculine pronoun “he” as generic can be a crucial factor in juridical decisions of finding someone guilty (Hamilton et al., 1992). Hamilton et al. demonstrated that if in a description of what constitutes self-defense, only the masculine form (“he”) is used, a woman’s behavior is less likely to be judged as self-defense than if the feminine form (“she”) or both feminine and masculine forms (“he or she”) were used. These results suggest that using the masculine generic leads to biased and, as such, discriminatory behavior.

Together, a large body of research suggests that language practices, such as the generic use of masculine forms, a biasing effect on peoples’ mental representation of gender, the evaluation of status and fit, and even plays a role in decision making with far-

reaching consequences. Therefore, the question arises, as to how gender bias in language can be avoided.

Gender-Fair Language to Counteract Gender Bias in Language

This chapter explores gender-fair language, an approach to language use that seeks to avoid linguistic gender bias. Two main strategies are used in the promotion of gender-fair language: feminization and neutralization. The two strategies, how they counteract gender bias, and their intended and unintended effects are discussed extensively in Paper I and are, as such, only summarized here. This summary is followed by a discussion on how gender-fair language has been implemented and how gender-fair language use has changed over the last few decades using two languages: Norwegian and German.

What is Gender-Fair Language?

Feminization is an approach that focuses on making women visible. Essentially, the idea is to use both the masculine and the feminine form to avoid gender bias introduced by a generic use of only one form. Using “he or she” instead of just “he” when referring to a person of unknown gender is a typical example in English; for German is using *die Studentin oder der Student* [the student_{fem} or the student_{masc}] to refer to a student of unspecified gender. The combined use of the masculine and the feminine form will be referred to as “pair forms” in this thesis. Pair-forms can be written in different ways. In German, for instance, it is possible to use the masculine and feminine form fully written out or abbreviated, either with a slash and a hyphen (Student/-in), with only a slash (Student/in), with parentheses [Student(in)], with a capital I (StudentIn), with a gender gap (Student_in), or with a gender asterisk (Student*in). However, not all of these are considered correct language (Duden, 2009), and Duden (2017) only describes the slash (with and without hyphen) and the parenthesis as accepted forms.

The second linguistic strategy to avoid gender-biased language is to turn to more neutral linguistic forms, illustrated by neutralization that comprises of a variety of language specific solutions. The basis of the concept is to use neutral forms when referring to persons and avoid every link possible to female or male genders. One example can be found in the proverb cited at the beginning of this thesis: the gender-biased form “men” is no longer used in a contemporary context. Furthermore, the use of the singular “they” instead of pronoun “he” in English or the newly introduced neutral pronoun “hen”

in Swedish (Gustafsson-Senden et al., 2015). In grammatical gender languages, neutralizing forms can be personal nouns with neuter grammatical gender (e.g., in German, *das Kind* [the child]). Neutral forms can be represented by epicenes, which indifferently refer to both women and men (e.g., in French, *un humain*_{masc} [a human being], *une personne*_{fem} [a person]), even when they have a grammatical gender. Another neutralizing form can be seen in the use of the function, description, or name of a group instead of its constituents. For example, instead of using the phrase, “the migrants were moving across Europe,” which would, in grammatical gender languages, raise the notion of gender (e.g., in French *les migrantes*_{fem} *et les migrants*_{masc} *se déplaçaient à travers l’Europe*), a neutral formulation would be “the migrating population was moving across Europe” (e.g., in French *la population migrante se déplaçait à travers l’Europe*).

How Does Gender-Fair Language Counteract Gender Bias?

The intended effect of feminization—using pair forms instead of masculine forms only—is to make women more visible and evoke a balanced mental representation of gender. The notion that reading pair forms instead of gender-biased forms leads to an equal mental representation can be displayed in various studies across several languages, including German (Braun et al., 1998), French (Chatard et al., 2005), and Norwegian (Gabriel, 2008). Albeit to varying degrees, all findings indicate that using feminization results in a more balanced mental representation of gender than using only masculine forms. Nonetheless, this approach does not solve all critiques made toward gender bias in language. For example, the order of mention still causes challenges, as one form has to be mentioned before the other and the first form is usually perceived as being more important (e.g., Hegarty et al., 2016). Furthermore, it reproduces a binary gender system; mentioning both feminine and masculine forms, always activates the category of gender (Gabriel & Gygas, 2016), thus it might contribute to the overestimation of intergroup differences.

Studies investigating how a neutralization strategy can counteract gender bias in language yielded less conclusive results than the findings concerning the feminization strategy. Some epicenes have been shown to be more likely associated with men: for example, in German Irmen and Roßberg (2004) in German or Wyrobková et al. (2015) in Czech. Sato et al. (2016) found that, in German, using nominalized plural forms rather than masculine forms led to less biased mental gender representation. Two studies in

Norwegian (Gabriel & Gyga, 2008b; Gabriel et al., 2017) found that the mental representation was male-biased when individuals were presented with neutral role nouns or stereotypically male role nouns, but a female bias existed when individuals were provided with stereotypically female role nouns. These results indicate a heightened influence of gender-stereotypical information on mental representation. The effect that using neutral forms does not counteract stereotypical information is complemented by the notion that some neutral forms are not readily accepted, especially when they threaten the binary concept of gender (and a system favoring men). An example of such a form is the newly introduced pronoun *hen* in Swedish, as a complement to the pronouns *hon* [she] and *han* [he] (Gustafsson-Senden et al., 2015). The pronoun was implemented to avoid gender bias; however, critics argued that children would be disoriented by not knowing the gender. Gustafsson-Senden and colleagues found that perceptions toward the pronoun shifted from negative in 2012 to positive in 2015; meanwhile, albeit to a lesser extent, its use also increased.

In summary, there are two major strategies used to counteract gender bias in language: feminization (adding the feminine form to the masculine form) and neutralization (creating or using terms that do not refer to any gender). Feminization strategies have been found to actively counteract gender bias. Similar results were found in some studies with reference to neutralization strategies. However, other studies found no such effect, or revealed a heightened influence of gender stereotypical information, with stereotypical neutral forms still being associated with a male bias.

Implementation and Use of Gender-Fair Language: in Norwegian and German

Over the last several decades, the concept of gender-fair language use has been implemented in many languages. This section discusses how incorporating and promoting gender-fair language has affected its use in Norwegian and German. It should be noted that because gender-fair language use in German is already extensively discussed in Paper I, only the main points are summarized here.

One language in which the use of gender-fair language is used and promoted is Norwegian. For more than 20 years, Norway has implemented guidelines on overcoming gender bias in its language. These guidelines and their impact on Norwegians' gender-fair language use will be presented after a short linguistic introduction to Norwegian based on Bull and Swan (2000).

Norwegian belongs to the North Germanic (Scandinavian) branch of the Germanic language family and is categorized as a grammatical gender language. Bokmål and Nynorsk are the two official written forms. Most dialects and the standard varieties of Bokmål and Nynorsk traditionally distinguish three grammatical genders: feminine, masculine, and neuter. Some dialects (e.g., Bergen and conservative Bokmål) include only two grammatical gender classes: common and neuter. In singular form, a nouns' grammatical gender is expressed via indefinite articles and in the suffixes used to mark the definite form, furthermore, singular personal pronouns are gender marked. In plural forms, gender is not marked. The same logic applies to adjectives, in singular form adjectives are inflected, while in plural forms they are not. Although grammatical and biological gender often correspond, grammatical masculine personal nouns may be used in conjunction with feminine and masculine pronouns and the use of pronouns is usually oriented toward the gender of the person referred to rather than the grammatical gender of the personal noun. Beller et al. (2015) described how the grammatical classes are used differently in Bokmål and Nynorsk. In Nynorsk, it is mandatory to use all three genders, while in Bokmål, the feminine gender can be either used or replaced with the masculine gender.

The guidelines for gender-fair use of Norwegian (Norsk Språkrådet, 1997) were developed in cooperation with the Competence Centre for Gender Equality (*Kompetansesenter for likestilling*) and the Language Council of Norway (Norsk Språkrådet). Overall, the Norwegian guidelines recommend using gender-neutral terms unless there is a need to specify the gender of the person referred to (Norsk Språkrådet, 1997). These principles guidelines are based on two arguments. First, language is not neutral; it can reflect forms of gender discrimination in society as well as cause and strengthen such discrimination. Second, gender-fair use of language contributes to a higher level of gender equality in Norwegian society.

The guidelines are published online in the form of a web page and regulate written language rather than spoken language. While local dialects, abundant in number, are used and recognized in all spheres of life, the guideline concerns all dialects. Paragraph 4 of the Gender Equality Act (*Likestillingsloven*, 2013) forbids the formulation of job advertisements to present vacant positions as available only to persons of one gender.

The usage of masculine grammatical and semantic forms intended as a generic is discouraged. Instead, the guidelines recommend the usage of terms with gender-neutral suffixes—for example, *kontaktperson* [contact person] instead of *kontaktmann* [contact man] and *politifolk* [police people] instead of *politimenn* [policemen]—and only applying masculine forms when explicitly referring to male persons. When it comes to using the masculine and feminine pronoun, altering the order in a text is recommended. The same is recommended for traditional expressions with feminine and masculine forms, such as *damer og herrer* or *herrer og damer* [ladies and gentlemen]. Similarly, both the masculine pronoun *han* [he] and the feminine pronoun *hun* [she] can be used as a generic form. The Norwegian guidelines recommend using gender-neutral terms for occupational terms and avoiding semantic gender-marked suffixes.

Bull and Swan (2000) analyzed Norwegian language use regarding gender-fair language policies. They looked at the suffix *-inne* or *-ske* (indicating feminine gender), or *-mann* (signifying masculine gender), occupational titles, courtesy titles, asymmetrical language use, and old sayings. They found that the use of the suffix *-inne* decreased and even nearly disappeared. In 1965, *-inne* was frequently used in Norwegian newspapers (Swan, 1992), whereas it was used only scarcely in the nineties. Furthermore, many words with the suffix *-menn* disappeared. This change represents the recommendation of the Norsk Språkrådet to use neutral word forms and avoid gender indicators wherever they are not necessary. Nevertheless, some expressions with the suffix *-menn*, mostly role nouns with high status, are still frequently used. In addition, the use of occupational titles with gender marks has decreased over time, and, at least for every occupational title, a gender-fair, ergo gender-neutral title exists. Titles signifying one's marital status, such as *frøken* [Miss; unmarried woman] or *fru* [Mrs.; married woman] have disappeared from usage. Lastly, concerning the asymmetrical use of idioms and old sayings, there is little to no change.

To summarize, in Norwegian, the use of gender-fair language is promoted with an emphasis on the neutralization strategy. Trying to unlink grammatical and biological gender by avoiding gender marks and using the masculine as well as—at least in Bokmål—the feminine form generically has resulted in a decrease of gender-marked personal nouns. Although some gender-marked role nouns are still used, most of these gender marks have been nearly rendered defunct.

The German language comes from the West Germanic branch of the Indo-European family of languages and is a grammatical gender language. It is the national language in Germany and Austria, the most frequent of the four national languages spoken in Switzerland, and recognized as a national language in other countries. German has three grammatical genders: feminine, masculine, and neuter. All German nouns belong to one of the three grammatical gender classes, and exceptions (i.e., nouns with several genders) are rare. Nouns, pronouns, and other elements (e.g., articles, adjectives, and other determiners) usually agree with the gender within a sentence. In contrast to other grammatical gender languages, such as Italian or French, articles in plural form, pronouns, and adjectival endings are not marked for gender (cf. Hellinger & Bußmann, 2003, pp. 146–147).

Several different guidelines for gender-fair language use in German exist. In general, the guidelines define their purpose as to assist in avoiding gender bias in language and promoting the notion that women and men are treated as equals linguistically. The most frequently mentioned objectives are to make women visible and treat men and women as linguistically symmetrical (e.g., Hellinger & Bierbach, 1993; Bundesministerium für Bildung, Wissenschaft und Kultur, 2001). While the guidelines refer to both feminization and neutralization, more emphasis is placed on feminization or making women visible.

In recent decades in German-speaking countries, scholars have produced different findings related to a change in gender-fair language use. For example, language use in legislation and public administration in German-speaking countries has changed toward more gender-fair language use, as noted by Doleschal (1998) in official communication and law texts in Austria; Lamb and Nereo (2012) in the Basic Law for the Federal Republic of Germany and the Federal Constitution of the Swiss Confederation; and Elmiger et al. (2017) in a corpus analysis of the *Bundesblatt* (governmental publication medium). Meanwhile, in formal texts from universities (Merkel, 2011), masculine forms were rarely used as generics. Similar signals were found in German schoolbooks (Moser & Hannover, 2014), yet gender-fair language was used more frequently in German language books than in mathematics ones and not systematically. Conversely, in online job advertisements, gender-fair language is infrequently used. Hodel et al. (2017) found that 31% of German adverts in Switzerland and 10% in Austria still announced positions

using gender-specific job titles. Gender-fair language is still rarely used in everyday language, as studies assessing participants' spontaneous use of gender-fair language have shown. Indeed, Sczesny et al. (2015) found in a fill-in-the-gap task that gender-fair forms were used in only 40% of the gaps (Studies 1 and 2).

For the German language, then, the guidelines predominately promote the feminization strategy but do refer to the neutralization strategy to overcome gender bias in language. The guidelines are mostly optional, with the exception of official communications of administration. The increase of gender-fair language in formal German texts (e.g., law texts) indicates that the guidelines and the debates about gender-fair language have had an effect. However, there is also an indication that this impact is substantial in formal texts but decreases parallel to the decrease of the formality of the context.

Summary

Gender-fair language approaches—specifically, feminization and neutralization strategies—can counteract gender bias in language. Feminization improves women's visibility and counteract male bias in stereotypically masculine situations. Neutralization lead (at least partially) to less male-biased mental gender representation, but they also heighten the influence of stereotypical information. German and Norwegian are both languages with grammatical gender categories; the language communities promoted nonetheless promote different strategies. Norwegian guidelines recommend neutralization strategy, unlinking grammatical and biological gender by avoiding gender marks. This resulted in a decrease in the use of gender marks. In German, both feminization and neutralization strategies were promoted. These guidelines led to a decline in the use of masculine generics and an increase of feminine and neutral forms. The change strongly affected formal texts yet only partially influenced everyday language use. Empirical research thus suggests that while gender-fair language can be promoted and language use can change, a gap remains when it comes to people's everyday language use. Therefore, it is imperative to pursue the question of what supports people to use gender-fair language, identify the processes involved, and ascertain how people can be guided toward more gender-fair language use.

Theoretical Background

As the aforementioned proverb has changed from its traditional usage (“A thousand roads lead men forever to Rome”) to its contemporary usage (“All roads lead to Rome”), so too have many aspects of language use changed over time. The previous chapter outlined language changes on a society level in Norwegian and German. This chapter, in contrast, focuses on the individual, questioning what happens at the individual level and which factors affect individuals’ tendencies to use gender-fair or gender-biased language.

In order to understand what affects individuals’ gender-fair language use, it is first necessary to understand the language production process and how ideas can be communicated in different ways. Therefore, the first part of this chapter describes this process and discusses the selection of words and grammatical structures in light of them being the components that make language use gender-fair or gender-biased. The second part examines gender-fair language use, drawing on a conception of language use as social behavior. With this in mind, recognizing what affects individuals’ gender-fair language use becomes a question of understanding and explaining people’s behavior and how it changes. Social psychological theories provide a framework for determining what requirements must be met to enable change and which processes accompany, encourage, and support change. I will first discuss a social-cognitive approach known as the MODE model (Fazio & Towles-Schwen, 1999). This dual-process model focuses on how attitudes guide behavior through deliberate and automated processes. Second, because gender-fair language use is typically embedded in communication and social interaction, I will discuss a social-interaction theory, CAT (Dragojevic et al., 2016), which explains how individuals adjust their communication behavior to their environment.

Language Production and Gender-Fair Language Use

In psycholinguistics, language production describes the process from the intention to communicate an idea or information or the “preverbal message” (Levelt, 1989; Levelt, 1999) into its linguistic form. Regarding gender-fair language, an important principle is that every idea can be communicated in various ways, as illustrated by this example (Nambiar, 2015).

Idea: I absolutely love the garden near my school because it is beautiful and enjoyable.

Possible alternative ways to communicate this idea: (a) I absolutely love the garden near my school because of its beauty and fun; (b) If the garden near my school is my favorite place, that is because it is beautiful and enjoyable.

This example demonstrates how variation in communicating the same idea can be expressed and achieved by either replacing words or by changing the structure of the sentence. In (a), the expression “beautiful” was changed from an adjective into a noun, and “enjoyable” was replaced by “fun.” In (b), the entire first part of the phrase was restructured.

The example also reflects two critical aspects of the language production process. Language production involves mental operations and requires accessing the lexicon and assigning syntactic structure; that is, the grammar.

The strategies presented in the example are applicable when it comes to communicating an idea in gender-fair instead of gender-biased language: an expression can be replaced by alternative expressions from the lexicon, or the sentence structure can be modified to avoid gender bias in language and achieve gender-fair language. The example summarized in Table 1, illustrates how such alternatives could exist for German.

Table 1

Examples of Alternative Gender-Fair Sentences in German

	Sentence	Strategy	Language production step
1	<i>Bei Abmeldung aufgrund einer Krankheit muss ein Zeugnis eines Arztes_{masc} vorgewiesen werden</i> [To cancel due to illness, a doctor’s _{masc} certificate must be presented.]	Gender-biased version	
2	<i>Bei Abmeldung aufgrund einer Krankheit muss ein Zeugnis eines Arztes_{masc} oder einer Ärztin_{fem} vorgewiesen werden.</i> [To cancel due to illness, a certificate of a doctor _{masc} or a doctor _{fem} must be presented.]	Feminization	Lexicon
3	<i>Bei Abmeldung aufgrund einer Krankheit muss ein Zeugnis medizinischen Fachpersonals_{neuter} vorgewiesen werden.</i> [To cancel due to illness, a certificate from medical specialist staff _{neuter} must be presented.]	Neutralization	Lexicon
4	<i>Bei Abmeldung aufgrund einer Krankheit muss ein ärztliches Zeugnis vorgewiesen werden.</i> [To cancel due to illness, a medical certificate must be presented.]	Neutralization	Syntactic structure

Sentence 1 (see Table 1) includes only the masculine form of the role noun “doctor” used as a generic. This sentence represents a typical gender bias in German. In the second sentence (2), the masculine form of the role noun “doctor” is replaced by the pair form, making it explicit that a doctor can also be female. Another possibility is to replace the masculine form of the role noun “doctor” with a neutral form as in sentence (3). In the fourth alternative, the sentence was restructured allowing to replace the noun *Arzt/Ärztin* [doctor] by the adjective *ärztlich* [medical], which is not gender-marked. The latter strategy can also be observed in the development of the proverb. The word “men” in “A thousand roads lead men forever to Rome” is not replaced by another personal noun; instead, the sentence structure was changed to “All roads lead to Rome”, such that a personal noun is no longer required.

The language production process is an integrate, time-consuming process requiring intensive use of cognitive resources. Based on the notion that gender-biased language use can be considered the default two requirements must be met to achieve gender-fair language use. First, gender-biased forms must be recognized as such. Second, the capability to select alternative, gender-fair words from the lexicon and/or to build alternative, gender-fair syntactic structures must be present. In addition, a well-established phenomenon in language production, the word frequency effect, makes language change difficult; when alternatives are available, the alternative with the higher frequency is more accessible and hence more likely to be selected. Those three aspects will now be discussed in more detail.

The process of selecting the best matching word in the lexicon is complicated. One of the factors contributing to this complexity is the word’s lexical ambiguity. This is widely spread. In English, for example, 80% of common words have more than one dictionary entry (Rodd et al., 2002). An ambiguous term is either homonymous or polysemous. Homonymous refers to words that have two or more independent meanings (e.g., “fall” as the verb “to fall” and “fall” as a synonym of “autumn”), whereas polysemous refers to words that have multiple yet related meanings or interpretations (e.g., “men” in the sense of the “human species” and “men” in the sense of “male human beings”). With reference to role nouns, Gygax et al. (2021) proposed that masculine grammatical forms could be considered a case of a metonymous polysemy. Both interpretations—the male-specific and the generic—include references to the male

gender. Role nouns in the masculine form are, as such, ambiguous, as they are associated with several distinct yet semantically related senses. As the first requirement to achieve gender-fair language use, individuals must be able to recognize such ambiguous, gender-biased forms.

How Are Gender-Fair Words or Syntactic Structures Selected?

With regard to the second requirement to achieve gender-fair language use, it is essential to take a closer look at how words and syntactic structures are being selected. According to Fernández and Cairns (2010), the language production process begins when the semantic representation of the preverbal message triggers a lexical search for the words that convey this message. At this step, the lexicon is accessed to find and select a matching word or words. Pustejovsky and Batiukova (2019) presented an overview of what the lexicon is and how it works. They estimated that the repertoire of words (active and passive vocabulary) of an adult speaker contains up to 250,000 lexical entries, with the active vocabulary containing over 40,000 words. Gender-fair words or word forms must be included in the active vocabulary to be used. Retrieving words from the lexicon is usually a swift process. Individuals produce 210 words per minute in a conversation or 190 words per minute in an interview (Tauroza & Allison, 1990). Different possibilities are activated for each selection, of which the best fitting version is chosen. The next step is to assign syntactic structure to the selected words. This part of the process places the terms into hierarchically organized constituents. Morphosyntactic rules add morphemes to satisfy grammatical requirements: for example, number agreement or gender agreement. To consider using a syntactic structure that allows for gender-fair language, individuals need the capability to identify and apply such a syntactic structure and allocate time and cognitive resources. Overall, the process of selecting a grammatical structure is often synchronous with the word selection, with a quick switch between the two; thus, different parallel processes take place (Aitchison, 2012). This would enable individuals to overcome gender bias by either selecting gender-fair word forms or by modifying the syntactic structure, depending on what possibilities are available.

In essence, a more extensive lexicon and high flexibility with syntactic structures offer more ways to communicate an idea, making it more likely that a gender-fair version is available.

When different lexical items are activated in the word selection process, word frequency plays a role in which word is likely to be selected. Brysbaert et al. (2018) conducted a review of the word frequency effect in word processing. The fundamental observation is that high-frequency words are processed more efficiently than low-frequency words, indicating that high-frequency words are easier to recognize and more likely to be selected and used correctly than low-frequency words. However, a word frequency is highly correlated with other word characteristics, such as word length, the age at which the word was acquired, and similarity to other words. Although the word frequency effect could be confounded with any of these variables, studies have shown that even when controlling for all those variables, there is still an effect of the word frequency (e.g., Brysbaert et al., 2016). This observation usually refers to an individual's lexicon. Nevertheless, the authors state that the prevalence of the word, defined as the percentage of people who know that word, also facilitates word processing. The more common a word is, the higher is the likelihood that a person has been repeatedly exposed to it. The more frequently a person has been exposed to a word, the more readily available and hence accessible the word becomes. Presented below are some findings that illustrate the impact of prevalence.

The hypothesis that high-prevalent words are easier to recognize than low-prevalent words was supported by Oldfield and Wingfield (1965). The authors discovered that participants were faster at naming pictures with names that are more prevalent (e.g., book) than those with names that were less prevalent (e.g., screw). The notion that more frequent words are more likely to be selected from the lexicon and are, therefore, easier to use was reinforced by Gertel et al. (2020). They analyzed language production by allowing people to name pictures with target names with low, medium, and high prevalence. Less prevalent words were responded to less accurately. These findings are in line with those of LaGrone and Spieler (2006), who found that individuals have more difficulties naming less prevalent items compared to high prevalent items. Regarding gender-fair language use, this suggests that if both gender-fair and gender-biased alternatives are activated in the word selection process, the more frequent and prevalent option has a higher a priori likelihood of being selected.

In summary, understanding the language production process is an essential means of recognizing what factors might affect individuals' gender-fair language use.

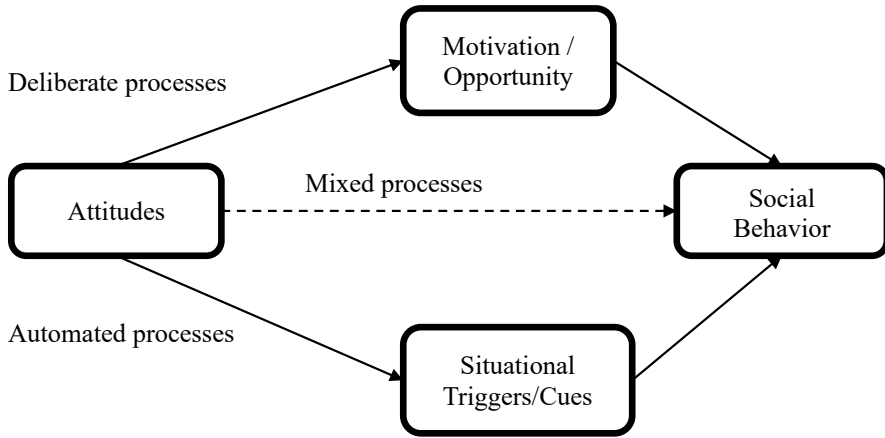
Essentially, any idea can be expressed in different ways. When applying gender-fair instead of gender-biased language, first, the gender-biasing ambiguity of words and word forms must be recognized. Second, an alternative gender-fair formulation must be used. This replacement can be achieved by selecting an alternative gender-fair form from the lexicon or an alternative gender-fair syntactic structure. A more substantial lexicon and higher capability for applying syntactic structures enable and facilitate the selection of gender-fair words and syntactic structures. However, because more frequent and prevalent words have a higher conjectural likelihood to be selected, if both gender-fair and gender-biased words are available in the lexicon, the more prevalent word form is more likely to be chosen.

Gender-Fair Language Use as Social Behavior

A social-cognitive perspective (MODE). Since the publication of the MODE model (Fazio & Towles-Schwen, 1999), this dual-process model has been widely used in psychological research to explain social behavior. The MODE model integrates different approaches of behavioral models, such as the previously proposed model of the attitude-to-behavior process (Fazio, 1986) and the theory of planned behavior (Ajzen, 1991), to explain the processes involved in how attitudes guide behavior. The MODE theory is largely based on research explaining racist behavior, a social behavior related to discrimination. The consistency of the association between racist attitudes and discriminatory behavior varies, and the main aim of the MODE model was to identify the factors responsible for those variations. The authors worked with a dual-process model comprising a deliberate decision process and an automated process. Two aspects distinguish the MODE model from other dual-process models. First, the model emphasizes the roles of motivations and opportunity to enter within a deliberate process. Second, the MODE model also includes mixed processes, a combination of deliberate and automated processes. Illustration 1 presents the MODE model schematically.

Illustration 1

Illustration of the MODE Model, Based on Fazio and Towles-Schwen (1999)



In the following section, I will present the different elements of the MODE model and analyze how the components could be applied to the behavior of using gender-fair language. To do so, I will consider previous research on gender-fair language in general and, if available, gender-fair language use, starting with presenting the small body of previous research investigating the attitude–behavior link for gender-fair language use.

Based on the elaboration likelihood model (Petty & Cacioppo, 1986), Koeser and Sczesny (2014) analyzed how arguments affected German-speaking people’s attitudes toward gender-fair language and its use. The authors assessed gender-fair language use both before and after presenting arguments for or against gender-fair language. There was no correlation between attitudes toward gender-fair language and gender-fair language use before arguments were proposed to participants. However, after reading rationalizations for gender-fair language use, participants’ attitudes toward gender-fair language and gender-fair language use correlated. These findings suggest that attitudes toward gender-fair language do not directly guide behavior. Nonetheless, reading arguments seems to lead to individuals behaving more according to their attitudes than when they are not aware of the issue. Moreover, this seems only to take effect with regard to gender-fair and not gender-biased language use, which supports the proposition of Swim et al. (2004) that using gender-fair (nonsexist) language reflects more purposeful behavior, whereas gender-biased (sexist) language use reflects more habitual behavior.

In two studies, Sczesny et al. (2015) assessed factors of the reasoned action approach (Fishbein & Ajzen, 2011) to investigate German-speaking people's gender-fair language use. In both studies, positive attitudes toward gender-fair language correlated with individuals' gender-fair language use. The authors calculated mediation models for both studies and showed that alongside positive attitudes, other factors, such as norms, perceived behavioral control, past behavior, experienced automaticity, sexism, and intention, played additional roles. Although their results indicate that attitudes surrounding gender-fair language correlate with individuals' gender-fair language use, this link is mediated by further factors in line with the MODE model.

Matheson and Kristiansen (1987) proposed a positive relationship between sexist attitudes and gender-biased use of pronouns in English-speaking individuals, while Swim et al. (2004) did not directly assess attitudes toward gender-fair language but rather investigated how attitudes toward women are related to personal definitions of sexist language and its use. The subjective definitions of sexist language moderated the relationship between English-speaking individuals' attitudes and their language use, indicating that recognizing gender-fair language affects individuals' gender-fair language use.

Cralley and Ruscher (2005) examined how English-speaking men's modern sexism scores were related to the use of biased forms for women ("lady" or "girl") versus unbiased terms for women ("female" or "woman"), representing another kind of bias than that analyzed in this thesis. The researchers found that when established norms suggest a preference for unbiased terms, men with a lower score in modern sexism used fewer gender-biased terms in a written format than did men higher score in modern sexism (Study 1). This association disappeared when men were cognitively busy with another task in an oral replication of the study (Study 2). Those result support the idea that cognitive resources are necessary for men with low score in modern sexism to use more neutral terms.

To conclude, previous studies have found a link between attitudes and language use. However, as suggested by findings concerning racism in the MODE model, this relationship between attitudes and behavior is not stable, and individual factors (e.g., past behavior), as well as situational factors (e.g., when reading arguments), appear to play a considerable role. It is, therefore, necessary to go beyond the attitude-behavior link to

gain a better understanding of what other individual and situational factors have an impact on gender-fair language use.

Situational Triggers/Cues. Fazio and Towles-Schwen (1999) argued that automated processes are essential for daily living and that constantly relying on reflective reasoning processes would be enormously dysfunctional. As such, automated processes are significant when it comes to explaining social behavior. The authors provided some evidence for automated processes with reference to accessibility and situational cues. This argument is also valid for the language production process. The cognitive load of the process becomes salient when people start to learn a new language: accessing the matching words and putting them into a correct grammatical structure requires substantial effort, energy, and time. As individuals become proficient, word and syntax selection become more and more automated. The impact of this automatic process on the language production process is significant, and if the behavior is to be understood, it is essential to look more closely at these automatic processes.

Situational triggers can shape such an automatic use without individuals being aware. The ways in which situational cues trigger linguistic behavior have been studied extensively. Studies investigating syntactic priming, for example, suggested that if people hear a sentence in a specific form, they are more likely to produce sentences in that same form (Bock, 1983; Chang et al., 2000). The initial experiments were with spoken language, but subsequent studies found similar effects for written language use (e.g., Pickering & Branigan, 1998). The effect of priming was relatively long-lasting (i.e. even after two placeholder sentences, Bock & Griffin, 2000). Nonetheless, there is also evidence of decay over time: more specifically, after four intervening sentences in written language use (Branigan et al., 1999). These results provide strong evidence that situational cues or context affect the selection of the grammatical structure.

Hansen et al. (2016) supported such an effect in gender-fair language use, indicating that individuals are more likely to use gender-fair forms if they have been recently exposed to them. In this study, participants read a short fictitious news report concerning socialization into a specific role. The texts were either about becoming a hero or a murderer, and the role was either presented in a gender-fair form (feminine–masculine pair form) or a masculine generic form. Participants' task was to summarize the text immediately after reading. Overall, participants who read a text with feminine–

masculine pair forms used these pair forms or gender-neutral nouns to a greater extent (72%) when referring to the roles than participants who read a text with masculine generic forms (18%).

To summarize, automatic processes can be affected by situational cues. The accessibility of a given word or word form can be temporarily increased by exposing individuals to those specific word forms. Similarly, syntactic structures can be primed. Activating a word or syntactic structure through exposure increases the likelihood that those words or structures will be subsequently selected (recency effect).

Deliberate Processes. Deliberate processes allow individuals to actively regulate their behavior by enabling their behavior to adapt or deviate from their attitudes. The basic mechanism involves inhibiting and then adjusting their standard, habitual behavior. As deliberate processes need time and cognitive resources, most of an individual's daily behavior is automated. Fazio and Towles-Schwen (1999) identified two essential factors related to entering the deliberate process and actively regulating behavior: motivation and opportunity.

First, they argued that even to enter a deliberate process, some motivational force is necessary to engage in the reasoning. The authors of the MODE model tend to focus on a broad motivation to behave accurately in situations. However, the authors also noted that the motivation toward deliberate processes could stem from more specific goals regarding the standards that individuals maintain for their behavior.

Fazio and Towles-Schwen (1999) asserted that in addition to motivation, opportunity plays a vital role in the deliberative processes leading to individuals' social behavior. Under an opportunity, they understand that the necessary conditions to deliberate are met. Competing tasks or automated and unconscious behavior might evade the deliberate process. Opportunity, therefore, includes time, cognitive resources, and the necessary information and competencies. That lead to the question how those factors and deliberate processes may affect individuals' gender-fair language use. That it is difficult to inhibit linguistic has been shown by Douglas et al. (2008). Therefore, I will now discuss motivational factors and opportunities related to gender-fair language.

Based on the MODE model, motivational factors are likely to play a role in the use of gender-fair forms, and previous findings support such a relationship. One argument, used in favor of gender-fair language use, is that the use of masculine forms as

generics leads to ambiguity, as it remains unclear whether one is referring to only men or to women as well, and that gender-fair language is more precise and accurate (Stahlberg et al., 2007, Koeser & Sczesny, 2012). It is fair to assume that someone who is highly motivated to use appropriate, precise language would allocate more cognitive and temporal resources to carefully select the most accurate words and syntactic structures: that is, use gender-fair language. In line with this notion, Koeser and Sczesny (2014) demonstrated that being exposed to such arguments increases gender-fair language use (compared to control groups). As the selection of personal nouns or gender-fair syntactic structures that meet the criteria of gender-fair language requires additional resources, motivation is necessary to engage in a deliberation process. A lack of such resources reduces individuals' capacity to behave according to their attitudes, as shown by Cralley and Rusher (2005). Therefore, the motivation to use accurate and precise language is considered a significant factor explaining individuals' gender-fair language use.

Applying the opportunity element of the MODE model to gender-fair language use language competence. An individual must possess the necessary competencies to use gender-fair language, namely, finding adequate and gender-fair personal nouns in the lexicon and/or applying gender-fair grammatical structures. In addition to this necessary ability to use gender-fair language—based on the argument that using gender-fair language is too difficult, a frequently used and convincing argument in both English (Parks & Robertson, 1998) and German (Koeser & Sczesny, 2012)—a general language competence can serve as an opportunity. At the least, a higher language competency might reduce the necessary time and cognitive resources individuals require to meet gender-fair requirements in their language use.

To sum up, motivation to use accurate and precise language is considered important when initiating and executing a deliberate process to use gender-fair language. The argument that gender-fair language is more accurate than gender-biased language is used to promote gender-fair language and is considered convincing. It has not yet been studied whether the motivation to use precise language is a driving force behind gender-fair language use. Nevertheless, the argument that gender-fair language is difficult to master is also widely used and considered valid. Such an assertion implies that finding and selecting words and grammatical structures that are gender-fair is challenging, which represents an obstacle. In other words, the argument suggests that language competence

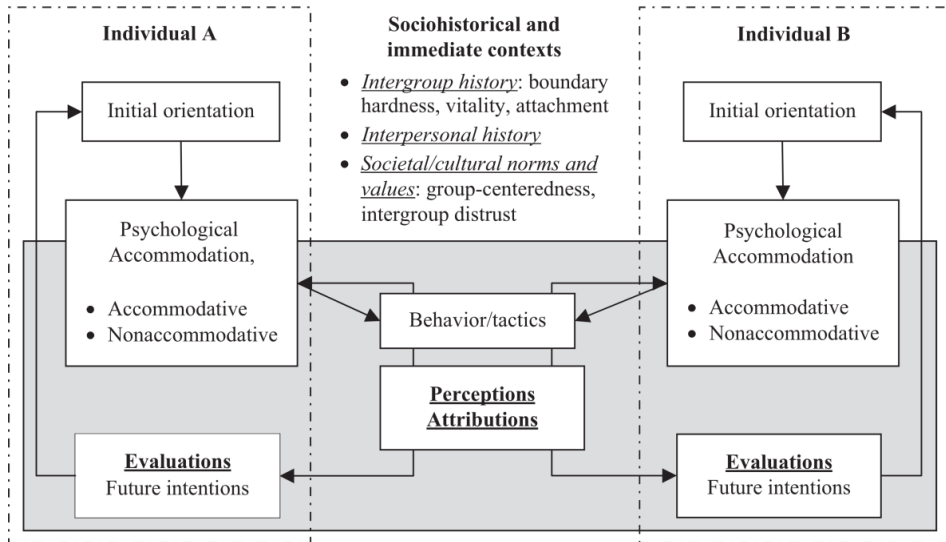
plays an important role when it comes to finding words in the lexicon and grammatical structures that are gender fair.

Mixed Processes. In addition to the deliberate and automated processes, the MODE model (Fazio & Towles-Schwen, 1999) explicitly stipulates the possibility of processes that are neither purely deliberate nor purely automated but a combination of the two. Fazio and Towles-Schwen (1999) illustrate such a process using the example of a deliberate process with an automated component; an attitude may serve as a cue that enhances the likelihood that the individual will retrieve and consider attribute information that is evaluatively congruent. Meanwhile, as an example for an essentially automated process with a component of deliberate control, the authors describe a situation where a particularly striking activation of knowledge regarding normative requirements induces an individual to define the event as one in which they need to control and carefully monitor impulsive behavior. For such mixed processes, one still has to be motivated and have the opportunity to monitor, albeit in a more limited amount than in a purely deliberative process. Another example of a mixed process is that if an individual is aware of a biased influence of an automatically activated attitude, then such a motivated process may involve an attempt to correct for the effect of the attitude. The notion that awareness is a significant factor in gender-fair language use was found by Koeser and Sczesny (2014), in whose study attitudes and gender-fair language use only correlated after participants read arguments for gender-fair language.

A Social-Interaction Perspective (CAT). The CAT model (Dragojevic et al., 2016) is based on the speech accommodation theory (SAT; Giles, 1973). The underlying question driving these models was how people adjust their communication in different interactions. The SAT explains how individuals adapt their accents and dialects to their social environment. Since the introduction of the theory's early version, convergence and divergence served as core concepts: convergence serves to increase similarity and improve communication effectiveness, while divergence functions to accentuate speech and nonverbal differences. Over time, the theory was expanded to include other accommodative behaviors in communication, which Soliz and Giles (2014) classified according to four broad categories of behaviors: accommodation, non-accommodation, reluctant accommodation, and avoidant communication. Over the last 40 years, the theory has been developed further. Illustration 2 depicts the current version of the CAT.

Illustration 2

The Intergroup Process Model of Communication Accommodation (Palomares et al., 2016)



CAT was applied to multiple contexts, including computer-mediated communication, educational, family, health, legal, and media, to examine differences in use and perceptions of accommodation between social groups. The theory predicts that individuals may modify communication based on the personal, idiosyncratic characteristics of a conversational partner.

The CAT is based on attribution theory, suggesting that individuals explain and evaluate each other's behavior in terms of their motives and intentions. In contrast to the MODE model, the CAT does not differentiate between automated and deliberate processes. Williams (1999) observed that communication accommodation processes largely take place outside conscious awareness; however, they are potentially available to cognitive awareness. By monitoring the situation and involved people (with or without awareness), individuals attribute presence or absence of intention to others' behavior. Individuals adjust their accommodative behavior based on those attributions. The accommodation is based on two forms of motives: affective (identity maintenance) and cognitive (organizational) motives. CAT bases the idea of affective motives on the social identity theory (e.g., Tajfel & Turner, 1979) and the idea that part of people's self-concept derives from their social group memberships. Individuals want, therefore, to create and

maintain positive personal and social identities, and communication is a part of how such identities are formed. Cognitive motives reflect the desire to facilitate comprehension and increase communicative efficiency. With such motivation, individuals assess each other's communicative needs and characteristics and adjust their communication to be more (or less) intelligible, predictable, and comprehensible for others. This motivational factor is also reflected in the previously discussed motivation to use accurate language. Both motivations strive to increase intelligibility and comprehensibility.

In the literature concerning gender-fair language, the first evidence of individuals adjusting their gender-fair language use to the context was provided by Cronin and Jreisat (1995) in English. The authors investigated a way of modifying people's gender-fair language use by means of modeling, utilizing Bandura's (1971) social learning theory. Participants were asked to write solutions to ethical dilemmas. The texts were then coded for both sexist and gender-fair language use. The instructions contained two examples using gender-biased language, two examples with gender-fair language (modeling condition), or no examples (control condition). Participants in the modeling condition used more gender-fair forms than either of the other two groups. As such, it is fair to assume that individuals adjust their gender-fair language use to the communication situation.

The CAT considers the intergroup history between interactants' ethnic, cultural, or national groups, as well as interpersonal history, to be a key predictor of divergence (Palomares et al., 2016). In addition, societal and cultural norms and values play a considerable role. Sociocultural norms and values specify with whom, when, and—of particular importance for gender-fair language use—how it is appropriate to interact. An example of such a norm is the expectation that individuals will converge to those who speak the standard or prestige variety of a language (e.g., Standard American English), which is especially prevalent in status-stressing situations, such as a job interview (Giles & Marlow, 2011). This is in line with the argument previously introduced that individuals are more likely to use high-frequency words than low-frequency words because they interpret the high-frequency words as belonging to the societal norm. This idea is also supported by Szczesny et al.'s (2015) findings, whereby individuals perceived positive norms correlated with their gender-fair language use.

In summary, the CAT emphasizes the social interaction aspect in communication and examines how individuals adjust their gender-fair language use in social situations. Individuals adjust their language use based on their perception, attribution, and evaluation of the situation, a process that is mostly outside conscious awareness but potentially open to cognitive awareness. According to this theory, individuals adjust their language use based on the social situation. That is, if the evaluation of the situation points toward gender-fair language use, individuals will increase their own gender-fair language use. Furthermore, the CAT posits that societal norms can affect individuals' communication adjustment, which supports the previously introduced claim that individuals are more likely to use the more frequent and prevalent word forms.

Summary

Based on the theoretical background—a social-cognitive approach (the MODE model) and a social-interaction approach (CAT)—and previous research findings, this section has identified the social factors that may affect individuals' gender-fair language use. The social-cognitive approach differentiates between deliberate, automated, and mixed processes. Motivational factors constitute an important part of the deliberative process. The motivation to use accurate language was deemed as a relevant factor based on the argument that gender-fair language use is more precise and appropriate than gender-biased language. This assertion is further supported by the CAT: an important motive to adjust communication is to facilitate comprehension. A second element identified was general language competency and the specific competency to produce gender-fair language. Whereas the latter is a prerequisite for gender-fair language use, general language competence was found as a possible facilitator, in line with the common argument against gender-fair language use: that it is too difficult. Automated processes suggest that cues from the environment trigger the use of specific word forms.

From a social-interaction approach (CAT), individuals tend to adjust their behavior to their environment. Therefore, an adjustment to gender-fair language use might go further than only reusing word forms. This consideration is supported by evidence that gender-fair examples in general instructions (Cralley & Ruscher, 2005) affected individuals' gender-fair language use.

Finally, awareness was identified as a relevant factor. The MODE model explicitly describes mixed processes, which are partly deliberate and partly automated.

Concerning the CAT theory, most processes are automated and without conscious awareness; however, those strategies are potentially available to cognitive awareness. Moreover, while the inhibition of linguistic bias poses a barrier, raised awareness could allow individuals to monitor and control their gender-fair language use.

These factors (motivation to use accurate language; general language competence; ability to use gender-fair language; adjustment and awareness) will now be further investigated in an attempt to widen our understanding of people's gender-fair language use and to determine ways to increase individuals' gender-fair language in everyday (written) communication.

Own Research

Gender-fair language is one of many measures intended to contribute to gender equality. Gaining a more robust understanding of what makes people use gender-fair language will provide important insights into how to promote its use. Much like the proverb "All roads lead to Rome", which opened this thesis, there are numerous different possible routes to changing individuals' behavior toward more gender-fair language use. The overarching theme of this thesis is to identify individual and situational obstacles and enablers on the way to the production of gender-fair language.

As shown in the previous chapters, psychosocial theories, such as the MODE model or the CAT, as well as existing research provide varying perspectives on which factors might play a role concerning changing individuals' behavior toward more gender-fair language use. The present literature on gender-fair language can be divided into two central questions. The first question analyzes the consequences of gender-fair language use, and the second—and, for this thesis, more important—question is which factors are related to gender-fair language use. Research investigating the first question has been previously discussed, and the findings established that using gender-biased language leads to a biased mental representation of gender, supports the idea of masculinity as the norm, maintains gender stereotypes and gender roles, and even leads to discriminatory behavior.

The second question was approached from different angles. The elaboration likelihood model (Petty & Cacioppo, 1986) was applied to provide evidence that exposing individuals to arguments for gender-fair language affects individuals' gender-fair language use (Koeser & Sczesny, 2014). In addition, I implemented the classic model of

action control (Fishbein and Ajzen, 2011) to analyze the relationship between attitude, perceived norms, perceived behavior control, sexist beliefs, and gender-fair language use (Sczesny et al., 2015). A further factor investigated is the effect of modulating instructions (Cronin & Jreisat, 1995).

The present research seeks to complement previous research by approaching the topic from a new angle combining psycholinguistic and social psychological concepts. More specifically, language production processes, as well as the MODE model and the CAT, are used as the basis for identifying significant factors affecting individuals' gender-fair language use. This is the first time that the MODE model has been applied to gender-fair language use. The advantage of the MODE model is that it was developed on social behavior that is also related to discrimination (racial prejudice); it includes not only deliberate processes but also automated and mixed processes and does not neglect the necessity of opportunity for the deliberate process to occur. The advantage of the CAT, meanwhile, is that it is developed from and for communication, of which written language use is a part. The CAT provides insights into how communication is affected by context and how people adjust their communication.

In the present research, I will select the most promising and not yet exhaustively studied elements of using gender-fair language to ascertain crucial effects and processes to facilitate and encourage individuals' gender-fair language use.

This research is focused on written language use and on the languages German and Norwegian. The written modus has been chosen for practical reasons: it is easier to assess and evaluate. Furthermore, written language facilitates participants' access to the resource of time in its formulation. In relation to the CAT, it is important to note that written language—especially in online studies—does not represent the usual setting. In this context, the participants do not have a direct interpersonal setting, so there is no intergroup or interpersonal history on which to base an adjustment. As spoken language in an intergroup setting and written language are very different, the results based on written language cannot be generalized across modalities of language production.

German and Norwegian were chosen as languages because they share, on the one hand, many similarities, and on the other hand, significant differences when it comes to strategies for gender-fair language use. Both are Germanic languages using grammatical gender and involve, therefore, the whole range of options of gender-fair strategies. In

German, both feminization and neutralization have been promoted, whereas, in Norwegian, an explicit neutralization strategy was used and led toward a natural gender language. This difference affected how the language developed: in German, the use of feminized word forms increased, while, conversely, the use decreased in Norwegian. As a grammatical gender language like German includes all possible forms of semantic and grammatical gender bias, it is suited to testing hypotheses that include difficulty. Several studies regarding gender-fair language and its use have already been conducted in German, making the present study's results more comparable. I chose Norwegian to enrich the research area and facilitate further comparisons between languages. There is already some research about Norwegian in the area of gender-fair language use in which to embed the results. Norwegian is a suitable option when the effect of specific semantic gender-marked role nouns are studied because no other gender-marked nouns are in the text that might interfere with the analyzed effect. Finally, effects found in semantically gender-marked role nouns in Norwegian can be generalized to other languages more easily, as semantically gender-marked role nouns exist in all languages.

Research Questions

In line with the ancient proverb "All roads lead to Rome," I investigated whether this notion holds true for gender-fair language use: do all roads lead to gender-fair language use? I am not so presumptuous as to claim that every road will increase people's gender-fair language use. Rather, in this thesis, I seek to identify the most promising roads based on psychological and communicational theories and previous research results. The overarching research question is: What are effective strategies to affect individuals' written gender-fair language use?

To identify strategies, I started by reviewing the literature on gender-fair language, seeking to understand how gender-bias can be avoided on a linguistic level, how gender-fair language has been promoted, and with what effects. This first step is reflected in Paper I and in the introduction of this thesis and was guided by the following research questions:

- RQ I: What is the current state of knowledge in the scientific literature about strategies to avoid gender bias in language and its positive and negative effects?

- RQ II: What efforts have been made in German to implement gender-fair language use, and how did German gender-fair language use evolve over the last decades?

In the second step, I shifted the focus toward individual behavior. I applied both a social-cognitive perspective (the MODE model) and a social-interaction perspective (the CAT) as a general basis on which to identify factors that could affect individuals' gender-fair language use and serve as a means of analyzing the language production process.

Both models emphasize the role of motivation. Research has indicated that the argument that gender-fair language is more accurate and precise is convincing and that individuals use more gender-fair language after reading this argument. Moreover, the CAT argues that individuals are motivated to adjust their communication to be intelligible, predictable, and comprehensible. Accordingly, I examined the role of the motivation to use accurate and precise language for the use of gender-fair language.

- RQ III: Is German-speaking individuals' motivation to use accurate language related to their spontaneous gender-fair language use?

An important factor regarding the MODE model is competence. First, the most used and persuasive argument against gender-fair language use is that it is too difficult. Second, when considering the language production process, it becomes apparent that specific as well as general language competencies are required to use gender-fair language. Gender bias needs to be recognized, and gender-fair alternatives need to be available and accessed (lexicon) or constructed (sentence structure). This can be challenging, particularly in a grammatical gender language, such as German. While specific competencies to use gender-fair language might be necessary, a high general language competence should facilitate gender-fair language use. Thus, the role of general language competence was studied.

- RQ IV: How are German-speaking individuals' general language competence, ability to use gender-fair language, and spontaneous gender-fair language use related?

The CAT provides a framework for how people adjust their language use to the interaction situation when they want to converge with the environment. Empirical findings support this view. For example, Cronin and Jreisat (1995) provided evidence that individuals adapted their gender-fair language use in function of gender-biased or gender-

fair examples in instructions. The fifth research question was generated to allow for a better understanding of how individuals adjust their gender-fair language use to environmental cues.

- RQ V: How does reading a German text in gender-fair language versus gender-biased language affect individuals' gender-fair language use?

In the MODE model, automated processes are sometimes not purely automated but mixed. An example is when an individual becomes aware of a certain bias in their attitudes and tries to correct it, hence awareness can affect processes that are primarily automated. Awareness is also a relevant element when consciously perceiving situational cues. If readers become aware of how a text is written, their reactions might differ from an otherwise purely automated process. Considering the effect of becoming aware that a text is written using gender-fair language, the following research question was examined.

- RQ VI: To what extent does being made aware that a German text is written in gender-fair language affect individuals' gender-fair language use?

According to the CAT, individuals adjust the use of their language to converge with the context. In the case of gender-fair language, this involves not only adjusting in general to gender-fair language use when contextual information provides situational cues that gender-fair language is the norm but also reproducing specific word forms. Findings from syntactic priming have provided evidence that grammatical structures are adjusted toward the primed structure (the recency effect). This argument should also hold true for specific gender-fair forms. When reading specific gender-fair forms, those specific forms are activated and are, as such, more easily accessible in the lexicon and more likely to be used. Norwegian role nouns suit this purpose very well, as some gender-marked role nouns are still common, while alternative unmarked synonyms are also widespread. As the goal of promoting gender-fair language is to reduce or eliminate gender-marked role forms (e.g., Hellinger & Bierbach, 1993; Norsk Språkrådet, 1997), a successful implementation would manifest itself in the more frequent use of unmarked role noun forms. Such a change in language use can—at least partially—be observed in several languages, for example, in Norwegian (Bull & Swan, 2000) and, in some contexts, in German (Gabriel et al., 2018). If language use generally favors unmarked forms, it should be more likely that individuals use specific unmarked role noun forms after having been exposed to them than the other way around (i.e., using marked role nouns forms after

having been exposed to them). In line with this hypothesis, I studied the reuse of gender-marked role nouns after they have been read, guided by the following research question:

- RQ VII: Which form (unmarked or marked) do Norwegian-speaking individuals use after having read either the gender-marked or unmarked form (recency effect)?

A further factor that has been shown to play a critical role in the accessibility of a word is its prevalence: that is, the frequency with which it is used in a particular language. This assertion is supported by evidence in linguistic research, which shows that high-frequency words are more likely to be used. It is also supported by the CAT, which states that societal norms affect individuals' behavior. To gain a better understanding of how the prevalence of a role noun affects individuals' gender-fair language use, I will investigate the following question.

- RQ VIII: How does the word frequency (prevalence effect) affect Norwegian-speaking individuals' use of gender-marked and unmarked role noun forms?

The eight research questions were explored and analyzed in different experiments and presented in four articles, three of which have been published. Paper I focuses on RQs I and II. Paper II presents two experiments that address RQs III and IV. RQ V and RQ VI are approached in Paper III, which describes one experiment carried out on two different samples. Finally, Paper IV (submitted) contains two experiments that target RQs VII and VIII.

Methods

A wide variety of methods and designs were utilized in the investigations. Paper I presents a literature review, whereas Paper II, III, and IV are empirical studies run in German (II and III) and Norwegian (IV). All materials and their English translation are available in Appendices A–C.

I will discuss the methodological approach separately for each paper. For the empirical studies, I will begin by explaining the general approach, followed by a description of the development of materials, the sample, the study design, and the procedure. One methodological challenge for all empirical studies was to develop a measure of actual behavior: that is, language production tasks that allowed to measure an individual's gender-fair language use. As detailed below, ideas were developed, piloted, and sometimes discarded.

Paper I

To answer RQ I and RQ II, we composed a synthesis of knowledge by reviewing the existing literature. Outcomes from studies of different languages were included to gain an overview of the current state of strategies to avoid gender bias in language and their positive and negative effects (RQ I). These varying studies were reviewed for two reasons: first, as the options to counteract linguistic bias vary across languages, focusing solely on one language does not suffice. Second, certain effects of gender-biased and gender-fair forms have been researched in one language only. Therefore, studies from different languages were included to enable us to access the full range of potentially relevant factors.

In order to trace the efforts to implement gender-fair language use and how it has developed over the last decades (RQ II), one language—German—was selected. The idea behind this selection was to exemplify the changes over recent decades via an in-depth consideration of one language. Narrowing the context to one language allowed us to profoundly present the changes in language use in different domains and settings.

The main literature search was conducted using Web of Science and Google Scholar. Both English and German keywords were used to broaden the search. The English terms were “gender-fair,” “gender-inclusive,” “gender-sensitive,” and “non-sexist language use,” and their respective German expressions were *geschlechtergerechter*, *gendergerechter*, *geschlechtsneutraler*, and *genderfairer*

Sprachgebrauch. Both peer-reviewed and non-peer-reviewed publications from the past four decades were included to obtain the best available evidence.

Paper II

To analyze the role of motivation to use accurate language (RQ III) and language competence (RQ IV) in relation to individuals' spontaneous gender-fair language use, we conducted two paper-and-pencil studies. For these studies, measures of spontaneous (actual) and instructed (potential) gender-fair language use (employed as the dependent variable and independent variable), language competence (independent variable), and motivation (independent variable) were developed. All materials were piloted and finally pretested with a group of native German speakers ($N = 34$).

The experimental procedure started with the assessment of participants' language competence. One task was applied twice to examine spontaneous and instructed gender-fair language use. This task was initially presented as part of the language competence test to mask its purpose. After probing for suspicion and evaluating the motivation to use accurate language, the task was then conducted for a second time: this time with explicit instructions to avoid gender bias and to use gender-fair forms (see Appendix A.3.). The instruction was formulated as technically as possible to avoid the activation of attitudes toward gender-fair language and remain close to the setting of a language competence test as much as possible.

Material and Pilot

The test to assess language competence was based on an existing language test known as the DaF (Jung, 1998). Only language production tasks were selected, with a focus on vocabulary and the ability to build different syntactic structures (six tasks consisting of 27 items). These were adapted to avoid the use of masculine generics or stereotyped situations. Based on the results of the pretest, a final selection (see Appendix A.1.) was made with the objective of achieving balanced item difficulty.

Two tasks were initially developed to assess spontaneous and instructed gender-fair language use: a fill-in-the-gaps task (see Appendix A.2), which was also used in the main study, and a sentence improvement task, which was pretested but not included in the main study.

The fill-in-the-gaps task comprised nine short texts. Each text contained three or four gaps, one of which required a reference to a person. These gaps could be filled either with a gender-fair form or with a gender-biased form. The texts were balanced for gender typicality of the personal nouns (five neutral, e.g., friends; two feminine, e.g., nurses; and two masculine, e.g., firefighters) and setting (four private and five public). Answers were coded as gender fair, gender biased, and other answers. Only the categories gender fair and gender biased were included in the analyses.

Using gender-fair language involves more than just finding an adequate word form in preset sentences. Therefore, the second task was to improve a given sentence. Participants were instructed to either rewrite the sentence if they found a part that needed improvement or to cross out the sentence to indicate that they thought the sentence needed no improvement. The test comprised 12 sentences; in eight texts, nine masculine generic forms and one feminine generic form were distributed. In addition, there were nine linguistic problems concerning word order, incorrectly used figures of speech, and grammatically incorrect forms. The categorization turned out to be more difficult than anticipated. In many answers, participants reformulated the sentences completely, and it was impossible to decide whether they intended to eliminate gender-biased forms from the sentences or whether it was an unintended consequence of a general reformulation. Furthermore, in the spontaneous condition, a gender-fair solution was only applied to 17% of the answers compared to 38% of the given answers in the fill-in-the-gaps task. When instructed, 61% gender-fair answers could be identified, compared to 74% of the given answers in the fill-in-the-gaps task that were gender-fair. The Cronbach's alpha was calculated to further analyze the sentence improvement task's goodness-of-fit. In the spontaneous condition, internal reliability was low ($\alpha = .235$), while in the instructed condition, internal reliability was higher ($\alpha = .599$). Particularly in the spontaneous condition, the Cronbach's alpha was too low to be considered a good instrument. The pretest results led to the decision not to use this kind of task to assess gender-fair language use.

The scale to assess individuals' motivation to use accurate language was newly developed, and items were selected based on the pretest. The scale included the facets of motivation to use as well as the satisfaction of using accurate and stylish language. The scale motivation to use precise and accurate language consisted of five items (see

Appendix A.4.). Each item could be answered on a scale between 1 and 5. The Cronbach's alpha of the scale was good ($\alpha = .81$). The only item, which was critical, was the item "I value a good writing style"; were this item to be deleted, the Cronbach's would increase to .85. A principal component analysis was conducted, and, following the Kaiser criterion for both samples, one factor was extracted, explaining 54% of the variance in the sample of university students and 56% of the variance in the trainee sample. For the analysis, we used the averaged mean score of the five items. University students reported a significantly stronger motivation to use accurate language than trainees.

Sample and Design

The study was conducted with two different samples: a university student sample and a trainee sample. The two samples provided higher stability and reliability of the findings as well as higher generalizability.

University Student Sample. Thirty-eight German-speaking university exchange students (24 women, 14 men, $M_{\text{age}} = 23$ years, age range = 19–29 years) were recruited from the Norwegian University of Science and Technology (NTNU) and the University of Bern. A further four students were recruited but excluded, as they were not native German speakers ($n = 3$) or identified the purpose of the study ($n = 1$). All participants were paid an equivalent of approximately €7.

Trainee Sample. Six classes of trainees (36 women, 46 men, $M_{\text{age}} = 18$ years, age range = 16–29 years) attending education programs for health care, logistics, gardening, or forestry participated in the study. A further 20 trainees were recruited but excluded, as they were either not native German speakers ($n = 18$), identified the purpose of the study ($n = 1$), or did not answer seriously ($n = 1$).

The study's design was an experimental correlation study with manipulation by instruction. Participants started with the language competence task and concluded with the fill-in-the-gaps task to assess spontaneous gender-fair language use. Subsequently, participants were probed for suspicion using a question about the suspected objectives of the study. The response scale was composed of five answers, of which the last was "others," with an open response field in which suspicions could be written. Participants then completed the questionnaire to assess their motivation to use accurate language, followed by the fill-in-the-gaps tasks again; this time, however, they received explicit

instructions to avoid generic forms (instructed gender-fair language use). Finally, participants were asked to state their age, sex, and their native language.

Analyses

An analysis of variance (ANOVA) with repeated measures (pre-measure: spontaneous gender-fair language use; post-measure: instructed gender-fair language use) was conducted to ascertain whether participants were better able to use gender-fair language use than they used spontaneously. Additionally, a regression analysis was conducted to test whether language competence or motivation to use accurate language (or their interaction) predicted spontaneous gender-fair language use, with language competence, motivation to use accurate language, and their interaction as predictors, and spontaneous gender-fair language use as the criterion. Lastly, we conducted a regression analysis to test whether language competence predicted instructed gender-fair language use. Language competence served as the predictor and instructed gender-fair language as the criterion.

Paper III

For this paper, two online studies were conducted. The first aimed to determine how reading a text in gender-fair language (RQ V) affects people's gender-fair language use, while the second focused on how being made aware that a text is written in gender-fair language (RQ VI) affected this use.

Gender-fair language was assessed as the dependent variable. For the independent variable, the four conditions of the text forms—gender-fair language, gender-biased forms, no personal nouns, or text without reference to human beings (see Appendix B.1)—were used. In the second study, we added an additional condition, namely, being made aware of the gender fairness of the gender-fair text or not (see Appendix B.2).

Material and Pilot

To assess gender-fair language use, we administered ten fill-in-the-gaps tasks (see Appendix B.3). Five texts were selected from the nine texts used by Kuhn and Gabriel (2014), and five texts were adopted from Sczesny et al. (2015). Each text contained three or four gaps, and one required reference to a person or a group of persons. These gaps could be filled either with a gender-fair form or with a gender-biased form. The tasks were selected according to two criteria: first, to have tasks with a high variance in the

responses based on the previous studies' results, and second, to maintain the balance between private and official topics.

The texts used in the different conditions were about a package insert for a fictional drug named SANOXOL (see Appendix B.1.). Earlier studies on gender-fair language have applied similar texts (Braun et al., 2007). These texts represent a genre that conveys important information in everyday life. The first version contained gender-fair forms of references to a person, as recommended in the guidelines for German (i.e., a combination of feminization and neutralization); the second contained exclusively masculine generics. As a third condition, a version was developed to avoid all personal nouns by using passive voice or omissions. A text about a different but related topic (inflammation) served as a control condition. In the pretest ($N = 67$), the texts were evaluated in relation to different criteria, such as readability or comprehensibility, and no differences between the evaluation of the different texts were found.

Study 1: Design, Sample, and Procedure

Study 1 was based on a 4 (text condition: gender-fair, masculine generics, no personal nouns, other topic) \times 2 (participant gender: female, male) between-participants design with the use of gender-fair language as the dependent variable. The sample consisted of 102 native speakers of German (46 women, 56 men; $M_{\text{age}} = 25.17$ years, $SD_{\text{age}} = 6.50$, age range = 19–50 years; 94% students). Two nonnative speakers and one person who did not complete all gaps were excluded from the analysis. Participants were recruited by asking different German universities to distribute the invitation to participate in the study. Participants gave informed consent and were equally distributed across the four experimental conditions.

The data were collected online. The study was introduced as research on readers' perceptions of different texts. Participants read one of the stimulus texts and then answered the fill-in-the-gaps tasks, semantic differentials, a multiple-choice question about the content of the text, a social desirability questionnaire, and demographic variables. Finally, participants were debriefed and invited to take part in a lottery for vouchers.

Study 2: Design, Sample, and Procedure

The design and procedure of Study 2 were largely the same as those in Study 1, but there was one additional text condition: gender-fair text with raised awareness. In this condition, the use of gender-fair wording was made explicit by adding the following sentence to the instructions: “In the text on the following page, persons will be referred to with feminine–masculine pairs forms, such as *Diabetikerinnen und Diabetiker* [diabetics_{fem} and diabetics_{masc}] or with nouns that do not differentiate for gender, e.g., *Erwachsene* [adults_{neuter}].”

Study 2 was conducted online with a sample of 305 native German speakers (194 women, 108 men, three without gender information; $M_{\text{age}} = 24.11$ years, $SD_{\text{age}} = 4.89$, age range = 18–63 years; 95% students). Six nonnative speakers, two persons who did not indicate their native language, six who did not receive a stimulus text for technical reasons, and five who answered less than six relevant gaps in the fill-in-the-gaps task were excluded from the analyses. Participants gave informed consent, and female and male participants were equally distributed over the conditions.

Analyses

In this study, Kruskal–Wallis and Mann–Whitney U tests were conducted to test how reading a German text in gender-fair language versus gender-biased language affects individuals’ gender-fair language. These non-parametric tests were chosen because the distribution of gender-fair language was significantly nonnormally distributed.

Paper IV

We conducted two studies to analyze how reading gender-biased versus gender-fair role noun forms affects the use of such forms (RQ VII) and how individuals’ use of gender-biased versus gender-fair role noun forms is influenced by the prevalence of the role noun forms (RQ VIII). Furthermore, we investigated whether those two effects were similarly strong for gender-biased and gender-fair role noun forms or if there was an asymmetry to the advantage of unmarked role noun forms. The studies were conducted in Norwegian and gender-fair forms were operationalized by unmarked role noun forms (e.g., *politibetjenter* [police officers]) and gender-biased forms by gender-marked role noun forms (e.g., *politmenn* [policemen]). In both studies, the use of gender-marked and unmarked role noun forms served as the dependent variable and was assessed by a recall

task. The independent variables were the presented role noun form (gender-marked versus unmarked role noun form) and the prevalent role noun form. The prevalent role noun form was identified by a comparison of the frequency of the gender-marked and the unmarked role noun form in a corpus analysis.

Material and Corpus Analysis

For Experiment 1, we developed eight short texts, six of which included role nouns that were either presented in the gender-marked or unmarked form (see Appendix C.1.). Two short texts served as fillers to disguise the experiment's overall purpose. Six role nouns were selected as stimulus material. The criteria to select those role nouns was that for each role noun, at least one form with a gender mark was common, and one unmarked form—without any gender marks—was common. For each role noun form, the prevalence was deducted by the term's frequency in the Norwegian Web as Corpus (NoWaC), a large web-based corpus of Bokmål Norwegian with about 700 million tokens (Guevara, 2010).

In Experiment 2, four of the short texts included role nouns that were either presented in the gender-marked or unmarked form. Three role nouns were kept from Experiment 1—*tillitsvalgt/tillitsmann* [trustee], *politibetjenter/politmenn* [police officers], and *gjerningsperson/gjerningsman* [offender]—and one new role noun was added. To select the new role noun, we conducted a corpus analysis of the NoWaC (Guevara, 2010) to identify all occurrences of words ending with a gender-marked form. In order to complete the other role nouns, the fourth role noun needed to have a prevalent unmarked role form. Thus, based on the relative frequency between the gender-marked and unmarked role noun forms, *ombud/ombudmann* [ombudsman] was selected.

A recall task was administered to assess the dependent variable (participants' use of gender-marked and unmarked forms). The cued recall task consisted of 11 (nine in Experiment 2) questions designed to elicit textually explicit information (e.g., “Who should you listen to when planning to remodel?”). To correctly answer six (four in Experiment 2) of the questions, participants needed to use the role nouns previously presented in the texts (see Appendices C.1. and C.2.). The remaining questions served as fillers.

Answers were coded according to whether the question was answered (yes, with answer/no, empty) and whether the answer was semantically correct (yes/no). The

responses were coded by two persons independently, with an interrater reliability in Experiment 1 of $\kappa = .9$ ($\kappa = .86$ in Experiment 2). Close synonyms of the role noun were categorized as correct answers. However, answers to the question that did not refer to the corresponding text were classified as incorrect.

Secondly, all semantically correct answers were coded in terms of the used gender-marked or unmarked role noun forms and assigned into the following categories: 0 (no answer or impossible to categorize); 1 (gender marked); 2 (unmarked); and 3 (special, e.g., both gender-marked and unmarked forms). Three independent persons classified the answers, with an interrater reliability of $\kappa \geq .95$ ($\kappa \geq .93$ in Experiment 2). In both experiments, after discussion, all responses could be categorized. For the analyses, we included only correct answers and those answers that were classified as gender marked (1) or unmarked (2).

We employed a 14-item semantic differential to evaluate each text with the gender-marked and unmarked role nouns after it was read (see Appendix C.3.). This allowed for an investigation as to whether our word form manipulation had an (unintended) effect on the overall perception of the texts. Nine adjective pairs were selected from the attitudes toward languages scale (AToL) with a subscale value of 4/5 adjective pairs and a subscale structure of all five items (Schoel et al., 2012). We also adopted three adjective pairs from Braun et al. (2007) and one adjective pair from Merkel et al. (2012). We added a new adjective pair to evaluate the clarity (for all adjectives used, see Table 2). In Experiment 1, a 7-point scale was used, whereas, in the second experiment, we used a 5-point scale to evaluate the items. The mean of the answers was calculated to conduct the analyses and create an evaluation value for each text and person.

Samples

In Experiment 1, 40 Norwegian students (20 women, 20 men, $M_{\text{age}} = 23.7$ years, age range = 19–39 years) were recruited from the NTNU. Participants were randomly assigned to the experimental conditions but were nonetheless balanced according to participants' genders.

In Experiment 2, participants were recruited via an intranet announcement at the NTNU, which hosted the experiment. The 218 students who followed the link were randomly assigned to the experimental conditions. Only participants who were in the age range of interest (19–39 years) and who completed the complete survey were included in

the analyses. With a 40% response rate of those who followed the link, the sample size was 87 (68 women, 18 men, $M_{\text{age}} = 24$ years).

Procedures

The paper-and-pencil study (Experiment 1) and the online study (Experiment 2) were presented as pretests for the experimental stimulus material. Participants were asked to read the following texts thoroughly and evaluate them. After reading the texts, participants evaluated each using the semantic differential. The first text was a filler text without a role noun. In one version of the questionnaire, one group read and evaluated three texts (two texts in Experiment 2) with a gender-marked role noun and then, after a filler task, three texts (two texts in Experiment 2) with unmarked role nouns. The other version followed the same order of the texts but with inversed role noun forms. As the material in Experiment 1 was not initially developed to investigate the effect of the predominant role noun form, the prevalent role noun forms were not balanced between the two conditions. Participants in one condition were presented with four times the prevalent role noun form; participants of the other version had only twice the amount. In Experiment 2, the prevalent role noun forms were equally distributed over the two conditions. After the completion of this task, participants were asked to answer the 11 cued recall questions (nine questions in Experiment 2) and lastly completed the questions about their gender and birth year.

Analyses

The analyses were conducted with a long data set, with a record for each person and each experimental text. This approach allowed us to analyze the answers based on each item.

Different methods were applied to analyze the semantic differential, the quality of the data, and the hypotheses. We examined the semantic differential using an overall ANOVA and multivariate analysis of variance (MANOVA) per role noun. To ascertain whether participants' performance in the recall task was independent of experimental manipulations, we calculated a generalized linear model. The presented role noun forms (gender-marked versus unmarked role noun form presented), the prevalence of the role noun forms (gender-marked versus unmarked role noun form was prevalent), and participants' gender (male versus female) served as independent variables. The dependent

variable was if the answer in the recall task was correct or not (semantically correct vs. incorrect answers).

In Experiment 1, a generalized linear model was applied to test whether the presented role noun form affected the role noun form used in the answer (recency effect). The presented role noun form (gender-marked versus unmarked role noun form), subject (participants), and item (role noun) served as independent variables; the dependent variable was the used role noun form in the recall task (gender-marked versus unmarked role noun form). A second generalized linear model was conducted to test whether the prevalent role noun form influenced the role noun form (gender-marked versus unmarked) used in the answer (prevalence effect). For independent variables, we used the prevalent role noun form (gender-marked versus unmarked role noun form) and subject (participants), and for the dependent variable, we used the role noun form (gender-marked versus unmarked) used in the answer. In Experiment 2, both the recency and prevalence effects were tested in a single generalized model, with presented and prevalent role noun form and subject as independent variables and used role noun form in the recall task as dependent variables.

To ascertain if the recency and prevalence effects were asymmetrical to the advantage of unmarked role noun forms, we applied two different methods of analysis. As comparing the presented role noun form with the used role noun form is a within-subject condition (recency effect), to test for asymmetry, we administered the McNemar's test. The presented role noun form served as the before value and the used role noun form as the after value. Since the prevalence is not an individual measure that can be treated as an individual pre-measure, a χ^2 test was conducted to test for asymmetry of the prevalence effect.

Ethical Considerations

Before the start of each data collection process, participants were informed about their freedom of participation and the right to confidentiality. At the end of the studies, participants were notified about the purpose and nature of the research project verbally and/or in writing. We ensured the anonymity of the participants in all studies. The studies in Paper III were authorized by the ethics committee of the Faculty of Human Sciences at the University of Bern, Bern, Switzerland. The studies in Paper IV were approved by the Data Protection Official for Research, Norwegian Centre for Research Data AS, under

project number 44289. According to the Norwegian Centre for Research Data, data collections only need to be registered when collecting personal information. As the studies in Paper II were paper-and-pencil studies, no link to an IP address could be made. There was also no collection of a name, national ID number, or e-mail address. A registration was, therefore, not necessary.

Results

This section presents the major results of each of the four publications. General results are briefly summarized, and the results for the respective research questions are discussed more thoroughly.

Paper I

The aim of the paper was to provide a review of the current state of knowledge in the scientific literature about strategies to avoid gender bias in language. Two main strategies for eliminating gender asymmetry are discussed in the paper: feminization and neutralization (RQ I), and the intended and unintended effects of these strategies are outlined. In addition, the paper explores the challenge of establishing feminization or neutralization as part of the individual and societal language system. As an example, the case of German is discussed, and the efforts to promote gender-fair language and the evolution of gender-fair language use are highlighted (RQ II). Feminization and neutralization strategies and their intended and unintended effects are presented in more detail in the introduction and are, as such, not repeated here.

Several guidelines at both international and national levels were established to implement gender-fair language use in German, and institutions or companies developed policies concerning gender-fair language use. Over the last few decades in German written language use, the use of feminization and neutralization strategies has led to a decrease in the use of masculine generics and an increase in gender-fair—feminized and neutral—language use overall. However, gender-fair language is still used unsystematically and depending on the context. Most importantly, there has been a decline in the use of alternative forms as the formality of the context also decreases. For example, law texts, such as the “Basic Law for the Federal Republic of Germany” and the “Federal Constitution of the Swiss Confederation” were largely written in gender-fair language (Lamb & Nereo, 2012). In less formal contexts, such as measuring individuals’ spontaneous, everyday gender-fair language use, Sczesny et al. (2015) found that participants used gender-fair forms in a fill-in-the-gap task for only 40% of the gaps.

Paper II

The purpose of this paper was to analyze if the motivation to use accurate language use affected individuals’ gender-fair language use (RQ III) and if individuals with a

higher general language competence are better able to use gender-fair language and use it more (RQ IV).

Trainees used gender-fair forms spontaneously more often than university students and between trainees' and university students' gender-fair language use no difference was found when they were explicitly instructed to avoid gender bias. Overall, participants in both samples used gender-fair forms spontaneously in only one of three answers but used significantly more, in two of three answers, when explicitly instructed to avoid gender bias. These findings signify that individuals do not use the full potential of their competence to use gender-fair language in their spontaneous, everyday language use.

In both samples, language competence explained a considerable proportion of variance in instructed gender-fair language use. The higher the participants' language competence, the more gender-fair language they used when instructed to do so.

Items assessing the motivation to use accurate language were analyzed with a principal component analysis, and in both samples, one factor was extracted. In the sample of the university students, the factor explained 54% of the variance; in the trainee sample, it explained 56% of the variance. For the following analysis, the averaged mean score of the five items was used. University students reported a significantly stronger motivation to use accurate language than trainees.

We conducted a regression analysis to assess whether language competence or motivation to use accurate language (or their interaction) predicts spontaneous gender-fair language use, with language competence, motivation to use accurate language, and their interaction as predictors and spontaneous gender-fair language use as the criterion. In both samples, there was no main effect of language competence or motivation to use accurate language on spontaneous gender-fair language use. An effect of the interaction was not found for university students but was for trainees. Trainees with a higher motivation to use accurate language used more gender-biased forms when their language competence was higher than when it was lower.

In conclusion, in the two studies, no evidence was found to support the idea that individuals with a higher motivation to use accurate language use more gender-fair language. Nor was evidence found that individuals with a higher language competence are more likely to use gender-fair language. This lack of evidence is especially surprising,

as individuals with a higher language competence use more gender-fair language when instructed to do so and have, therefore, a higher potential to use it.

Paper III

Two research questions are analyzed in two studies in this paper: first, how reading a text in gender-fair language affects individuals' gender-fair language use (RQ V) and second, the extent to which making individuals aware that they have read a gender-fair written text affects their gender-fair language use (RQ VI).

In Study 1, spontaneous gender-fair language use was low (2.2–4.6 gender-fair answers out of 10), depending on the text condition and participants' gender. The distribution of gender-fair language was significantly non-normal. An initial analysis revealed no significant difference between the text conditions; however, there was a significant interaction effect between text condition and gender. Female participants used more gender-fair language after reading the text with gender-fair forms than after reading the gender-biased text. For male participants, no differences between the text conditions were found.

In Study 2, spontaneous gender-fair language use was also low (2.3–4.4 gender-fair answers out of 10) depending on the text condition and participants' gender. The distribution of gender-fair language was significantly non-normal; as such, non-parametric tests were used again.

We found no reliable differences in gender-fair language use between participants' genders. Nevertheless, for the text condition, a significant effect emerged, which was moderated by participant gender. As predicted, women used substantially more gender-fair forms after reading the gender-fair text (with or without raised awareness) than after the text with gender-biased forms. As in Study 1, male participants did not use more gender-fair language after reading the gender-fair text than after reading the text with gender-biased forms. However, when made aware that the text was written in gender-fair language, male participants used significantly more gender-fair language than when they were not made aware or after the text with gender-biased forms.

In summary, women used more gender-fair language after reading a gender-fair text than after reading a text with gender-biased forms. For men, such an effect could not be found. Nonetheless, when made aware that the gender-fair text was written as such, men subsequently used more gender-fair language. These results suggest that, for women,

exposing them to gender-fair language is a subtle but effective strategy to increase gender-fair language use; for men, a practical strategy is to expose them to gender-fair language and make that aspect explicit.

Paper IV

The aim of the two experiments in Paper IV was to better understand how linguistic change toward gender-fair language—or, as it has been promoted in Norway in recent decades, gender-neutral language—affects individuals' language use. It has been argued, for example, that lexically gender-marked role noun forms (e.g., “policeman”) should be replaced by unmarked role noun forms (e.g., “police officer”). We investigated whether exposing people to unmarked role noun forms influenced people's use of these forms (recency effect), whether people's use was affected by the relative word frequency (prevalence effect), and if those effects were symmetrical or showed an advantage of unmarked forms.

In both experiments, the evaluation with the semantic differential did not differ between texts with gender-marked and with unmarked role noun forms. In the first experiment, performance in the recall task was independent of participants' sex and presented role noun form. However, in the second experiment, participants gave more correct answers when a gender-marked role noun had been presented than when an unmarked role noun had been presented.

One compelling finding concerning the used form in the recall task was that, overall, individuals were more likely to use unmarked (gender-fair) role noun forms than gender-marked (gender-biased) role noun forms. This was a contrast to the findings in the studies in German, where individuals were more likely to use gender-biased forms than gender-fair forms.

In both experiments, participants were more likely to use the presented role noun form (Experiment 1: 64.9% of the responses; Experiment 2: 65.5% of the responses). Participants were also more likely to use the more prevalent form (Experiment 1: 65.7% of the responses; Experiment 2: 57.9% of the responses).

A McNemar's test on presented role noun form (gender-marked versus unmarked role noun form) and used role noun form (gender-marked versus unmarked role noun form) revealed an asymmetry in the effect in both experiments. The likelihood that a gender-marked role noun form would be used in the response when a gender-marked role

noun has been presented was lower than the probability that an unmarked role noun form was used in the answer when an unmarked role noun form was presented. The χ^2 test to examine whether the effects of the prevalent word form were symmetrical for gender-marked and unmarked forms was significant in both experiments. When the gender-marked role noun form was prevalent, participants used fewer gender-marked role nouns in their responses than unmarked role noun forms when the unmarked role noun form was prevalent.

Both the recency and the prevalence effect did not work in the same manner for all role nouns. The identified patterns allowed us to divide the role noun into three groups. In the first group, the gender-marked role noun forms were still often used (e.g., offender), with a difference between when the gender-marked or unmarked role noun form was presented. The second group contained role nouns where the unmarked form was predominantly used, independent of which form was presented (e.g., specialist, trustee, Norwegian). The third group contained role nouns where both gender-marked and unmarked role nouns were used and where the choice of role noun forms seemed to be highly dependent on which form had just been read (e.g., police officer, office worker, ombudsperson).

To summarize, in both experiments, participants' use of gender-marked and unmarked role nouns was affected by the forms they recently read and the prevalence of the word forms. The effects were asymmetrical: that is, there was a stronger effect toward unmarked role noun forms than gender-marked role noun forms, resulting in overall higher use of unmarked forms than gender-marked forms. While results varied extensively across role nouns, we identified patterns, according to which we divided the role nouns into three groups.

Discussion

In this thesis, I followed the proverb that “All roads lead to Rome.” This proverb guided me in different ways. The linguistic development of the proverb exemplifies how language use can change over time and, more specifically, how the English translation has changed from including “men” into a proverb without any personal noun. This change represents the central phenomenon addressed in this thesis: It illustrates that gender bias can be overcome in different ways to promote a more equitable representation of all genders. Proverbs are frequently used and widespread traditional sayings, and it typically takes a long time for a proverb to change. In contrast, this thesis focuses on individual change within a shorter time.

Overall, the results from the experiments presented in Paper II to IV support the notion that many roads—albeit not all of them—lead to Rome. Alternatively, in the context of my research, many of the strategies investigated seem to affect individuals’ gender-fair language use. In this chapter, I will summarize and discuss the key findings before addressing the strengths and limitations of the empirical studies in this thesis. Based on these limitations, ideas for further research are presented, and finally, I will consider the practical implications and conclude the thesis.

Results and Contributions to the Field

A series of experiments were used to investigate different strategies that affect individuals’ written gender-fair language use. In the following section, I will discuss the 11 key findings in relation to the MODE model and the CAT and emphasize how those results contribute to an overall understanding of how individuals’ gender-fair language use can be affected.

Key Findings

1. The literature review revealed that in German gender-fair language use has increased over the last several decades (Paper I). However, whereas in official texts such as law texts or official communication, gender-fair language is used comprehensively, people use gender-fair forms infrequently in their everyday, spontaneous language use.
2. Across all empirical studies, individuals’ gender-fair language in German was scarce. Spontaneous gender-fair language use was as low for university

students as for trainees (Paper II: one of three answers was gender-fair) and after reading a text without personal nouns or on a topic not related to persons (Paper III: two to three out of 10 answers were gender-fair).

3. Individuals have an untapped potential to use gender-fair language (Paper II). This potential has two components: (a) the difference between spontaneous gender-fair language use and the instructed gender-fair language use, where individuals' instructed gender-fair language use represented their current ability to use gender-fair language; (b) the difference between 100% gender-fair language use and individuals' current ability to use gender-fair language. This difference represents the potential to increase individuals' ability by teaching them how to use gender-fair language.
4. Individuals' ability to use gender-fair language is related to their general language competence (Paper II). Namely, individuals with a higher language competence are better able to use gender-fair language than individuals with a lower language competence.
5. Individuals' spontaneous gender-fair language use is neither related to general nor specific to language competence (Paper II).
6. The hypothesis that the more individuals are motivated to use accurate language, the more they will use gender-fair language was not supported (Paper II). The university student sample revealed no relation at all, whereas the findings for the trainee sample even suggested that a high motivation for using accurate language combined with a high language competence stimulates the use of gender-biased language.
7. Exposing individuals to gender-fair language increases their own gender-fair language use. In the Norwegian samples, individuals were more likely to use the role noun forms they had just read (Paper IV), and in the German samples, women were more likely to use gender-fair language after reading a text with gender-fair language (Paper III).
8. Being made explicitly aware was a necessary additional condition for men in the German samples. Men used more gender-fair language after reading gender-fair versus gender-biased or neutral text, but only when being made aware that the text was written in gender-fair language (Paper III). The

awareness manipulation had no additional effect on women's gender-fair language use.

9. Prevalent role noun forms were more likely to be used in recalls than less prevalent forms in Norwegian (Paper IV).
10. There was an overall tendency toward the use of unmarked role noun forms in Norwegian (Paper IV), which can be interpreted as a result of the linguistic neutralization strategy promoted in Norwegian.
11. This tendency varies across role nouns (Paper IV), suggesting that a neutral form has been established for some role nouns, while for other role nouns parallel forms are still in use.

The results of the research in German and Norwegian reflect the tendencies found in the literature. In German, despite widely used gender-fair language in formal texts and contexts (key finding 1), individuals' everyday gender-fair language use is still low (key findings 1 and 2). Conversely, in Norwegian, individuals were more likely to use unmarked role noun forms than marked role noun forms (key finding 11), which is in line with the previous findings of Bull and Swan (2000). It appears as if the two languages have developed in opposite directions. Whereas the Norwegian Language Council has attempted to separate grammatical from biological gender, the German language has established more decisive distinctions between feminine and masculine grammatical forms to correspond better to biological gender. However, the results in Norwegian must be interpreted with caution. Some Norwegian gender-marked role nouns are still readily used, especially after individuals have just read those forms (key finding 11), and further research is necessary to understand what makes those gender-marked role noun forms so persistent.

Language Production Perspective

The result that higher language competence is related to a higher ability to produce gender-fair language competence when instructed to do so (key finding 4) is in line with the analysis of the language production process. The findings in German support the notion that having a more extensive lexicon and more flexibility to produce syntactic structures facilitates gender-fair language use. The results also provide evidence that individuals are not yet fully able to use gender-fair language, even if they are instructed to do so (key finding 3b). However, neither the ability to use gender-fair language nor

general language competence was related to individuals' spontaneous gender-fair language use (key finding 5). This result contradicts the idea that individuals with a relatively high language competence more readily use gender-fair language. We can conclude from these findings that a high language competence alone does not lead to more use of gender-fair language but facilitates the production of gender-fair language.

The finding that individuals were more likely to use the more prevalent form in the Norwegian experiments (key finding 9) is a direct demonstration of that notion that it is easier to access more frequent forms. This result implies that the more often gender-fair language is used in general, the easier it becomes for individuals to access gender-fair forms in their everyday language use.

Social-Cognitive Perspective

The MODE model was used as a framework to investigate what affects individuals' gender-fair language use from a social-cognitive perspective. The aim was neither to test nor to further develop the MODE model but to explore the following elements: motivation to use accurate language and general language competence, ability to use gender-fair language, situational triggers, and awareness.

Results suggest that situational cues are a subtle, but effective approach to triggering specific gender-fair language forms (key finding 7). Thus, the findings provide supporting evidence for automatic processes playing a role in explaining individuals' gender-fair language use. These results are in line with previous research about linguistic priming, as well as the findings of Hansen et al. (2016), who showed that individuals are more likely to use gender-fair forms to which they have been recently exposed. Therefore, exposing individuals to gender-fair language is an effective strategy to promote gender-fair language. Nevertheless, this strategy is a double-edged sword, as it works both ways. Being exposed to gender-fair forms increases the likelihood of those gender-fair forms being reused, and vice versa: being exposed to a specific gender-biased form increases the probability of this form being reused. To situate gender-fair language as a common and standard form of language in individuals' everyday use long-term, the majority of read and heard language must be gender-fair. Over the last several decades, gender-fair language use in German formal communication has increased which should eventually lead to an increase in gender-fair language use in individuals' everyday language. Yet, its

development will need time, as individuals are also exposed to gender-biased language, which may slow or even prevent the evolution toward more gender-fair language use.

Another finding corroborating the importance of automatic processes is that individuals are more likely to use the more prevalent word form (key finding 9), which in German are the (generically intended) masculine forms (key finding 2), and in Norwegian the unmarked forms (key finding 10). These results can be interpreted in a three-fold non-exclusive way. First, the findings can be regarded as heightened accessibility as a consequence of being more exposed to those forms. Second, prevalent forms can be perceived as the norm towards which individuals automatically orient their behavior. Finally, the findings reflect individuals' habitual, automatic use, which is in line with the result by Sczesny et al. (2015) that past behavior is a predictor of current gender-fair language use.

Evidence from the studies presented in this thesis supports the idea that motivation is an important factor when entering a deliberate process. Individuals used more gender-fair language when instructed to do so than spontaneously (key finding 3a). Instructions can be interpreted as external motivation and, in these experiments, they led to a deliberate process that increased gender-fair language use. However, no evidence could be found that motivation to use accurate language is crucial (key finding 6). This result indicates that although the argument that gender-fair language is more accurate than gender-biased language is convincing, being motivated to use accurate language does not yet lead to more gender-fair language use. The contrary findings that trainees with high motivation levels and high language competence were less likely to use gender-fair language even suggest that gender-biased forms are still perceived as the more accurate or correct language – at least for the population which the sample was drawn. One possible explanation could be that in German masculine generics are, as the traditional form, the more common option and perceived as the standard (e.g. Demarmels & Schaffner, 2011). In addition, students' and trainees' perception of accurate forms are also shaped in schools and via schoolbooks. Moser and Hannover (2014) found that masculine forms intended as generics are still used in German speaking schoolbooks. Nevertheless, such a perception also affects which forms are used automatically and can only change over time if gender-fair language becomes the more prevalent form. This brings us back to the question of how gender-fair language use can be increased. In order

to promote gender-fair language use, it seems necessary to go beyond the argument that gender-fair language is merely the more accurate form.

A further possibility to promote gender-fair language is to raise people's awareness. Our studies show that for men, reading gender-fair language use did not lead to a general increase in gender-fair language use (key finding 7) but being made aware that the text was written in gender-fair language did (key finding 8). The effect was comparable to women's gender-fair language use after reading the gender-fair text (with or without being made aware). These findings suggest that raising men's awareness brings a certain deliberation to the language production process, which subsequently affects their linguistic choices. The study design does not allow to decide whether the process leading to these results are entirely deliberate or if it remains predominantly automated. Nevertheless, the findings that women adjusted their gender-fair language use even without being made aware (key finding 7) and without any suspicion about gender-fair language use was a target variable in the experiment could be interpreted as an implication that automated processes are still involved. In contrast, drawing men's awareness to the gender-fair nature of the text might have activated their perception and attribution of the situation, thereby allowing them to adjust their behavior more actively and thus fitting the social-interactive perspective.

Social-Interaction Perspective

The CAT was used to identify relevant elements to investigate what affects individuals' gender-fair language use from a social-interactive perspective. Again, with the CAT, the aim was neither to test nor to further develop the theory but to investigate the identified elements: general adjustment to the situation and societal norms.

Results support the basic assumption of the CAT, that individuals accommodate their communication toward their environment (key finding 7). The findings suggest that when reading a gender-fair text, women, at least, established convergence by increasing their gender-fair language use. Men showed a similar adjustment only when made aware of the gender-fair nature of the read text (key finding 8), as previously discussed. The difference between women's direct adjustment and men requiring additional pointers may be explained by women being more directly concerned by gender-fair and gender-biased language, as they are less represented in gender-biased language use. Reading feminized forms activates the categories of gender and serves as a reminder of their own identity as

women. The CAT assumes that when individuals experience such an activation of their identity, they adjust their behavior, here reflected in women's adjustment toward more gender-fair language use. This interpretation is supported by the result that reading a text with only depersonalized neutral forms affected neither women's nor men's gender-fair language use, as they did not activate any gender categories. Alternatively, the key findings 7 and 8 could also be explained as reflecting a social desirability effect (Edwards, 1957). The findings would then reflect individual differences of the impact of social desirability (Crowne & Marlowe, 1960). Nevertheless, this interpretation emphasizes a similar basic idea: that people adjust their behavior toward the context or norm.

The notion that individuals adjust their gender-fair language use toward societal norms is supported by the findings that in German, gender-fair language use was low (key finding 2). In comparison, in Norwegian, individuals were more likely to use the more prevalent form (key finding 9). Additional evidence that societal norms play a role was provided by Sczesny et al. (2015), in whose studies perceived positive norms toward gender-fair language were related to more gender-fair language use and perceived negative norms toward gender-fair language use were at least partly linked to less gender-fair language use. Therefore, proclaiming gender-fair as the norm is an essential strategy to promote gender-fair language use.

Strengths and Limitations

Strengths

The experiments in this thesis allowed for a better understanding of the mechanisms affecting individuals' gender-fair language use. First, examining individuals' gender-fair language use in German in several experiments allowed us to observe a certain consistency and stability of the results, namely that independent participants were more likely to use masculine generics than gender-fair forms. This observation is in line with previous findings that masculine generic is still the more common form and, as such, represents the persistent norm in the German language (e.g., Demarmels & Schaffner, 2011). These results contribute to a better understanding of individuals' gender-fair language use by providing evidence from different forms of assessment (online and paper and pencil) and different samples (university students and trainees).

Second, experiments were run in two different languages that differ with reference to the strategy chosen to overcome sexist language practices. The findings in the experiments in Norwegian suggest that the strategy in place in Norway—different to that of the German-speaking countries—does indeed have a different effect on people’s gender-fair language use. Norwegian-speaking participants were more likely to use an unmarked role noun form than a gender-marked form, and both investigated effects (presented and prevalence) were asymmetrical. Participants were more likely to switch from a gender-marked role noun form (reading it or it being prevalent) to using an unmarked form than the other way around. These results support the findings of Bull and Swan (2000) that many words with the suffix *-menn* disappeared. Nevertheless, these results must be interpreted with caution, as in the past, the unmarked form in Norwegian was equivalent to the masculine generic in German. Furthermore, whereas in Norwegian, it is categorized as gender-fair, in German, it is categorized as gender-biased. Studies have also shown that even though Norway classifies those forms as gender-fair, people still have a representation with a male bias when reading neutral role nouns (Gabriel & Gygax, 2008b). For stereotyped role nouns, the stereotypical information leads to a stereotypical bias.

A third strength is that the design of the second experiment in Paper IV allowed for operationalization of the prevalence of particular role noun forms. It allowed, therefore, to compare individuals’ use of the prevalent form versus the non-prevalent form. To my knowledge, we were the first to consider the effect of the prevalent form to understand individuals’ gender-fair language use.

Finally, through these studies, it was possible to identify the three groups of role nouns. The identified pattern could not be analyzed in more detail due to the limited selection of role nouns, but it may serve as a basis for further studies.

Limitations

One of the major challenges was the development of the material. For most key variables, there were no existing tests or questionnaires. Indeed, for the primary key variable—gender-fair language use—there was some material in English but a scarce amount in German. Since gender-fair language includes language-specific components, English material could not simply be translated. Moreover, concerning the motivational

aspects, such scales had to be developed first. I will now discuss the development of those materials and their advantages and disadvantages before reviewing the design challenges.

Gender-Fair Language. Assessing gender-fair language use engendered three main challenges. First, there is no definitive classification of what gender-fair language is and what it is not. Second, there are different ways of avoiding bias in language, and third, there is a high variance between the tested personal nouns.

Because in German, different guidelines could be used as a basis to differentiate between gender-fair and gender-biased language, their advice can differ. In addition, even the most detailed guidelines do not provide exhaustive examples. In Norwegian, meanwhile, the situation is less complex, as there are no contradicting guidelines. Nevertheless, there is no explicit line between gender-fair and gender-biased language, which poses a challenge when coding produced language accordingly. While the interrater reliabilities were high in both the German and Norwegian studies ($\kappa \geq .83$), a clear definition could lead to a more precise and accurate categorization of the answers.

Assessing Gender-Fair Language Use. The context of an experiment allowed for the assessment of only a limited number of personal nouns. In all studies, differences were found between the specific words or role nouns. In the two experiments in Norwegian (Paper IV), those differences were analyzed in detail, and a pattern could be identified. Although the limited number of only seven role nouns in the two experiments together made a broader analysis challenging.

In the experiments in German, differences could be observed in the pretest for the materials and in the experiments in Paper II and Paper III. In the experiments of Paper II and Paper III, one criterion to select the specific fill-in-the-gaps tasks was to balance the content of the text between public and private, as differences between those two were found in the pretest. For example, the use of gender-fair forms for “citizens” was higher than the use of gender-fair use for “friends.” Due to the limited number of target words, it was not possible to conduct extended analyses to develop a deeper understanding of the differences between the use of gender-fair language between the different personal nouns (e.g., working environment or family). Avenues for further research in this area and the advantages and disadvantages of the different methods to assess gender-fair language are discussed in a later chapter.

Motivation to Use Accurate Language. The questionnaire to assess motivation to use accurate language was difficult to develop. One of the obstacles was that I did not clearly define the concept, which meant that the results were difficult to interpret. The concept of motivation includes not only the facet of accurate language but also the mindfulness and affinity to play with language. While it is an interesting question to ask, the fact that individuals may enjoy playing with language and finding more precise ways to express themselves does not automatically imply that they are motivated to use gender-fair language. The questionnaire also represents the facet of using language correctly. When we consider that in a school environment, masculine generic forms are taught to be the correct form to use, then individuals with a high motivation to use correct language will simply apply what they have learned.

Sample. The sample size in the first experiment in Paper IV was too small for the conducted analyses because the experiment was planned and designed to only test if the presented role noun form affected readers' use of those role nouns. The analysis of the prevalence of the role noun form was only conducted post-hoc based on the observation of individuals' responses: namely, that the use of unmarked role nouns was higher than the use of gender-marked role nouns. The second experiment was conducted to include the prevalence effect in the design and replicate the results.

University students do not represent the average population, as they have a high level of formation, and a higher level of language competence than the average population (OECD, 2013). As such, two potential limitations are that it was not possible to analyze the minimal language competence necessary to use gender-fair language and that the tertiary formation might teach different language values.

University students and trainees represent essentially individuals from one generation. Attitudes toward gender-fair language differ depending on age (Parks & Robertson, 1998) and between generations (Parks & Robertson, 2008), and one can thus assume that this is also true for gender-fair language use. Particularly in the light of the observation that gender-fair language use in official documents has increased and people use the more prevalent forms more often, the results of the studies presented in this thesis should be cautiously generalized to other generations or populations.

Design. Overall, the designs were chosen to better understand parts of the mechanisms underlying individuals' gender-fair language use. However, this approach

limits the understanding of the overall picture of their behavior, particularly when taking into account that individuals change over time.

Written Versus Spoken Language. Another limitation of the presented research is that it covers only written language. Thus, the results cannot be generalized to spoken language, and it must be noted that gender-fair language plays a role in both communication mechanisms. While both types of language production have similarities, there are also differences. One critical difference is the resource of time. In general, when speaking, there is less time to concentrate on how to form a phrase or select the most suitable words. An individual's opportunity to make deliberate judgments is affected by the available time and cognitive resources (e.g., Fazio, 1990). Those cognitive resources are crucial when it comes to regulating social behavior, which strongly applies to the deliberate processes. It can be assumed that the found mechanisms also apply to spoken language. This assumption is based upon the fact that most research on the language production process is investigated with an emphasis on spoken language. However, research that investigated gender-fair language use specifically has focused primarily on written language. Therefore, before generalizing it to spoken language, further experiments to provide evidence would be needed.

To summarize, although the presented experiments have limitations concerning the material, design, and generalizability, those limitations do not render the findings invalid. On the contrary, the discussion of the results and limitations of the experiments raise a variety of intriguing questions for future study. There is, indeed, a need for further research to understand which strategies affect individuals' gender-fair language use to a fuller extent.

Further Research

The present studies could partially answer the research question. Thus, further research is required, and the limitations discussed above constitute a basis for it. Much work remains to be done before a full understanding is established of whether people's gender-fair language use can be changed. I will outline some propositions in this chapter for future research. In the first part, I will present the lessons learned on the methods to assess gender-fair language, using the present proposals to treat the challenge of the heterogeneity of gender-fair language use. This discussion will be followed by the idea of applying additional longitudinal study designs. In the second part, I will present

proposals to overcome limitations concerning generalizability and ideas to explore individual differences.

Assessing Gender-Fair Language Use

In the following section, I will discuss different methods to assess gender-fair language use. I will begin with the approach of using fill-in-the-gaps tasks; this will be followed by using a sentence improvement task and will end with using questions where the analyzed personal nouns are the target. I will discuss the advantages and disadvantages of each measure and review the research questions to which they are most suited. The characteristics of a suitable method are that it is close to everyday language, categorizable, comparable between individuals, and interpretable.

Sentence Improvement Task. The basic idea behind the sentence improvement task is that participants are given phrases and instructed to improve them by rewriting them. Masked by other phrases, the experimental phrases include masculine generics. This procedure might not reflect the most common everyday language use but for trainees and university students, revising and improving their writing is part of their school or university routine. The main advantage of this task is that participants are provided with a whole range of gender-fair alternatives. It goes beyond the mere replacement of gender-biased forms with gender-fair forms: it also allows for reformulations of the phrase and creative solutions. When we applied this task, however, it was difficult to unambiguously categorize the text in terms of gender fairness, especially considering reformulations without explicit gender-fair forms. Additional difficulties raised questions, such as how an answer that uses a gender-fair form to replace a masculine form but then introduced another gender-biased form ought to be categorized. In general, under the condition that the answer could be classified, it was easy to quantify and compare participants, because a point could be given for each gender-fair reformulated phrase. The difficulty with interpretation nonetheless remains, as the motivation or idea behind a reformulation is not evident when the reformulation no longer includes a personal noun.

Overall, the advantage that participants have more possibilities to reformulate the sentence in a gender-fair way is simultaneously the most problematic disadvantage, because of the resulting difficulties in categorizing and interpreting participants' behavior. This drawback is the reason this task was ultimately not used in the studies in

this thesis. Indeed, if a comparison is needed between participants, other approaches and tasks are recommended.

Fill-in-the-Gaps Task. Fill-in-the-gaps tasks were used in different experiments to assess participants' spontaneous, instructed, and dependent gender-fair language use. The central disadvantage of this task is that it does not reflect an everyday writing behavior, and the range of possible alternatives is limited to using either a gender-biased form, a feminized form (e.g., pair form), or a neutralized form, which does not allow for reformulations of the phrase. The advantage is that answers are easier to categorize, compare, and interpret. There are, however, exceptions: it is possible to classify a response only as long as a participant gives the correct answer, as there is only one. The problem with categorization is the question of the definition, which is independent of which assessment method is used. Furthermore, participants used largely the same words but in different forms. Nevertheless, for some of the gaps, it was possible to use different words to complete the sentence. A selection was thus made from the material used in the experiments of Papers II and III to avoid such ambiguity.

Altogether, although the fill-in-the gaps task involves some limitations, it is still a recommendable method to assess gender-fair language use. When administering this task, the focus should be on using sentences without ambiguity concerning which personal nouns have to be filled in and, on the heterogeneity or homogeneity of the chosen contexts and personal nouns.

Specific Questions. Asking questions where the answer must include a specific personal role noun was only used in the experiments in Paper IV. This approach could also be used to assess individuals' use of a wider variety of personal nouns. One advantage is that answering questions is, at least for trainees and students, an everyday use of language. Moreover, the range of possible alternatives is not limited, despite it being guided. By "guided," I understood that the answer to a given question would usually be a personal noun, which would be used by most of the participants in either a gender-fair or gender-biased form. However, the possibility to paraphrase still exists. The challenge of categorization is similar to that of the fill-in-the-gaps task. In the experiment of Paper IV, the answers were categorized as gender-marked or unmarked role nouns. Most of the disagreement on how to categorize the terms concerned the answers that were not role nouns (e.g., *bemannig* [manned]) and if those should be categorized as gender-

marked or as not categorizable. While we did not face any challenges when comparing the answers, interpretations were difficult in cases where participants used alternative formulations rather than personal nouns. Nevertheless, as the answers were guided, most of them were straightforward answers with personal nouns. The questions must be asked in such a way that only the target personal noun is the correct answer to achieve such a response. If the method is used in the same way as in the experiments in Paper IV, it would be easier for participants to find the correct answer, as they would have just read the relevant text. Finally, if the method were to be applied to assess spontaneous gender-fair language use, the questions would have to be asked more pointedly.

To sum up, asking questions with targeted personal nouns is a useful method to assess gender-fair language use. Much like the fill-in-the gaps task, researchers using this method should consider the context of the questions and the heterogeneity or homogeneity of the selected personal nouns and be careful to pose the question in a concise way so that only the targeted personal noun can be used as an answer.

Instruction. Several difficulties may arise when instructing individuals to use gender-fair language. The goal of the instruction method is to measure the ability to use gender-fair language. However, using the term “gender-fair language” evokes attitudes and constructs that might counteract the motivation to use gender-fair language to the greatest extent possible. Therefore, the instruction was formulated as technically as possible, although it was not possible to avoid preconceived notions of gender-fair language entirely.

Heterogeneity of Gender-fair Language Use

As previously discussed, the material posed some challenges, including the heterogeneity of gender-fair language use and the concept of motivation to use accurate language. The heterogeneity of gender-fair language use between the different personal nouns or role nouns opens a large field of possibilities for further research. In the following section, I will propose different approaches regarding how future studies could contribute to a better understanding of people’s gender-fair language use. First, I will present two measures that could be used to establish the prevalence of gender-fair and gender-biased forms of personal nouns: conducting a corpus analysis or assessing individuals’ use. Second, I will then focus on how scholars could deepen the understanding of the differences in gender-fair language use between personal nouns

expanding on key finding 11. As possible aspects of the personal nouns to be further studied, I will discuss the personal noun's stereotypicality, valence and word frequency, as well as the context of the content and an approach to study individuals' motivation in a qualitative study.

Corpus Analysis. One approach to measuring the prevalence of gender-fair or gender-biased forms among different personal nouns would be to conduct extensive corpus analyses in the target languages. The advantage of such a method is that development over time could be considered. However, a considerable disadvantage is the restriction to certain text types, such as websites or newspapers. For example, the NoWAC (Guevara, 2010) primarily contains websites, while the Leipzig Corpora Collection (Biemann et al. 2007) includes newspapers, Wikipedia articles, and websites. As such, most corpora do not represent individuals' everyday language use.

Individuals' Use. When measuring the extent to which individuals' everyday use of personal nouns constitutes gender-fair language use, another approach is advisable. One could undertake, for instance, a study in the style of Misersky et al. (2014), who collected data on the gender stereotypicality of an extensive list of role nouns. Instead of evaluating personal nouns in terms of their gender stereotypicality, the use of these personal nouns could be tested. Participants could be presented with the definitions of personal nouns and instructed to write the matching personal noun. Nevertheless, these methods are only applicable to grammatical gender languages (e.g., German) or to a limited selection of personal nouns in natural gender languages (e.g., English).

Stereotypicality. Based on the prevalence of the use of gender-fair and gender-biased forms of personal nouns, a better understanding could be gained regarding underlying patterns or factors that explain the differences between individuals' use of the different forms. For example, gender-fair language use could be linked to stereotypicality as assessed by Misersky et al. (2014) to investigate possible correlations and underlying patterns.

Valence. Another possible pattern could be based on the positive and negative valence of a personal noun. The initial findings of Hansen et al. (2016) in German and Gabriel (2008) in Norwegian indicate that the valence of a role noun plays a role in gender-fair language use. Hansen et al. (2016) found that participants were more likely to use masculine generic nouns to describe murderers than to describe heroes. Furthermore,

after reading a text with the role noun “hero” or “murderer” in feminine–masculine pairs, participants increased the estimated share of women among heroes, but not of women among murders. Gabriel (2008), meanwhile, found a positive–negative asymmetry when participants named their favorite (positive valence condition) and least favorite personalities (negative valence condition). Altogether, these findings suggest that valence plays a role when it comes to the mental representation of gender and, consequently, valence might have an influence on people’s willingness and motivation to adapt their language use. Promoting gender-fair forms of positively perceived role nouns might, therefore, be more successful and rewarding than the promotion of negatively perceived role nouns. Such a hypothesis could be tested by selecting role nouns according to their valence. In addition to the comparison between gender-fair language use and valence to identify underlying patterns, individuals’ willingness to adapt their gender-fair language use depending on the valence would be of particular interest.

Word Frequency. The prevalence of the role noun itself (i.e., highly frequent role nouns versus low-frequency role nouns) could also be interesting. This idea is based on the findings of this thesis, namely that being exposed to a certain form affects individuals’ use of this form. As for more frequent role nouns, there are more possibilities of being exposed to gender-fair forms, and individuals’ change toward more gender-fair forms might be quicker than with rare personal nouns.

Content Context. As already observed in the fill-in the gaps tasks, the difference between public and private content may play a role in observed gender-fair language use. Based on the existing knowledge concerning the prevalence of personal nouns, personal nouns that are associated more with a public context (e.g., “citizens”) could be compared with personal nouns associated with a private context (e.g., “friends”).

Individuals’ Motivation. Conducting a qualitative study to systematically ask about participants’ motivation to use or not use gender-fair language would allow researchers to understand what affects people’s gender-fair language use and the elaborate processes more profoundly. The present research, as well as other research (Koeser & Sczesny, 2014), reveals difficulties in understanding individuals’ motivation to use gender-fair language. Although scholars have proposed some effects of arguments on gender-fair language use, up to now, individuals’ deliberations have not been wholly mapped out. Another methodological approach would thus present an opportunity to gain

more insights into people's motivations regarding gender-fair language use. In such an approach, individuals could be asked not only why they use certain language forms but also the context in which they use these forms. Studies of this nature could be conducted by interviewing individuals or focus groups. Of course, such an approach is limited only to elaborate factors and neglects automated and unconscious processes. However, the added value could lead to a much better understanding of motivational and deliberate factors.

Based on a qualitative study to better understand individuals' motivation to engage in a deliberation to actively use gender-fair language use a more precise definition of the concept could be established as well as measurements for other motivational aspects could be developed.

Generalizability

Other Samples (Generations and Environments, and Languages). Although one study was conducted with a sample of trainees, most of the research and findings of this thesis are based on samples of university students or members. As noted previously, these studies should be augmented by incorporating different samples of participants, such as other generations or in other environments.

In the presented studies that investigated language competence, only native German speakers were included. Participants also followed either a vocational or university education, and individuals with a lack in general language competence may not have been part of the sample. Therefore, future research could replicate the study with a sample that includes participants with a lower general language competence.

Spoken Language. All the experiments described in this thesis were in written language. Even though testing people's gender-fair language use in written form has many advantages, testing people's spoken language could extend the knowledge and understanding of individuals' gender-fair language use.

Additional Variables and Panel Design

If similar studies were to be conducted based on the results of a qualitative approach or replicating the present research with improved material or different samples, additional variables could be tested. While all research has the potential to improve upon this foundation, the most pertinent ideas are outlined below.

A compelling variable to assess would be participants' political orientation. In this context, the primary interest would not be the position between left and right, but rather between conservative and progressive. A study by Formanowicz et al. (2013) linked the conservative attitudes of Polish-speaking individuals to how they evaluated female job applicants who referred to themselves with a feminine job title compared to female and male applicants using a masculine job title.

One finding that requires further investigation is the observation that women used more gender-fair language after reading a gender-fair text (even when not made aware), whereas men needed to be informed that a text was written in gender-fair language. First, it would be interesting to identify more groups that have to be made aware and who imitate language form more automatically. In the present study, gender was an obvious factor to test for the effect; however, other qualifiers, such as individuals' political orientation as introduced above, may be incorporated into further studies. Second, it would be beneficial to further investigate the extent to which awareness of gender-fair language is necessary. Different ways of raising the awareness that a text is written in gender-fair language and different formulations of instructions could be tested to find the most effective ways.

One shortcoming of the experiments is that they are all cross-sectional studies and do not observe individuals' changes over time. When it comes to the habitual and activated use of personal noun forms, habitual use should be further investigated. In the present studies, for every personal noun, a form was activated. It is necessary to have a baseline measure of habitual use to facilitate a valid comparison between habitual and activated use.

Practical Implications

The research in this thesis provides insight into how people behave in terms of their gender-fair language use depending on different factors. Several practical implications can be deduced. The first implication concerns guidelines, the second, the effect of using gender-fair language in different situations, and the third questions the definition of correctness and setting a standard.

Guidelines are an important tool when it comes to the implementation of gender-fair language. Guidelines fulfill two functions: first, they act as instructions, and second, they serve as a reference guide and a basis for learning how to use gender-fair language.

The studies in Paper II, which focus on spontaneous and instructed gender-fair language use, indicate that when people are instructed to avoid gender bias in language, they use more gender-fair language. The long-term consequences of this finding can be deduced by the effect that in fields where such guidelines are mandatory (e.g., official communication of the state), gender-fair language use has increased more than in fields not targeted by guidelines (e.g., everyday communication). Indeed, although guidelines are an effective tool when it comes to promoting gender-fair language use, guidelines targeting everyday language use are scarce. Some educational institutions (e.g., universities) or companies have implemented internal guidelines and target specific communication, such as term papers, theses, or a company's official communications. However, informal language use needs more attention.

The studies conducted in this thesis provide several insights that can be used to increase gender-fair language use in informal communication. There remains, however, a lack of competence in using gender-fair language, which highlights the role of schools. In addition, the more people read gender-fair language (for example, in journals, books, homepages, magazines, and governments or schools official communication), the more the language will be used, and the more gender-fair forms will become the norm. Finally, a communicated norm can also actively promote gender-fair language use. Such norms could be seen, for instance, in a school, in schoolbooks, or in linguistic institutions, such as the *Duden* for German or the Language Council of Norway for Norwegian.

After reading a gender-fair text, people use more gender-fair language than after reading a gender-biased text, especially when they are made aware that the text was written in gender-fair language. From this effect, it can be concluded that to promote gender-fair language, as many texts as possible should be written in gender-fair language. Furthermore, making it explicit that those texts are written in gender-fair language would be even more efficient. Increased visibility could be achieved by introducing a label for "well-written gender-fair" texts. The media have a special role when it comes to distributing gender-fair language. Indeed, journals and magazines are read by a huge part of the population. Reading those media in gender-fair language would spread gender-fair language use significantly. Of course, publishers, website developers, and blog writers, among other content creators, could play a role in writing gender-fair texts. Schools also play an important role during one's childhood and adolescence, as many texts are read in

school. Schoolbooks serve as role models, and they set the norm. As such, they have both a short- and long-term impact on children and adolescents, and they are not yet written entirely in gender-fair language (Moser & Hannover, 2014). Schoolbooks are oriented at linguistic institutions, such as the *Duden* in German. In addition to establishing the norm, these institutions define what correct language use is and what it is not. Their publications can inform about how gender is integrated into the German language, advice in gender-fair language use and provide examples of different feminization and neutralization strategies (e.g. Diewald & Steinhauer, 2020) to improve individuals' ability to use gender-fair language.

To sum up, the findings in this thesis provide numerous practical implications. There are several promising approaches to promoting gender-fair language. One is to increase individuals' competence to specifically use gender-fair language. Another is to expose individuals more to gender-fair language use. Since making it explicit that communication is written in gender-fair language, might amplify the exposure effect. In that respect, schools, the media, and linguistic institutions—such as the *Duden*—all have the potential to promote gender-fair language.

Conclusion

The primary aim of the present research was to facilitate a better understanding of the processes shaping gender-fair language use. As the proverb “All roads lead to Rome” indicates, several roads and strategies could lead to more gender-fair language use. The two most promising strategies were (a) to give individuals explicit instructions to avoid gender bias in their language use and (b) to expose them to gender-fair language. The latter strategy worked more effectively as individuals were made aware that the texts were written using gender-fair language.

More inconclusive were the results regarding language competence and the motivation to use accurate language. While general language competence and one’s specific ability to use gender-fair language are connected, they are not related to individuals’ gender-fair language use. Nevertheless, if people are provided with instruction of how to use gender-fair language and are being consistently exposed to gender-fair language, gender-fair forms can become the empirical norm. When gender-fair forms become the prevalent form, they are easier to access and hence more likely to be used.

References

- Aitchison, J. (2012). *Words in the mind: An introduction to the mental lexicon*. John Wiley & Sons.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Bandura, A. (1971). *Social learning theory*. General Learning Press.
- Beller, S., Brattebo, K. F., Lavik, K. O., Reigstad, R. D., & Bender, A. (2015). Culture or language: What drives effects of grammatical gender? *Cognitive Linguistics*, 26(2), 331–359. <https://doi.org/10.1515/cog-2014-0021>
- Biemann, C., Heyer, G., Quasthoff, U., & Richter, M. (2007). The Leipzig corpora collection: Monolingual corpora of standard size. *Proceedings of Corpus Linguistics, 2007*.
- Bock, J. K. (1983). Priming syntactic form in speech production. *Bulletin of the Psychonomic Society*, 21(5), 366–366.
- Bock, K., & Griffin, Z. M. (2000). The persistence of structural priming: Transient activation or implicit learning? *Journal of Experimental Psychology: General*, 129(2), 177. <https://doi.org/10.1037/0096-3445.129.2.177>
- Branigan, H. P., Pickering, M. J., & Cleland, A. A. (1999). Syntactic priming in written production: Evidence for rapid decay. *Psychonomic Bulletin & Review*, 6(4), 635–640. <https://doi.org/10.3758/BF03212972>
- Braun, F., Gottburgsen, A., Sczesny, S., & Stahlberg, D. (1998). Können Geophysiker Frauen sein? Generische Personenbezeichnungen im Deutschen [Can geophysicists be women? Generic personal nouns in German]. *Zeitschrift für Germanistische Linguistik*, 26, 265–283. <https://doi.org/10.1515/zfgl.1998.26.3.265>
- Braun, F., Oelkers, S., Rogalski, K., Bosak, J., & Sczesny, S. (2007). “For reasons of intelligibility. . .” How masculine generics and alternative forms affect the cognitive processing of a text. *Psychologische Rundschau*, 58(3), 183–189. <https://doi.org/10.1026/0033-3042.58.3.183>

- Braun, F., Sczesny, S., & Stahlberg, D. (2005). Cognitive effects of masculine generics in German: An overview of empirical findings. *Communications*, 30(1), 1–21. <https://doi.org/10.1515/comm.2005.30.1.1>
- Brybaert, M., Mandera, P., & Keuleers, E. (2018). The word frequency effect in word processing: An updated review. *Current Directions in Psychological Science*, 27(1), 45–50. <https://doi.org/10.1177/0963721417727521>
- Brybaert, M., Stevens, M., Mandera, P., & Keuleers, E. (2016). The impact of word prevalence on lexical decision times: Evidence from the Dutch Lexicon Project 2. *Journal of Experimental Psychology: Human Perception and Performance*, 42(3), 441–458. <https://doi.org/10.1037/xhp0000159>
- Bull, T., & Swan, T. (2000). Women and men in the Norwegian language. In H. Valestrand (Ed.), *Nord og nedenfra*, 153–164. Tromsø: Universitetet i Tromsø.
- Bundesministerium für Bildung, Wissenschaft und Kultur (2001). *Geschlechtergerechtes Formulieren [Formulating gender-fair]*. Wien.
- Chang, F., Dell, G., Bock, K., & Griffin, Z. (2000). Structural priming as implicit learning: A comparison of models of sentence production. *Journal of Psycholinguistic Research*, 29(2), 217–229. <https://doi.org/10.1023/A:1005101313330>
- Chatard, A., Guimond, S., Lorenzi-Cioldi, F., & Désert, M. (2005). Domination masculine et identité de genre. *Les Cahiers Internationaux de Psychologie Sociale*, 3, 113–123. <https://doi.org/10.3917/cips.067.0113>
- Cralley, E., & Ruscher, J. (2005). Lady, girl, female, or woman: Sexism and cognitive busyness predict use of gender-biased nouns. *Journal of Language and Social Psychology*, 24(3), 300–314. <https://doi.org/10.1177/0261927x05278391>
- Cronin, C., & Jreisat, S. (1995). Effects of modeling on the use of nonsexist language among high school freshpersons and seniors. *Sex Roles*, 33(11-12), 819–830. <https://doi.org/10.1007/Bf01544781>
- Crowne, D. P., & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology*, 24(4), 349–354. <https://doi.org/10.1037/h0047358>

- Demarmels, S., & Schaffner, D. (2011). Gendersensitive Sprache in Unternehmenstexten [Gendersensitive language in company texts]. In S. Demarmels & W. Kesselheim (Eds.), *Textsorten in der Wirtschaft: Zwischen textlinguistischem Wissen und wirtschaftlichem Handeln [Kind of texts in the economy: Between linguistic knowledge and economic actions]* (pp. 98–120). VS Verlag für Sozialwissenschaften.
- Diewald, G., & Steinhauer, A. (2020). *Handbuch geschlechtergerechte Sprache: wie Sie angemessen und verständlich gendern [Handbook of gender-fair language: how you can appropriately and conperhensibly use gender-fair language]*. Dudenverlag.
- Doleschal, U. (1998). Entwicklung und Auswirkungen der feministischen Sprachkritik in Österreich seit 1987 [Development and effects of feminist language critique in Austria since 1987]. In G. Schoenthal (Ed.), *Feministische Linguistik: Linguistische Geschlechterforschung [Feminist linguistics: Linguistic gender studies]. Germanistische Linguistik, 139* (pp. 87–116). Hildesheim / Zürich / New York: Olms, 1998.
- Douglas, K. M., Sutton, R. M., & Wilkin, K. (2008). Could you mind your language? An investigation of communicators' ability to inhibit linguistic bias. *Journal of Language and Social Psychology, 27*(2), 123–139.
<https://doi.org/10.1177/0261927x07313655>
- Dragojevic, M., Gasiorek, J., & Giles, H. (2016). Accommodative strategies as core of the theory. *Communication Accommodation Theory: Negotiating Personal Relationships and Social Identities Across Contexts*, 36–59.
<https://doi.org/10.1017/CBO9781316226537>
- Duden. (2009). *Die deutsche Rechtschreibung [The German Orthography]* (25th ed., vol. 1). Dudenverlag.
- Duden. (2017). *Die deutsche Rechtschreibung [The German Orthography]* (27th ed., vol. 1). Dudenverlag.
- Edwards, A. L. (1957). *The social desirability variable in personality assessment and research*. Dryden Press.

- Elmiger, D., Tunger, V., & Schaeffer-Lacroix, E. (2017). Geschlechtergerechte Sprache in Schweizer Behördentexten: Möglichkeiten und Grenzen einer mehrsprachigen Umsetzung [Gender-fair language in Swiss official texts: Possibilities and limits of multilingual implementation]. *Osnabrücker Beiträge zur Sprachtheorie*, *90*, 61–90.
- Fazio, R. H. (1986). How do attitudes guide behavior? In R. M. Sorrentino & E. T. Higgins (Eds.), *The handbook of motivation and cognition: Foundations of social behavior* (pp. 204–243). Guilford Press.
- Fazio, R. H. (1990). *Multiple Processes by which Attitudes Guide Behavior: The Mode Model as an Integrative Framework*. In M. P. Zanna (Ed.), *Advances in Experimental Social Psychology*, *23*, 75–109. Academic Press.
- Fazio, R. H., & Towles-Schwen, T. (1999). The MODE model of attitude-behavior processes. In S. Chaiken & Y. Trope (Eds.), *Dual-process theories in social psychology* (pp. 97–116). Guilford Press.
- Fernández, E. M., & Cairns, H. (2010). *Fundamentals of psycholinguistics*. Wiley-Blackwell.
- Fishbein, M., & Ajzen, I. (2011). *Predicting and changing behavior: The reasoned action approach*. Psychology Press.
- Formanowicz, M., Bedynska, S., Cislak, A., Braun, F., & Sczesny, S. (2013). Side effects of gender-fair language: How feminine job titles influence the evaluation of female applicants. *European Journal of Social Psychology*, *43*(1), 62–71. <https://doi.org/10.1002/ejsp.1924>
- Gabriel, U. (2008). Language policies and in-group favoritism: The malleability of the interpretation of generically intended masculine forms. *Social Psychology*, *39*(2), 103–107. <https://doi.org/10.1027/1864-9335.39.2.103>
- Gabriel, U., Behne, D. M., & Gygas, P. M. (2017). Speech vs. reading comprehension: An explorative study of gender representations in Norwegian. *Journal of Cognitive Psychology*, *29*(7), 795–808. <https://doi.org/10.1080/20445911.2017.1326923>

- Gabriel, U., & Gygax, P. (2008a). Can a group of musicians be composed of women? Generic interpretation of French masculine role names in the absence and presence of feminine forms. *Swiss Journal of Psychology*, *67*(3), 143–151. <https://doi.org/10.1024/1421-0185.67.3.143>
- Gabriel, U., & Gygax, P. (2008b). Can societal language amendments change gender representation? The case of Norway. *Scandinavian Journal of Psychology*, *49*(5), 451–457. <https://doi.org/10.1111/j.1467-9450.2008.00650.x>
- Gabriel, U., & Gygax, P. (2016). Gender and linguistic sexism. In Giles, H., & Maass, A. (Eds.), *Advances in intergroup communication*. (pp. 177–192). Peter Lang Publishing. <https://doi.org/10.3726/b10467>
- Gabriel, U., Gygax, P. M., & Kuhn, E. A. (2018). Neutralising linguistic sexism: Promising but cumbersome? *Group Processes & Intergroup Relations*, *21*(5), 844–858. <https://doi.org/10.1177/1368430218771742>
- Gastil, J. (1990). Generic pronouns and sexist language: The oxymoronic character of masculine generics. *Sex Roles*, *23*(11-12), 629–643. <https://doi.org/10.1007/Bf00289252>
- Gertel, V. H., Karimi, H., Dennis, N. A., Neely, K. A., & Diaz, M. T. (2020). Lexical frequency affects functional activation and accuracy in picture naming among older and younger adults. *Psychology and Aging*, *35*(4), 536–552. <https://doi.org/10.1037/pag0000454>
- Giles, H. (1973). Accent mobility: A model and some data. *Anthropological Linguistics*, *87*–105.
- Giles, H., & Marlow, M. L. (2011). Theorizing language attitudes existing frameworks, an integrative model, and new directions. *Annals of the International Communication Association*, *35*(1), 161–197. <https://doi.org/10.1080/23808985.2011.11679116>
- Guevara, E. (2010). NoWaC: A large web-based corpus for Norwegian. *Proceedings of the NAACL HLT 2010 Sixth Web as Corpus Workshop*.
- Gustafsson Senden, M., Back, E. A., & Lindqvist, A. (2015). Introducing a gender-neutral pronoun in a natural gender language: The influence of time on attitudes and behavior. *Frontiers in Psychology*, *6*, 893. <https://doi.org/10.3389/fpsyg.2015.00893>

- Gygax, P., Gabriel, U., Sarrasin, O., Oakhill, J., & Garnham, A. (2008). Generically intended, but specifically interpreted: When beauticians, musicians, and mechanics are all men. *Language and Cognitive Processes*, 23(3), 464–485. <https://doi.org/10.1080/01690960701702035>
- Gygax, P., Sato, S., Öttl, A., & Gabriel, U. (2021). The masculine form in grammatically gendered languages and its multiple interpretations: A challenge for our cognitive system. *Language Sciences*, 83, 101328. <https://doi.org/10.1016/j.langsci.2020.101328>
- Hamilton, M. C., Hunter, B., & Stuart-Smith, S. (1992). Jury instructions worded in the masculine generic: Can a woman claim self-defense when “he” is threatened? In J. C. Chrisler & D. Howard (Eds.), *New directions in feminist psychology: Practice, theory, and research* (pp. 169–178). Springer.
- Hansen, K., Littwitz, C., & Sczesny, S. (2016). The social perception of heroes and murderers: Effects of gender-inclusive language in media reports. *Frontiers in Psychology*, 7, 369. <https://doi.org/10.3389/fpsyg.2016.00369>
- Hegarty, P., Mollin, S., & Foels, R. (2016). Binomial word order and social status. In H. Giles & A. Maass (Eds.), *Advances in intergroup communication* (pp. 119–135). Peter Lang Publishing. <https://doi.org/10.3726/b10467>
- Hellinger, M., & Bierbach, C. (1993). *Eine Sprache für beide Geschlechter [A language for both genders]*. Deutsche UNESCO-Kommission.
- Hellinger, M., & Bussmann, H. (Eds.). (2001). *Gender across languages: The linguistic representation of women and men* (vol. 1). John Benjamins.
- Hellinger, M., & Bußmann, H. (2002). *Gender across languages: The linguistic representation of women and men* (vol. 2). John Benjamins.
- Hellinger, M., & Bußmann, H. (2003). *Gender across languages: The linguistic representation of women and men* (vol. 3). John Benjamins.
- Hodel, L., Formanowicz, M., Sczesny, S., Valdrová, J., & von Stockhausen, L. (2017). Gender-fair language in job advertisements. *Journal of Cross-Cultural Psychology*, 48(3), 384–401. <https://doi.org/10.1177/0022022116688085>

- Irmen, L., & Roßberg, N. (2004). Gender markedness of language: The impact of grammatical and nonlinguistic information on the mental representation of person information. *Journal of Language and Social Psychology, 23*(3), 272–307. <https://doi.org/10.1177/0261927x04266810>
- Jung, L. (1998). *Einstufungstests für Anfänger- und Fortgeschrittenenkurse - Deutsch als Fremdsprache [Placement tests for beginners and advanced courses: German as a foreign language]*. Verlag für Deutsch.
- Koeser, S., Kuhn, E. A., & Sczesny, S. (2015). Just reading? How gender-fair language triggers readers' use of gender-fair forms. *Journal of Language and Social Psychology, 34*(3), 343–357. <https://doi.org/10.1177/0261927X14561119>
- Koeser, S., & Sczesny, S. (2012, April). Persuasion by arguments: The case of gender-inclusive language. *54. Tagung Experimentell Arbeitender Psychologen*.
- Koeser, S., & Sczesny, S. (2014). Promoting gender-fair language: The impact of arguments on language use, attitudes, and cognitions. *Journal of Language and Social Psychology, 33*(5), 548–560. <https://doi.org/10.1177/0261927x14541280>
- Kuhn, E. A., Koeser, S., & Gabriel, U. (2021). *Spreading the gender-neutral word: Recency and prevalence effects in Norwegian gender-marked and unmarked role nouns* [Manuscript in revision].
- Kuhn, E. A., & Gabriel, U. (2014). Actual and potential gender-fair language use: The role of language competence and the motivation to use accurate language. *Journal of Language and Social Psychology, 33*(2), 214–225. <https://doi.org/10.1177/0261927x13504297>
- LaGrone, S., & Spieler, D. H. (2006). Lexical competition and phonological encoding in young and older speakers. *Psychology and Aging, 21*(4), 804. <https://doi.org/10.1037/0882-7974.21.4.804>
- Lamb, V., & Nereo, F. (2012). “Chancengleichheit unter den Bürgerinnen und Bürgern”? A study of how the German basic law and the German version of the Swiss Constitution exhibit and avoid sexist language. *German Life and Letters, 65*(1), 109–126. <https://doi.org/10.1111/j.1468-0483.2011.01562.x>
- Levelt, W. J. M. (1989). *Speaking: From intention to articulation*. MIT Press.
- Levelt, W. J. M. (1999). Models of word production. *Trends in Cognitive Sciences, 3*, 223–232. [https://doi.org/10.1016/s1364-6613\(99\)01319-4](https://doi.org/10.1016/s1364-6613(99)01319-4)

- Likestillingsloven. (2013). *Act no. 59 of 2013 on gender equality (The Gender Equality Act)*.
- Matheson, K., & Kristiansen, C. M. (1987). The effect of sexist attitudes and social-structure on the use of sex-biased pronouns. *Journal of Social Psychology*, *127*(4), 395–398. <https://doi.org/10.1080/00224545.1987.9713721>
- Merkel, E. (2011). Geschlechtergerechte Sprache an den universitären Gleichstellungskonzepten: Eine vergleichende Analyse [Gender-fair language in university equality concepts: A comparative analysis]. *CEWS Journal*, *87*, 39–45.
- Merkel, E., Maass, A., & Frommelt, L. (2012). Shielding women against status loss: The masculine form and its alternatives in the Italian language. *Journal of Language and Social Psychology*, *31*(3), 311–320. <https://doi.org/10.1177/0261927x12446599>
- Misersky, J., Gygas, P. M., Canal, P., Gabriel, U., Garnham, A., Braun, F., Chiarini, T., Englund, N., Hanulíková, A., Ottl, A., Valdrova, J., von Stockhausen, L., Sczesny, S. (2014). Norms on the gender perception of role nouns in Czech, English, French, German, Italian, Norwegian, and Slovak. *Behavior Research Methods*, *46*(3), 841–871. <https://doi.org/10.3758/s13428-013-0409-z>
- Moser, F., & Hannover, B. (2014). How gender fair are German schoolbooks in the twenty-first century? An analysis of language and illustrations in schoolbooks for mathematics and German. *European Journal of Psychology of Education*, *29*(3), 387–407. <https://doi.org/10.1007/s10212-013-0204-3>
- Moulton, J., Robinson, G. M., & Elias, C. (1978). Sex bias in language use. “Neutral” pronouns that aren’t. *American Psychologist*, *33*, 1032–1036. <https://doi.org/10.1037/0003-066X.33.11.1032>
- Nambiar, M. (2015, October 29). How to express the same idea in different ways. *IELTS practice*. <http://www.ielts-practice.org/how-to-express-the-same-idea-in-different-ways/>
- Norsk Språkrådet. (1997). *Kjønn, språk, likestilling. Retningslinjer for kjønnsbalansert språkebruk [Gender, language, equality of status. Directives for gender balanced language use]*. Norsk Språkrådet.

- OECD (2013). *OECD Skills Outlook 2013: First results from the survey of adult skills*. OECD Publishing. <http://dx.doi.org/10.1787/9789264204256-en>
- Oldfield, R. C., & Wingfield, A. (1965). Response latencies in naming objects. *Quarterly Journal of Experimental Psychology*, *17*(4), 273–281. <https://doi.org/10.1080/17470216508416445>
- Palomares, N. A., Giles, H., Soliz, J., & Gallois, C. (2016). Intergroup accommodation, social categories, and identities. In H. Giles (Ed.), *Communication accommodation theory: Negotiating personal relationships and social identities across contexts* (pp. 123–151). Cambridge University Press.
- Parks, J. B., & Robertson, M. (1998). Influence of age, gender, and context on attitudes toward sexist/nonsexist language: Is sport a special case? *Sex Roles*, *38*(5-6), 477–494. <https://doi.org/10.1023/A:1018766023667>
- Parks, J. B., & Robertson, M. (2008). Generation gaps in attitudes toward sexist/nonsexist language. *Journal of Language and Social Psychology*, *27*(3), 276–283. <https://doi.org/10.1177/0261927x08317956>
- Petty, R. E., & Cacioppo, J. T. (1986). The elaboration likelihood model of persuasion. In Petty, R. E., & Cacioppo, J. T. (Eds.), *Communication and persuasion: Springer series in social psychology*. Springer. https://doi.org/10.1007/978-1-4612-4964-1_1
- Pickering, M. J., & Branigan, H. P. (1998). The representation of verbs: Evidence from syntactic priming in language production. *Journal of Memory and Language*, *39*(4), 633–651. <https://doi.org/10.1006/jmla.1998.2592>
- Prewitt-Freilino, J. L., Caswell, T. A., & Laakso, E. K. (2012). The gendering of language: A comparison of gender equality in countries with gendered, natural gender, and genderless languages. *Sex Roles*, *66*(3-4), 268–281. <https://doi.org/10.1007/s11199-011-0083-5>
- Pustejovsky, J., & Batiukova, O. (2019). *The lexicon*. Cambridge University Press
- Rodd, J., Gaskell, G., & Marslen-Wilson, W. (2002). Making sense of semantic ambiguity: Semantic competition in lexical access. *Journal of Memory and Language*, *46*(2), 245–266. <https://doi.org/10.1006/jmla.2001.2810>

- Sato, S., Gygas, P. M., & Gabriel, U. (2016). Gauging the impact of gender grammaticization in different languages: Application of a linguistic-visual paradigm. *Frontiers in Psychology, 7*, 140. <https://doi.org/10.3389/fpsyg.2016.00140>
- Schoel, C., Roessel, J., Eck, J., Janssen, J., Petrovic, B., Rothe, A., Rudert, S. R., Stahlberg, D. (2013). “Attitudes towards languages” (AToL) scale: A global instrument. *Journal of Language and Social Psychology, 32*(1), 21–45. <https://doi.org/10.1177/0261927x12457922>
- Sczesny, S., Formanowicz, M., & Moser, F. (2016). Can gender-fair language reduce gender stereotyping and discrimination? *Frontiers in Psychology, 7*, 25. <https://doi.org/10.3389/fpsyg.2016.00025>
- Sczesny, S., Moser, F., & Wood, W. (2015). Beyond sexist beliefs: How do people decide to use gender-inclusive language? *Personality and Social Psychology Bulletin, 41*(7), 943–954. <https://doi.org/10.1177/0146167215585727>
- Soliz, J., & Giles, H. (2014). Relational and identity processes in communication: A contextual and meta-analytical review of communication accommodation theory. In E. Cohen (Ed.), *Communication yearbook 38* (pp. 106–143). Sage.
- Speake, J., & Simpson, J. (2008). *A dictionary of proverbs*. Oxford University Press.
- Stahlberg, D., Braun, F., Irmen, L., & Sczesny, S. (2007). Representation of the sexes in language. In K. Fiedler (Ed.), *Social communication. A volume in the series Frontiers of Social Psychology* (pp. 163–187). Psychology Press.
- Stahlberg, D., Sczesny, S., & Braun, F. (2001). Name your favorite musician: Effects of masculine generics and of their alternatives in German. *Journal of Language and Social Psychology, 20*(4), 464–469. <https://doi.org/10.1177/0261927x01020004004>
- Stericker, A. (1981). Does this “he or she” business really make a difference? The effect of masculine pronouns as generics on job attitudes. *Sex Roles, 7*, 637–641. <https://doi.org/10.1007/BF00291751>
- Swan, T. (1992). All about Eve: Women in Norwegian newspapers in the 20th century. *Working Papers on Language, Gender and Sexism, 2*(2), 37–53.

- Swim, J., Mallett, R., & Stangor, C. (2004). Understanding subtle sexism: Detection and use of sexist language. *Sex Roles, 51*(3-4), 117–128.
<https://doi.org/10.1023/B:Sers.0000037757.73192.06>
- Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin & S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 33–47). Brooks Cole.
- Tauroza, S., & Allison, D. (1990). Speech rates in British English. *Applied Linguistics, 11*(1), 90-105. <https://doi.org/10.1093/applin/11.1.90>
- UN General Assembly (1948, December 10). *Universal Declaration of Human Rights, 217 A (III)*. *United Nations*. <https://www.un.org/en/universal-declaration-human-rights/>
- Vervecken, D., & Hannover, B. (2015). Yes I can! Effects of gender fair job descriptions on children’s perceptions of job status, job difficulty, and vocational self-efficacy. *Social Psychology, 46*(2), 76–92.
<https://doi.org/10.1027/1864-9335/a000229>
- Whorf, B. L (1956). Language, thought, and reality. In J. B. Carroll (Ed.), *Language, thought and reality: Selected writings of Benjamin Lee Whorf*. MIT-Press.
- Williams, A. (1999). Communication accommodation theory and miscommunication: Issues of awareness and communication dilemmas. *International Journal of Applied Linguistics, 9*(2), 151–165. <https://doi.org/10.1111/j.1473-4192.1999.tb00169.x>
- World Economic Forum. (2018). *The global gender gap report*. World Economic Forum.
- Wyrobková, A., Gyax, P., & Macek, P. (2015). Human and man side by side, woman trapped in a different reality: Word associations in Czech. *Ceskoslovenska Psychologie, 59*(1), 44–56.

Publications I–IV

Paper I

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Neutralising linguistic sexism: Promising but cumbersome?

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Abstract

The generic use of grammatically (or lexically) gender-marked nouns and pronouns (GM) to refer to women and men in Indo-European languages has been criticised as gender-asymmetric since the 1970s. Two main strategies for eliminating asymmetry have been suggested: visibility by feminisation and de-gendering by neutralisation. Feminisation strategies seek to contribute to women's visibility in discourse by explicitly and symmetrically referring to women and men, thus continuing to highlight gender boundaries. In contrast, neutralisation strategies downplay gender boundaries by promoting the use of unmarked nouns and pronouns. We discuss feminisation and neutralisation strategies and review: (a) evidence (from our own work and that of others) on the effect of neutralisation and feminisation strategies on speakers' and readers' mental representations of gender and associated behaviours, and (b) evidence on individual variables facilitating and hampering the successful implementation of a less asymmetric—and therefore more gender-fair—language use. Based on this review, we suggest, in particular, to use feminisation strategies in contexts that are already gendered, and to use neutralisation strategies in nongendered ones (hence keeping the context gender-neutral).

Keywords

gender-fair language, gender-neutral language, grammatical gender, grammaticalisation of gender, language reform, linguistic sexism, masculine generic

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Since the first wave of feminism in the 19th century, some central aspects of gender equality have been achieved in European countries, such as the right to vote and equal treatment legislation. Other aspects, such as reproductive rights of women, violence against women, or disparities in female and male pay, remain of concern. A further challenge, which has sparked debate among both scientists and nonscientists, is that of an equal linguistic treatment of women and men. Specifically, there has been contention about the choice of word form when referring to groups in which all sexes are represented, or in situations in

which the biological sex of referents is either unknown or irrelevant (e.g., a statement about “fire fighters in general” in contrast to specific fire fighters). The extent of this challenge varies considerably from one language to another (Stahlberg,

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Braun, Irmen, & Sczesny, 2007). In grammatically genderless languages such as Finnish, nouns and pronouns generally do not indicate the referent's gender. However, lexically gendered nouns, that is nouns that carry a semantic property of gender (e.g., Finnish: *palomies* [fireman]), might still be present. In comparison, in fully grammatically gendered languages, such as French or German, most human referent nouns, pronouns, or adjectives change form in agreement with the gender of the referent (e.g., in French: *une musicienne courageuse* [_{a_{feminine}} courageous_{feminine} musician_{feminine}] vs. *un musicien courageux* [_{a_{masculine}} courageous_{masculine} musician_{masculine}]). In such languages, the form used to indicate male gender is also often used when no specific gender is intended; this is referred to as the *generic use of masculine forms* (GM). This practice has been increasingly criticised since the 1970s; there is mounting evidence for it being associated with male biases in information processing (for reviews, see Gabriel & Gygax, 2016; Sato, Öttl, Gabriel, & Gygax, 2017; Stahlberg et al., 2007).

Whereas a lexical gender marking of nouns (e.g., *spokeswoman*, *policemen*, *freshmen*) can be overcome by using alternatives for the specific nouns (i.e., *spokesperson*, *police officers*, *first-year students*), modifying language use when gender is grammaticalised is more challenging as it impacts not only word production but also sentence production processes. Two main solutions can be distinguished (Hellinger & Pauwels, 2007): maintaining grammatical gender marks, yet ensuring that they are used in a gender-balanced way (e.g., in Swedish, the use of "*hon och han*" [she and he] instead of a generic use of "*han*" [he]), and avoiding the use of gendered terms by linguistic creativity (e.g., use of a third personal pronoun in Swedish, "*hen*," as a gender-neutral alternative to the gender-specific "*hon*" [she] and "*han*" [he]). The former refers to *feminisation* strategies, whereas the latter to *neutralising* strategies. These suggestions, however, have been constrained not only by the properties of languages, but also by societal debates associated with gender equality. Consequently, there has been no clear consensus on appropriate ways to refer to people of different genders, in any language.

This paper is based on the assumption that language and linguistic practices shape and reflect people's worldview. We start by addressing social and cognitive correlates of the extent to which *language systems* encode referent gender and of the *linguistic practice* of asymmetric uses of gendered terms. We then argue that an asymmetric use of gendered terms contributes to asymmetric processing efforts. Typically, processing costs—in terms of cognitive effort—are higher for generically intended though gender-marked terms; further, this asymmetry of cognitive effort constitutes the very basis for engaging in language policies or language initiatives to prevent it. We further argue that some initiatives targeting language usage—whether following or not language policies—seek to socially and cognitively modify hierarchical relationships between the sexes. Others seek to overcome the emphasis on a simple (and hence inaccurate) gender/sex dichotomy. We review empirical evidence on the intended and nonintended (positive and negative) side effects of these initiatives, focusing on *feminisation* and *neutralisation* strategies. With German as an example, we illustrate the implementation of these strategies and discuss them in terms of *cognitive effort* and *personal attitudes* towards language reforms. We argue that both have an impact on the rather unsystematic use of feminisation and neutralisation. We conclude that—although there is relatively undisputed evidence that linguistic choices affect gender-related representations—the social and cognitive mechanisms underlying the use of alternative (so called *nonsexist* or *gender-fair*) linguistic practices are not straightforward, yet deserve full attention. We end the paper by considering the complex interaction between language and societal changes, suggesting that it would be a mistake to consider them separately.

Structural Differences in Languages

The extent to which information about the gender of referents is grammatically encoded varies across languages (Corbett, 1991; Gender Across Languages Project: Hellinger & Bußmann, 2001–2003; Hellinger & Motschenbacher, 2015).

Generally, spoken, sex-based grammatical gender systems are widespread in Indo-European languages (but also in Semitic or other Afro-Asiatic languages), yet with substantial variety. To the best of our knowledge, there is not yet a coherent theory to explain the emergence of structural differences between language groups of gender systems (Corbett, 1991; Foundalis, 2002).

The way a language grammatically encodes the gender of referents may have important social and cognitive consequences for comprehension and production. This is in line with Slobin's (e.g., 2003) *thinking for speaking* and *listening for thinking* approach. In a nutshell, this approach assumes that a language provides a set of options to grammatically encode certain characteristics of objects and events that speakers of this language are obliged to attend to. As different languages provide different sets of options, they might oblige their speakers to attend to different characteristics. As such, when speaking or hearing a language that grammatically encodes referent gender, a person's thinking for speaking (and their listening for thinking) is overly "tuned to gender and its communicative significance" (2003, p. 2). Evidence for such language-dependent tuning of the perceptive-cognitive system to gender comes from cross-language studies. For example, Chen and Su (2011) compared the performance in listening and reading tasks of speakers of a language that *does not* mark gender in third-person pronouns (Chinese, *ta*) with speakers of a language that *does* mark gender (English, *she/he*). In line with the assumption that Chinese speakers would be less "tuned to gender," participants responded less accurately to gender-related questions than to non-gender-related ones, whereas English speakers were faster to respond to gender-related questions than to gender-unrelated ones. Similarly, Fukumura, Hyönä, and Scholfield (2013) found that speakers of a gender-marked language (English, *she/he*) tend to produce more explicit gender-referring expressions—hence use fewer pronouns—when a referential competitor was of the same gender as the referent, than speakers of a non-gender-marked language (Finnish, *hän*).

Research investigating the relationships between language structures and the salience of gender categories more broadly, however, is very limited (Liu, Shair-Rosenfield, Vance, & Csata, 2017; Prewitt-Freilino, Caswell, & Laakso, 2012), and does not yet allow for firm conclusions on whether the social category of gender perceptually and/or cognitively surfaces more easily for speakers of gender-based languages than for speakers of other languages. Still, in line with self-categorisation theory (e.g., Turner, Hogg, Oakes, Reicher, & Wetherell, 1987), one could assume that such saliency might compel language users to self-stereotype, leading to an intensification of gender differences. In the same line of thinking, social correlates of the grammaticalisation of gender are difficult to establish, as separating linguistic from other cultural variables may be impossible (see Gabriel & Gygas, 2016, for a discussion). However, we know that language structures do change over time, and that some historical language changes were explicitly driven by sexism. For example, in English, the singular and nongendered *they*, used for several centuries in English literature, met with fierce criticism by 19th-century androcentric prescriptive grammarians, who—following earlier drive to impose the sex-indefinite *he*—saw the masculine form as the *worthier* one (Bodine, 1975). In French, in the 17th century, grammarians deemed it important to establish the masculine form as the dominant one: They stated that men were simply nobler than women (Viennot, 2014). Similarly, Irmén and Steiger (2006) argue the development of GM in German across the centuries has been an expression of zeitgeist and contemporary social and cultural conditions.

Even though there are clear structural differences across languages and changes within languages, there has been little empirical research on the correlates of grammaticalisation of gender from a *cross-linguistic* perspective. As such, as it stands, whether language systems reflect and/or shape their speakers' gender attitudes cannot be truly addressed beyond conjecture. However, what can be addressed with more assurance are social and cognitive correlates of the linguistic practice of asymmetric uses of gendered terms.

Asymmetric Use of Terms

The generic use of masculine forms in grammatical gender languages and the generic use of male pronouns, or lexically male-marked nouns, describe the practice of using masculine (pro) nouns both in a specific way to mark male referents, and also in a generic way to refer to persons in general or groups composed of female and male referents. In contrast, feminine nouns and female pronouns, or lexically female-marked nouns, are used in a specific way only. This has two related, yet different consequences. First, masculine forms are more frequent than feminine ones (except in a few professions and roles for which feminine generics are used; e.g., in French: *une sentinelle* [a sentinel] or in German *die Krankenschwester* [a nurse]). Second, the association of masculine nouns and pronouns with male exemplars is continuously strengthened. Namely, as the masculine–male link is always true, linking the masculine form to a female exemplar is context-dependent, and requires language users to search for specific contextual cues. This second asymmetry is well supported by empirical research, revealing that grammatical masculine nouns that refer to persons are more easily linked to male than to female referents (e.g., Gygax & Gabriel, 2008), even when participants are explicitly reminded of the generic interpretation of the masculine form (Gygax et al., 2012). This latter finding is reminiscent of the association–proposition–evaluation model (APE; Gawronski & Bodenhausen, 2011). The APE model states that we evaluate our environment through two distinct mental processes: one based on spontaneously activated associations in memory, and one based on *logical consistency*. The latter is particularly important, as it represents the explicit evaluation of the information implied by the former, based on a more elaborative reasoning. In languages with grammatical gender, when language users encounter a noun in the masculine form, the specific meaning of the latter is activated spontaneously, with no control (Lévy, Gygax, & Gabriel, 2014). The generic meaning of the masculine form requires more explicit reasoning. As both meanings may clash, to reduce the dissonance

created by such a clash, one meaning may be dropped to the advantage of the other. However, as stipulated by the APE model, and as shown by Gygax et al. (2012), rejecting the spontaneous meaning does not necessarily deactivate its mental associations. Put differently, one could argue that overriding the specific interpretation of the masculine form—interpretation based on implicit associations—may require more than explicit evaluations (i.e., explicitly activating its generic interpretation). Based on the notion of humans as cognitive misers (Fiske & Taylor, 1984), we would argue that the asymmetry of processing effort required to activate the different interpretations of the masculine form constitutes the very basis for engaging in language policies to prevent such an asymmetry. Next, we present feminisation and neutralisation strategies, along with associated social and cognitive mechanisms, that could ground those language policies.

Intended and Side Effects of Feminisation and Neutralisation Strategies

Feminisation

Given that the masculine form, when used alone, generates mental representations that are mostly composed of men, one way to remedy this bias is by also referring explicitly to women (feminisation). For example, instead of saying, in French, *les étudiants*_{masculine} (students), one would use the dual form (also referred to as *pair-form*), *les étudiants*_{masculine} *et étudiantes*_{feminine} (the male and female students).

Intended effects. In most studies testing the use of pair-forms (or split-forms such as in *Vegetarier/innen* in German or *végétarien/ne* in French [vegetarian_{masculine/feminine}]) against the masculine form only, female associations—to varying degrees—were strengthened (e.g., Braun, Gottburgsen, Sczesny, & Stahlberg, 1998, in German; Chatard, Guimond, Lorenzi-Cioldi, & Désert, 2005, in French; Gabriel, 2008, in Norwegian). In terms of more equal mental representations of women and men (and of course in terms of women's

visibility), this is a positive outcome, at least for those that had been criticising the use of the masculine form only.

An initial issue with this particular form, of course, is the order of mention. As extensively discussed by Hegarty and colleagues (e.g., Hegarty, Mollin, & Foels, 2016), semantic factors have been shown to predominate over others (such as alphabetical order, for example) in determining binomial order, at least in terms of human referent. Crucially, first-mentioned elements in binomials are considered more important or of higher status (e.g., *the queen and her servants*; see Hegarty et al., 2016, for a discussion of counterexamples, such as “ladies and gentlemen”). One could even argue that first-mentioned elements are likely to receive more attention, simply because they are read first. The order effect reported in Gabriel, Gygas, Sarasin, Garnham, and Oakhill (2008) illustrates this attention issue. In this study, participants were presented with 126 role nouns (e.g., neighbours, nurses, or pilots) and were instructed to “estimate to what extent the role nouns were *actually* made up of women or men” (Gabriel et al., 2008, p. 208). The authors found that when *100% women* was presented on the left side of the scale (i.e., first when reading from left to right), participants, on average, assumed that women represented a higher proportion in the role nouns than when *100% women* was presented on the right side. More directly, Kesebir (2017) showed that when a woman was mentioned first in a *businesswoman and a businessman* context, she was considered as more central and received more attention than when she was mentioned second.

Possible positive side effects. This reliable effect has been further qualified in studies showing the importance of an additional source of gender information, namely gender stereotypical expectations associated with different roles or occupations. In Vervecken, Gygas, Gabriel, Guillod, and Hannover (2015), for example, 12- to 17-year-old ($M = 14$) French-speaking pupils were orally presented with job descriptions either in GM or in pair-form (i.e., the feminine and masculine form),

and asked a series of questions, mainly pertaining to *warmth, competence, and success of either gender* in these occupations. Most interesting were the results of the latter measure. First, when presented in the masculine form only, participants’ representations were stereotyped when the occupations were gender-stereotypical (i.e., women are expected to be more successful in stereotypical female occupations, and men in stereotypical male occupations), and male-biased for nonstereotypical occupations (i.e., men are expected to be more successful than women). Second, when presented in pair-form, all gender-stereotypical occupations were considered as less stereotyped, and nonstereotypical occupations as less male. Vervecken et al. (2015) were the first to show that a language-based change—in a fully gendered language such as French—could have an impact on the stereotypical representations of the occupations described.

Possible negative side effects. Still several questions remain, one of which pertains to a possible loss of prestige associated with the use of the feminine form. As pointed out by Chatard et al. (2005), in a patriarchal society, the idea that more women can be part of certain occupations (as signalled by the pair-form) may well lower the social status of the occupations. These researchers argued that this was unlikely; however, they did not test their assumptions empirically. Others did, and their results were not unequivocal. For example, Vervecken et al. (2015)—studying a group of 12- to 17-year-old French-speaking pupils—found that *perceived competence* (indirectly signalling social status) was unaffected by the form in which the occupations were presented (i.e., masculine only vs. pair-form). In contrast, Vervecken and Hannover (2015)—on a sample of 10-year-old Dutch- and German-speaking pupils (Experiment 2)—found that male stereotypical occupations presented in pair-forms were ascribed a lower social status than when presented in the masculine form only. Interestingly, both girls and boys showed a greater vocational self-efficacy (i.e., they felt more confident to pass the qualification test required to do the job) for these male-stereotyped occupations when presented in pair-form.

In a similar vein (yet not directly testing pair-forms), Formanowicz, Bedynska, Cislak, Braun, and Sczesny (2013) examined whether Polish female job applicants would be evaluated differently depending on whether the job was described in the feminine or masculine form. These authors based their work on the notion that female suffixes often generate associations that are derogatory (e.g., Marcato & Thüne, 2002, in Italian) or of lower status (e.g., Koniuszaniec & Blaszkowska, 2003, in Polish; Merkel, Maass, & Frommelt, 2012, in Italian). Their results (Study 3)¹ revealed two interesting findings. First, presenting a female applicant with a feminine form evoked lower status ratings than when presenting her with a masculine form (or presenting a male applicant with a masculine form). Second (and illustrating the impact of the sociopolitical context), these effects were only present for conservative (as opposed to liberal) participants.

More recently, however, Horvath, Merkel, Maass, and Sczesny (2015), testing German- and Italian-speaking participants, found that when presenting a list of professions either in pair-form (i.e., feminine and masculine form) or GM, although participants would evaluate all professions in pair-form as earning less, the social status of professions in pair-form was only lower for stereotypically female professions. Importantly, visibility (e.g., “How many women and men pursue [profession group]?”) increased for women if professions were presented in pair-forms. These manifold results are also reminiscent of the APE model described earlier, by which both implicit associations as well as explicit evaluations (i.e., more elaborative reasoning) interact to form mental representations. In other words, presenting feminine and masculine forms together may trigger elaborative reasoning, consequently increasing the visibility of women, whilst at the same time, the feminine form may trigger implicit and spontaneous derogative associations.

Any backlash may hence be linked to a lack of exposition to symmetrical linguistic gender forms. Formanowicz, Cislak, Horvath, and Sczesny (2015), for example, showed that in Poland, where symmetrical linguistic gender forms are rare, a

gender-related initiative (e.g., quotas for women) presented using feminine forms was evaluated less favourably than when presented in the masculine form only (while controlling for political views). This was not the case for non-gender-related initiatives (e.g., development of the higher education system), nor was it found in Austria, where gender-fair language is a common practice (and has been so for at least three decades). Mere exposure to symmetrical linguistic forms may therefore contribute to overcoming potential prestige loss of, or negative associations with, feminine forms.

A further argument against the use of pair-forms is that they might create additional cognitive processing costs. However, a reading study in French (Gygax & Gesto, 2007) showed that although reading speed was slower on the first encounter of role nouns written in pair-form, readers became used to these forms quickly. The reason for the initial processing slowdown is unclear. It could illustrate a surprise effect, as much as an additional processing effort, to include both genders in one’s mental representations.

Finally, although feminisation strategies seek to heighten the visibility of women in discourse by unmistakably pointing to gender, they contribute to making gender categories salient and consequently to maintaining a dichotomous view of sex and gender. In contrast, neutralisation strategies (discussed next) seek to escape an unnecessary activation of gender association brought forth by grammaticalised or lexicalised gender terms. Neutralisation strategies might consequently constitute a more inclusive option, at least for the gender continuum.

Summary. Studies on the impact of feminisation document several important issues. First, it is fairly undeniable that feminisation improves women’s visibility when referring to jobs, professions, or occupations. Second, even though feminisation contributes to the (over)salience of the gender category, it also (at least partially) decreases gender-stereotypical expectations associated with certain job labels. Third, although language can change representations—at least in terms of visibility—we argue that feminine forms must be

used consistently to avoid any side effect or backfire (e.g., lower perceived status).

Neutralisation

Despite the largely promising findings generated by studies on feminisation (especially in terms of women's visibility), by using both feminine and masculine forms in grammatical gender languages, or simply by *having* both forms, language users are required to always activate the category *gender* (Gabriel & Gygax, 2016). In a sense, it makes users think of gender, even when not needed; it also forces users to think of gender in a binary way, thus contributing to the overestimation (accentuation) of intergroup differences and the underestimation of intragroup variation. Therefore, instead of feminisation, which carries this issue, one might want to turn to more neutral linguistic forms, illustrated by the concept of *neutralisation*.

Intended effects. The term neutralisation refers to several different concepts, depending on the languages at stake and their linguistic constraints. Broadly, it refers to the idea of abandoning the explicit mention of female or male gender. In grammatical gender languages, neutralising forms can be seen in personal nouns with neuter gender (e.g., in German: *das Kind* [the child]). It can also be represented by *epicenes*, which indifferently refer to both women and men (e.g., in French: *un humain*_{masculine} [a human being], *une personne*_{feminine} [a person]), even when they are grammatically gender-marked. Some epicenes have been shown to be more likely associated with men (see Irmen & Roßberg, 2004, for an example of the effects of neutralising nouns in German; Wyrobková, Gygax, & Macek, 2015, for the example of *human* in Czech), and therefore may not always carry the intended neutral gender meaning. Why *epicenes* tend to be associated with men remains unclear, yet it is reasonable to assume that an androcentric perspective leads women to be excluded from any superior-level category such as *human* (Wyrobková et al., 2015).

Another neutralising form can be seen in the use of the group instead of its constituents. So, for example, instead of mentioning *the migrants*

were moving across Europe, which would in grammatical gender languages inevitably raise the notion of gender (e.g., in French, *les migrantes*_{feminine} *et les migrants*_{masculine} *se déplaçaient à travers l'Europe*), one could say *the migrating population was moving across Europe* (e.g., in French, *la population migrante se déplaçait à travers l'Europe*). Of course, the meaning of the two possibilities to phrase this situation may well differ in that specifying the members of the group is not the same as using the group itself as referent. To the best of our knowledge, such neutralising strategy has received very little attention. Neutralisation in general has received much less attention in research than feminisation. Three recent investigations, though, targeted language alterations associated with neutralisation: a study on *nominalisation* in German (Sato, Gygax, & Gabriel, 2016), one on the gradual disappearance of feminine suffixes in Norwegian (Gabriel & Gygax, 2008; conceptually replicated by Gabriel, Behne, & Gygax, 2017), and one on the third-person pronoun *hen* in Swedish (Gustafsson Sendén, Bäck, & Lindqvist, 2015).

Sato et al. (2016) investigated the relatively new German nominalised form (plural form), which directly derives from adjectives and participles (e.g., *die Konsumierenden* [those that consume]), and is gender-neutral. In this study, participants had to decide as fast as possible whether sentences containing the mention of either women or men would constitute a sensible continuation of preceding contexts that mentioned role nouns either in the masculine form only (e.g., *die Käufer*_{masculine} [the buyers]) or in nominalised form (e.g., *die Konsumierenden*_{neutral} [those that consume]). They found that, as in previous studies, participants struggled to respond positively when the role noun was in the masculine form and the target sentence mentioned women; this was not the case when the role noun was in the nominalised form. The authors concluded that relatively new language forms (at least new in Switzerland where the research took place) could well generate the desired gender-neutral representations (at least for stereotypically neutral role nouns used in the study).

Norwegian, much like other grammatically marked languages, has a grammatical gender system,

yet it is gradually losing the feminine gender mark in general (e.g., Beller, Brattebø, Lavik, Reigstad, & Bender, 2015), and gender-marking suffixes in role nouns in particular, following a strategy of neutralisation (e.g., Norsk Språkråd, 1997). Gabriel and Gygax (2008; see also Gabriel et al., 2017) tested whether such a strategy would indeed make the masculine form more generic (i.e., by lacking a gender contrast). Across both studies, they found that Norwegian participants displayed a male bias when presented with neutral role nouns or stereotypically male role nouns, but a female bias when presented with stereotypically female role nouns. Even though the results for female-stereotyped role nouns indicate a more generic interpretation of masculine role nouns, they signal at the same time a heightened influence of gender-stereotypical information.

Possible negative side effects. Another issue with new language forms aimed at gender neutrality is that they are not easily accepted by users, as they may threaten the institutionalised binary concept of gender (and a system favouring men). This is the case of the new pronoun *hen* in Swedish, introduced around 2012 in children's books first, as a complement to the pronouns *hon* (she) and *han* (he) (Gustafsson Sendén et al., 2015). Although it was introduced to avoid gender biases, critics argued that children would be disoriented by not knowing the gender. In their paper, Gustafsson Sendén and colleagues documented the evolution of acceptance of *hen* by formal authorities, as well as the evolution of general attitudes towards this pronoun, from 2012 to 2015 (at six points in time). Most importantly, attitudes towards the pronoun *hen* (on a 7-point Likert scale, 1 = *very negative*, 7 = *very positive*) shifted from negative in 2012 ($M = 2.9$) to positive in 2015 ($M = 5.7$). The use of *hen* also increased, yet to a lesser extent.

When it comes to processing costs one could also argue that neutral forms, being new, may require more effort to process. However, one could as easily argue that removing the mention of specific genders may require less effort, as no particular gender needs to be activated. Consequently, even if the initial processing of new (or modified) neutral forms may require

extra processing effort, they should gradually shift to being less effortful (see also Foertsch & Gernsbacher, 1997, for singular *they* as a cognitively efficient substitute for generic *he*).

Summary. Few studies are available on the impact of neutralisation strategies on gender representations. Yet, results thus far seem to indicate that—in the absence of other gender cues (e.g., stereotypes)—gender-neutral word forms do contribute to generating less biased representations, consequently dismissing gender intergroup boundaries. In the presence of other gender cues, however, such as stereotypical expectations, neutralisation may facilitate other types of biases, hence counteracting the original idea of being gender-neutral. Therefore, neutralisation efforts might result in contributing to reducing the *visibility* of gender biases but not in correcting or mitigating them.

Overall, there is substantial research documenting the effects of feminisation strategies as well as some research on the effects of neutralisation strategies on readers' gender representations. There is, however, little research on potential processing costs and gains of the different strategies.

The Unsystematic Use of Feminisation and Neutralisation

Establishing feminisation or neutralisation as part of individual and societal language systems has proved to be a challenge, as we will exemplify by the case of German, and the rather unsystematic presence of alternative forms to the masculine as generic in both formal and less formal language uses. Such an unsystematic presence will be discussed in association with both cognitive effort and language users' attitudes towards language reforms.

Use of Alternative Forms in Formal and Less Formal Contexts: German as Example

Efforts to promote gender-fair language seem to have had fluctuating effectiveness in legislation and public administration in German-speaking

countries. While Doleschal (1998), with respect to official communication and law texts in Austria, stated that changes came slowly and not consistently, 14 years later Lamb and Nereo (2012) found that both the Basic Law for the Federal Republic of Germany and the Federal Constitution of the Swiss Confederation were largely written in gender-fair language. Further, analysing the texts in the corpus that includes all texts of the Bundesblatt (governmental publication medium) between 1849 and 2014, Elmiger, Tunger, and Schaeffer-Lacroix (2017) reported that the frequency with which masculine forms were being used as generics decreased over time, whereas the frequency of various forms of feminisation as well as the use of the neutral denomination *a person*, increased.

Likewise, analysing home pages and mission statements of 12 German universities, Merkel (2011) found that masculine forms were rarely used as generics. Similar signals were found in German school books (Moser & Hannover, 2014), yet gender-neutral or gender-balanced language was used more in German language books than in mathematics ones, and not systematically. Such an unsystematic practice is also seen in online job advertisements. For example, Hodel, Formanowicz, Sczesny, Valdová, and Stockhausen (2017) found that—despite Switzerland's (in German at least) and Austria's Equal Treatment Act (Gleichbehandlungsgesetz, 2004) allowing the government to fine companies using gender-specific word forms in job advertisements—31% of German ads in Switzerland and 10% in Austria still announced positions using gender-specific job titles.

While the use of alternative forms seems to be widespread in official documents and formal texts, feminisation and neutralisation strategies appear to a lower degree in less formal, yet still public, texts. For example, Elmiger (2009) contrasted a reference corpus on German language in Switzerland (*Schweizer Textkorpus*) to one in Germany (COSMAS II). Both corpora consisted of different types of texts such as newspaper articles, advertisements, instructions, guidebooks, and populist literature. The author found that feminine forms of human referent nouns that traditionally had only been used

in the masculine form were rare in both corpora, with some feminine forms, such as *die Maurerin*_{feminine} (the female mason), not being present at all in the *Schweizer Textkorpus*. Similarly, Movahedi (2009), investigating a popular TV show in Austria (“Konkret – das ServiceMagazin”) found that women were mostly addressed with feminine markers, but the masculine form was used when groups or a person of unknown gender were referenced. In Switzerland, Honegger (2000) also observed that on early evening Swiss–German TV shows (on private channels), masculine forms were mostly used to refer to groups of people; feminine forms were only used when more private or intimate topics were discussed.

Not surprisingly then, alternative forms to refer to groups of people are still infrequently used in everyday language, as studies assessing participants' spontaneous use of gender-fair language show. For example, Sczesny, Moser, and Wood (2015) found in a fill-in-the-gap task that gender-balanced forms were used in only 40% of the gaps (Studies 1 and 2). Kuhn and Gabriel (2014) reported similar numbers, also using fill-in-the-gap tasks; in 66% (university students) or 60% (trainees) of their responses, participants used the masculine form only (GM) to refer to persons or groups of unknown gender.

The descriptive results summarised for German indicate a decrease in the use of alternative forms as the *formality* of the context decreases; we can readily assume similar patterns for other language communities.

Explaining the Unsystematic Use of Feminisation and Neutralisation

Language competencies may serve as a good initial candidate to explain the unsystematic use of feminisation and neutralisation, as overcoming traditional lexical forms may require both lexical and syntactic flexibility. Kuhn and Gabriel (2014), for example, showed that when explicitly asked to avoid GM terms, participants' compliance depended on their level of production competence, as measured by the DaF (Jung, 1998), a standardised language test for German.

However, other explanations for the unsystematic use of feminisation and neutralisation have received more research attention: (a) the potential extra effort associated with the use of these processes, which may be considered overwhelming, and (b) language users' attitudes towards language reforms (collective change) and modifying one's language use (individual changes).

The overwhelming cognitive effort issue. Given that the generic use of grammatically (or lexically) masculine forms is still a common practice (at least in less formal contexts, as discussed earlier), it could be argued that masculine forms—due to their prevalence—are highly accessible compared to gender-balanced or neutralised forms. As such, producing gender-fair language might require *actively* inhibiting the use of the masculine form only, requiring speakers to reflect upon or monitor their language use, thus detecting when a linguistic device (e.g., the masculine form) may be inappropriate in the semantic context (see Douglas, Sutton, & Wilkin, 2008, for a similar argument concerning the linguistic expectancy bias). Accordingly, one can expect that successful overcoming of the habitual use of masculine forms as generics demands ample attention from language users. From such a perspective, selecting alternative forms to overcome the generic use of masculine forms would certainly be eased if alternatives were as simple to process as (or even simpler than) the habitual routine.

Although we are not aware of any research that systematically tested the cognitive ease with which language users could embrace different linguistic forms, some authors (e.g., Koeser, Kuhn, & Sczesny, 2015) have shown that social influence, in the form of *conformity*, could simplify the use of gender-fair forms. These authors, for example, found that when presented with texts with pair-forms, female participants used more gender-fair forms. For male participants, this was also the case, however, only when they were explicitly made aware that the texts comprised gendered pair-forms (Study 2). Kuhn, Koeser, Torsdottir, and Gabriel (2014) reported a similar result in Norwegian. Participants were more likely to use linguistic forms they had previously

encountered (e.g., using unmarked forms after having read role nouns in unmarked forms). Together, these results suggest that changing one's use of language does not require overwhelming cognitive effort. In fact, specific descriptive norms may suffice to change language production.

Attitudes towards language reforms. To evaluate whether enforcing habituation to alternative forms could be sufficient for language users to spontaneously produce them, Prentice (1994) investigated the impact of repeated corrections; for one semester, the laboratory reports of a group of students (experimental group) were repeatedly and specifically corrected for their gender fairness, while this was not the case for another group (control group). Although the experimental group gradually and spontaneously used more gender-fair language, this change did not affect their attitudes towards language reforms. At the collective level, this could well constitute a serious issue preventing more global language changes. In a similar vein, grounding their work on the idea that these attitudes may be the very source of the slow adoption of gender-fair language, Sarrasin, Gabriel, and Gygas (2012) showed that in English, French, and German there was a high correlation between attitudes towards language reforms and the ability to recognise sexist language. This is particularly relevant when considering collective changes in language use.

Others have tried to implement attitude-focused interventions to promote gender-fair language. Koeser and Sczesny (2014), for example, presented participants with different arguments in favour of gender-fair language. Although these arguments positively impacted participants' spontaneous use of gender-fair language, no change was seen in their attitudes towards language reforms. In all, even though gender-fair language use can be reinforced, it seems attitudes towards language reforms are quite impermeable to any reinforcement strategies. Some authors have argued that these attitudes are grounded on more global—and hard to change—attitudes towards women, such as different forms of sexism (e.g., Sarrasin et al., 2012;

Sczesny et al., 2015) and system-justifying ideologies (Douglas & Sutton, 2014).

Summary. Although needed for more inclusive representations, changes in language use may require additional individual resources. Empirical evidence that clearly targets those resources is still scarce, yet it does highlight that attitudes towards language reforms as well as social conformity may serve as the basis for accepting language changes. However, whereas individual linguistic behaviours appear malleable, this may not be sufficient to overwrite traditional language forms, as these as well reflect the value placed on different social groups.

Conclusion

The extent to which languages grammatically encode gender varies between languages, and we have discussed the social and cognitive correlates of these variations. Given the empirical research at hand and the methodological challenges of differentiating the impact of language structure from the impact of other cultural variables on the members of a speech community, one way to control for these dimensions would be to focus on multilinguals within the same cultural framework or to focus on speakers of the same language in different cultural frameworks.

The biasing effects of an asymmetric use of male terms and masculine forms are well documented, and we highlighted the role of processing effort in disentangling the semantic duality of the masculine form (i.e., *generic* vs. *specific* meanings). While it is empirically well documented that feminisation strategies contribute to women's visibility (and other positive implications), neutralisation strategies have received less attention from social and cognitive psychological research. So far, though, one can argue that although neutralisation strategies may well reduce gender category salience, they may be susceptible to the influence of gender stereotypical expectations. This is not the case for feminisation strategies. If this proves to be a reliable finding, it suggests that feminisation strategies should be used in contexts that are

already *gendered*, whereas neutralisation strategies should be used in nongendered ones (hence keeping the context neutral).

The processing efforts of *producing* gender-fair forms, such as those discussed in this paper, may well constitute barriers to their systematic use, yet we argue that they may not be much bigger than those needed to process the semantic duality of male terms and masculine forms. As such, it is still yet difficult to say whether reluctance to language changes is a matter of processing difficulty, simple convenience, or androcentric perspective.

We suggest that one possible course of action to tackle both language changes as well as negative attitudes towards language reforms would be to provide institutionalised and clear language guidelines. The result may be twofold. First, stimulating gender-fair language through an institutionalised framework may motivate *some* individuals to use more gender-fair language. Second, these individuals may increase others' exposure to gender-fair language, which might be sufficient for the latter to follow suit. However, in these endeavours, one should never underestimate those that hold very strong and negative attitudes towards any forms of gender-fair or gender-inclusive language. Finding ways to change those might be as central as the possible courses of action mentioned before.

As a final note, and inherent to these language guidelines, we would like to join Sczesny, Formanowicz, and Moser (2016) in their comment stressing the need for a *deliberate* effort before gender-fair language can become habitual. By *deliberate*, we mean that, as suggested by these authors, policy-makers must take responsibility to initiate the grounding base of a long-lasting use of gender-fair language.


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Note

1. Studies 1 and 2 were on fictional jobs and essentially showed the same results.

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References

- Beller, S., Brattebø, K. F., Lavik, K. O., Reigstad, R. D., & Bender, A. (2015). Culture or language: What drives effects of grammatical gender? *Cognitive Linguistics*, 26, 331–359. doi:10.1515/cog-2014-0021
- Bodine, A. (1975). Androcentrism in prescriptive grammar: Singular “they,” sex-indefinite “he,” and “he or she.” *Language in Society*, 4, 129–146. doi:10.1017/S0047404500004607
- Braun, F., Gottburgsen, A., Sczesny, S., & Stahlberg, D. (1998). Können Geophysiker Frauen sein? Generische Personenbezeichnungen im Deutschen [Can geophysicians be women? Generic terms in German]. *Zeitschrift für Germanistische Linguistik*, 26, 265–283. doi:10.1515/zfgl.1998.26.3.265
- Chatard, A., Guimond, S., Lorenzi-Cioldi, F., & Désert, M. (2005). Domination masculine et identité de genre [Male dominance and gender identity]. *Les Cahiers Internationaux de Psychologie Sociale*, 67–68, 113–123. doi:10.3917/cips.067.0113
- Chen, J.-Y., & Su, J.-J. (2011). Differential sensitivity to the gender of a person by English and Chinese speakers. *Journal of Psycholinguistic Research*, 40, 195–203. doi:10.1007/s10936-010-9164-9
- Corbett, G. G. (1991). *Gender*. Cambridge, UK: Cambridge University Press.
- Doleschal, U. (1998). Entwicklung und Auswirkungen der feministischen Sprachkritik in Österreich seit 1987 [Development and effects of feminist language criticism in Austria since 1987]. *Germanistische Linguistik*, 139, 87–116. doi:10.1515/zfgl.1998.26.3.284
- Douglas, K. M., & Sutton, R. M. (2014). “A giant leap for mankind” but what about women? The role of system-justifying ideologies in predicting attitudes toward sexist language. *Journal of Language and Social Psychology*, 33, 667–680. doi:10.1177/0261927X14538638
- Douglas, K. M., Sutton, R. M., & Wilkin, K. (2008). Could you mind your language? An investigation of communicators’ ability to inhibit linguistic bias. *Journal of Language and Social Psychology*, 27, 123–139. doi:10.1177/0261927X07313655
- Elmiger, D. (2009). Sprachliche Gleichbehandlung von Frau und Mann: Eine korpusgestützte Untersuchung über den Sprachwandel in der Schweiz [Linguistic equal treatment of women and men: A corpus-based study on language change in Switzerland]. *Linguistik Online*, 39, 61–73. doi:10.13092/lo.39.477
- Elmiger, D., Tunger, V., & Schaeffer-Lacroix, E. (2017). *Geschlechtergerechte Behördenexpte. Linguistische Untersuchungen und Stimmen zur Umsetzung in der mehrsprachigen Schweiz* (Forschungsbericht 430/830). [Gender-appropriate official texts. Linguistic studies and voices for implementation in multilingual Switzerland (Research Report 430/830)]. Retrieved from <http://archive-ouverte.unige.ch/unige:92322>
- Fiske, S. T., & Taylor, S. E. (1984). *Social cognition*. Reading, MA: Addison-Wesley.
- Foertsch, J., & Gernsbacher, M. A. (1997). In search of gender neutrality: Is singular they a cognitively efficient substitute for generic he? *Psychological Science*, 8, 106–111. doi:10.1111/j.1467-9280.1997.tb00691.x
- Formanowicz, M., Bedynska, S., Cislak, A., Braun, F., & Sczesny, S. (2013). Side effects of gender-fair language: How feminine job titles influence the evaluation of female applicants. *European Journal of Social Psychology*, 43, 62–71. doi:10.1002/ejsp.1924
- Formanowicz, M. M., Cislak, A., Horvath, L. K., & Sczesny, S. (2015). Capturing socially motivated linguistic change: How the use of gender-fair language affects support for social initiatives in Austria and Poland. *Frontiers in Psychology*, 6, 1617. doi:10.3389/fpsyg.2015.01617
- Foundalis, H. E. (2002, August). *Evolution of gender in Indo-European languages*. Paper presented at the 24th Annual Conference of the Cognitive Science Society, Fairfax, VA. Retrieved from <http://www.foundalis.com/res/EvolutionOfGender.pdf>
- Fukumura, K., Hyönä, J., & Scholfield, M. (2013). Gender affects semantic competition: The effect of gender in a non-gender-marking language. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 39, 1012–1021. doi:10.1037/a0031215
- Gabriel, U. (2008). Language policies and in-group favoritism: The malleability of the interpretation of generically intended masculine forms. *Social Psychology*, 39, 103–107. doi:10.1027/1864-9335.39.2.103

- Gabriel, U., Behne, D. M., & Gygax, P. M. (2017). Speech vs. reading comprehension: An explorative study of gender representations in Norwegian. *Journal of Cognitive Psychology, 29*, 795–808. doi:10.1080/20445911.2017.1326923
- Gabriel, U., & Gygax, P. (2008). Can societal language amendments change gender representation? The case of Norway. *Scandinavian Journal of Psychology, 49*, 451–457. doi:10.1111/j.1467-9450.2008.00650.x
- Gabriel, U., & Gygax, P. (2016). Gender and linguistic sexism. *Advances in Intergroup Communication, 21*, 177–192. doi:10.3726/b10467
- Gabriel, U., Gygax, P., Sarrasin, O., Garnham, A., & Oakhill, J. (2008). Au pairs are rarely male: Norms on the gender perception of role names across English, French, and German. *Behavior Research Methods, 40*, 206–212. doi:10.3758/BRM.40.1.206
- Gawronski, B., & Bodenhausen, G. V. (2011). The associative-propositional evaluation model. Theory, evidence, and open questions. *Advances in Experimental Social Psychology, 44*, 59–127. doi:10.1016/B978-0-12-385522-0.00002-0
- Gleichbehandlungsgesetz (GlBG), § 9 (2004).
- Gustafsson Sendén, M., Bäck, E. A., & Lindqvist, A. (2015). Introducing a gender-neutral pronoun in a natural gender language: The influence of time on attitudes and behavior. *Frontiers in Psychology, 6*, 893. doi:10.3389/fpsyg.2015.00893
- Gygax, P., & Gabriel, U. (2008). Can a group of musicians be composed of women? Generic interpretation of French masculine role names in the absence and presence of feminine forms. *Swiss Journal of Psychology, 67*, 143–151. doi:10.1024/1421-0185.67.3.143
- Gygax, P., Gabriel, U., Lévy, A., Pool, E., Grivel, M., & Pedrazzini, E. (2012). The masculine form and its competing interpretations in French: When linking grammatically masculine role names to female referents is difficult. *Journal of Cognitive Psychology, 24*, 395–408. doi:10.1080/20445911.2011.642858
- Gygax, P., & Gestó, N. (2007). Féminisation et lourdeur de texte [Textual difficulty and feminisation]. *L'Année Psychologique, 107*, 233–250. Retrieved from http://www.persee.fr/doc/psy_0003-5033_2007_num_107_2_30996
- Hegarty, P. J., Mollin, S., & Foels, R. (2016). Binomial word order and social status. *Advances in Intergroup Communication, 21*, 119–135. doi:10.3726/b10467
- Hellinger, M., & Bußmann, H. (2001–2003). *Gender across languages* (Vols. 1–3). Amsterdam, the Netherlands: John Benjamins.
- Hellinger, M., & Motschenbacher, H. (2015). *Gender across languages* (Vol. 4). Amsterdam, the Netherlands: John Benjamins.
- Hellinger, M., & Pauwels, A. (2007). Language and sexism. In M. Hellinger & A. Pauwels (Eds.), *Handbook of language and communication: Diversity and change* (pp. 651–681). Berlin, Germany: Mouton de Gruyter.
- Hodel, L., Formanowicz, M., Sczesny, S., Valdová, J., & von Stockhausen, L. (2017). Gender-fair language in job advertisements. *Journal of Cross-Cultural Psychology, 48*, 384–401. doi:10.1177/0022022116688
- Honegger, M. (2000). Das Vorabendprogramm im Schweizer Privatfernsehen und seine sprachliche Ferne zu Frauen [Gender-adequate language in Swiss-German private TV]. *Bulletin Suisse de Linguistique Appliquée, 72*, 149–165.
- Horvath, L. K., Merkel, E. F., Maass, A., & Sczesny, S. (2015). Does gender-fair language pay off? The social perception of professions from a cross-linguistic perspective. *Frontiers in Psychology, 6*, 2018. doi:10.3389/fpsyg.2015.02018
- Irmen, L., & Roßberg, N. (2004). Gender markedness of language: The impact of grammatical and non-linguistic information on the mental representation of person information. *Journal of Language and Social Psychology, 23*, 272–307. doi:10.1177/0261927X04266810
- Irmen, L., & Steiger, V. (2006). Zur Geschichte des Generischen maskulinums: Sprachwissenschaftliche, sprachphilosophische und psychologische Aspekte im historischen Diskurs [On the history of the generic use of the masculine gender: Linguistic, philosophical, and psychological aspects in historical discourse]. *Zeitschrift Für Germanistische Linguistik, 33*, 212–235. doi:10.1515/zfgl.33.2-3.212
- Jung, L. (1998). *Einstufungstests für Anfänger- und Fortgeschrittenenurse – Deutsch als Fremdsprache*. [Placement tests for beginners and advanced courses – German as a foreign language]. Ismaning, Germany: Verlag für Deutsch.
- Kesebir, S. (2017). Word order denotes relevance differences: The case of conjoined phrases with lexical gender. *Journal of Personality and Social Psychology, 113*, 262–279. doi:10.1037/pspi0000094
- Koeser, S., Kuhn, E. A., & Sczesny, S. (2015). Just reading? How gender-fair language triggers readers' use of gender-fair forms. *Journal of Language and Social Psychology, 34*, 343–357. doi:10.1177/0261927X14561119
- Koeser, S., & Sczesny, S. (2014). Promoting gender-fair language. *Journal of Language and Social Psychology, 33*, 548–560. doi:10.1177/0261927X14541280

- Koniuszaniec, G., & Blaszkowska, H. (2003). Language and gender in Polish. In M. Hellinger & H. Bussmann (Eds.), *Gender across languages: The linguistic representation of women and men* (Vol. 3, pp. 259–285). Amsterdam, the Netherlands: John Benjamins.
- Kuhn, E. A., & Gabriel, U. (2014). Actual and potential gender-fair language use: The role of language competence and the motivation to use accurate language. *Journal of Language and Social Psychology, 33*, 214–225. doi:10.1177/0261927X13504297
- Kuhn, E. A., Koeser, S., Torsdottir, A. E., & Gabriel, U. (2014, July). *Lexically gender-marked role nouns in Norwegian: Effect of prevalent and presented form on readers' recall*. Paper presented at the 17th European Association of Social Psychology (EASP) General Meeting, Amsterdam, the Netherlands.
- Lamb, V., & Nereo, F. (2012). "Equality amongst citizens?" A study of how the German basic law and the German version of the Swiss Constitution exhibit and avoid sexist language. *German Life and Letters, 65*, 109–126. doi:10.1111/j.1468-0483.2011.01562.x
- Lévy, A., Gygas, P., & Gabriel, U. (2014). Fostering the generic interpretation of grammatically masculine forms: When my aunt could be one of the mechanics. *Journal of Cognitive Psychology, 26*, 27–38. doi:10.1080/20445911.2013.861467
- Liu, A. H., Shair-Rosenfield, S., Vance, L. R., & Csata, Z. (2017). Linguistic origins of gender equality and women's rights. *Gender & Society*. Advance online publication. doi:10.1177/0891243217741428
- Marcato, G., & Thüne, E.-M. (2002). Gender and female visibility in Italian. In M. Hellinger & H. Bussmann (Eds.), *Gender across languages: The linguistic representation of women and men* (Vol. 2, pp. 187–217). Amsterdam, the Netherlands: John Benjamins.
- Merkel, E. (2011). Geschlechtergerechte Sprache an den universitären Gleichstellungskonzepten – eine vergleichende Analyse [Gender-fair language in universities' equal opportunity policies]. *CEWS Journal, 87*, 39–45.
- Merkel, E., Maass, A., & Frommelt, L. (2012). Shielding women against status loss: The masculine form and its alternatives in the Italian language. *Journal of Language and Social Psychology, 31*, 311–320. doi:10.1177/0261927X12446599
- Moser, F., & Hannover, B. (2014). How gender fair are German schoolbooks in the twenty-first century? An analysis of language and illustrations in schoolbooks for mathematics and German. *European Journal of Psychology of Education, 29*, 387–407. doi:10.1007/s10212-013-0204-3
- Movahedi, L. (2009). *Geschlechtergerechte Sprache – Der ORF und sprachliche Gleichbehandlung anhand der Sendung "konkret – das ServiceMagazin"* [Gender-fair language – The ORF [Austrian broadcast] and linguistic equality on the basis of the programme "Concrete – The serviceMagazine"] (Unpublished master's thesis). University of Vienna, Austria.
- Norsk, Språkråd. (1997). *Kjønn, språk, likestilling. Retningslinjer for kjønnsbalansert språkbruk* [Gender, language, equality of status. Directives for gender balanced language use]. Oslo, Norway: Author.
- Prentice, D. A. (1994). Do language reforms change our way of thinking? *Journal of Language and Social Psychology, 13*, 3–19. doi:10.1177/0261927X94131001
- Prewitt-Freilino, J. L., Caswell, T. A., & Laakso, E. K. (2012). The gendering of language: A comparison of gender equality in countries with gendered, natural gender, and genderless languages. *Sex Roles, 66*, 268–281. doi:10.1007/s11199-011-0083-5
- Sarrasin, O., Gabriel, U., & Gygas, P. (2012). Sexism and attitudes toward gender-neutral language. *Swiss Journal of Psychology, 71*, 113–124. doi:10.1024/1421-0185/a000078
- Sato, S., Gygas, P. M., & Gabriel, U. (2016). Gauging the impact of gender grammaticization in different languages: Application of a linguistic-visual paradigm. *Frontiers in Psychology, 7*. doi:10.3389/fpsyg.2016.00140
- Sato, S., Öttl, A., Gabriel, U., & Gygas, P. M. (2017). Assessing the impact of gender grammaticization on thought: A psychological and psycholinguistic perspective. *Osnabrücker Beiträge zur Sprachtheorie, 90*, 117–135.
- Sczesny, S., Formanowicz, M., & Moser, F. (2016). Can gender-fair language reduce gender stereotyping and discrimination? *Frontiers in Psychology, 7*. doi:10.3389/fpsyg.2016.00025
- Sczesny, S., Moser, F., & Wood, W. (2015). Beyond sexist beliefs: How do people decide to use gender-inclusive language? *Personality and Social Psychology Bulletin, 41*, 943–954. doi:10.1177/0146167215585727
- Slobin, D. I. (2003). Language and thought online: Cognitive consequences of linguistic relativity. In D. Gentner & S. Goldin-Meadow (Eds.), *Language in mind: Advances in the study of language and thought* (pp. 157–192). Cambridge, MA: MIT Press.

- Stahlberg, D., Braun, F., Irmen, L., & Sczesny, S. (2007). Representation of the sexes in language. In K. Fiedler (Ed.), *Social communication* (pp. 163–187). New York, NY: Psychology Press.
- Turner, J. C., Hogg, M. A., Oakes, P. J., Reicher, S. D., & Wetherell, M. S. (1987). *Rediscovering the social group: A self-categorization theory*. Oxford, UK: Blackwell.
- Vervecken, D., Gygax, P., Gabriel, U., Guillod, M., & Hannover, B. (2015). Warm-hearted businessmen, competitive housewives? Effects of gender-fair language on adolescents' perceptions of occupations. *Frontiers in Psychology, 6*. doi:10.3389/fpsyg.2015.01437
- Vervecken, D., & Hannover, B. (2015). Yes I can! Effects of gender fair job descriptions on children's perceptions of job status, job difficulty, and vocational self-efficacy. *Social Psychology, 46*, 76–92. doi:10.1027/1864-9335/a000229
- Viennot, E. (2014). *Non, le masculin ne l'emporte pas sur le féminin! Petite histoire des résistances de la langue française [No, the masculine does not win over the feminine! A small history of resistance in French language]*. Donnemarie-Dontilly, France: Éditions iXe.
- Wyrobková, A., Gygax, P., & Macek, P. (2015). Human and man side by side, woman trapped in a different reality: Word associations in Czech. *Československá Psychologie, 59*, 44–56.

Paper II

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Actual and Potential Gender-Fair Language Use: The Role of Language Competence and the Motivation to Use Accurate Language

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Abstract

In two paper-and-pencil studies on university students and trainees, we studied how general language competence and the motivation to use accurate language are linked to people's actual and potential gender-fair language use. Overall, participants' actual gender-fair language use was lower than their potential. The higher the participants' language competence, the higher their potential. Trainees' actual gender-fair language use was predicted by the interaction of language competence and motivation to use accurate language, those with relatively high language competence used less gender-fair language the higher their motivation to use accurate language was.

Keywords

gender-fair language use, motivation, language competence, German, gender

In German-speaking countries gender-fair language has been promoted for decades to discourage the use of masculine forms as generics (GM; Irmen & Linner, 2005). Despite these efforts, recent studies indicate that its use is still infrequent (Moser, 2008; Moser, Hubacher, Sczesny, & Irmen, 2010). Previous psychological research has focused on attitudes toward gender-fair language (Parks & Robertson, 2004; Sarrasin, Gabriel, & Gygas, 2012). We broaden this perspective by discussing language-related factors that could promote the use of gender-fair language. These are

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general language competencies and the motivation to use accurate language. We chose these two variables as one reflects the argument that gender-fair language is difficult, a typical response to why people do not use such language more frequently (Parks & Robertson, 1998), and the other reflects linguistic accuracy, a central argument that favors gender-fair language (Koeser & Sczesny, 2013; Stahlberg, Braun, Irmen, & Sczesny, 2007). We aim to outline empirically the gap between individuals' actual and potential use of gender-fair language and explore whether and how language-related competencies and motivation contribute to this gap. Understanding what stimulates or hinders individuals' actual and potential use of gender-fair language will provide information about why people frequently use GM forms.

German is a grammatical gender language and masculine personal nouns such as *Lehrer* [teacher, masc.] can be used either to refer specifically to men (here: male teachers) or generically to people (here: teachers in general, i.e., female and male teachers). Because of this double function, masculine forms may generate semantic ambiguity (Irmen & Kurovskaja, 2010), which often excludes women (Stahlberg et al., 2007). One solution to this is using splitting forms (e.g., *Lehrerinnen* [fem.] und *Lehrer* [masc.]) to make referent's gender explicit. Another solution is using neutral terms (e.g., *Lehrkraft*) when people's gender is irrelevant.

The promotion of gender-fair language has been backed by two lines of argumentation (Stahlberg et al., 2007). One is linguistic, emphasizing accurate language use, particularly avoiding ambiguity. The other draws on social bias, emphasizing that the use of GM contributes both to a bias in the mental representation of gender and discrimination (Braun, Sczesny, & Stahlberg, 2005; Gabriel & Mellenberger, 2004; Gygax, Gabriel, Sarrasin, Oakhill, & Garnham, 2008; Irmen & Linner, 2005; Irmen & Roßberg, 2004; Sarrasin et al., 2012; Stahlberg & Sczesny, 2001; Stahlberg, Sczesny, & Braun, 2001).

Arguments against gender-fair language reform have been collected and categorized for English (Blaubergs, 1980; Parks & Robertson, 1998), where the difficulty of changing to gender-fair language and the tradition of GMs were found to be the most pertinent. These findings have been confirmed for German in an online study where participants had to rate 70 arguments in terms of persuasiveness (Koeser & Sczesny, 2013). The next most convincing argument was that gender-fair forms are too clumsy. Research comparing German texts written with either gender-fair or GM forms in terms of readability, aesthetics, and intelligibility revealed inconclusive results: Texts with GM were either evaluated as more intelligible (Klimmt, Pompetzki, & Blake, 2008), or no differences were found regarding readability and esthetical appeal (Blake & Klimmt, 2010). Other results were that only male participants evaluated texts with GM to be more intelligible, whereas female participants evaluated both equally (Braun, Oelkers, Rogalski, Bosak, & Sczesny, 2007).

In German-speaking countries, efforts to promote gender-fair language have been quite effective in legislation and public administration (Lamb & Nereo, 2012; Merkel, 2011), but have had less impact on everyday language (Moser, 2008; Moser et al., 2010). Merkel (2011) analyzed the homepages and mission statements of 12 universities in Germany. The universities were selected by the German Research Foundation,

listing universities with exemplary equality standards (German Research Foundation, 2010). By comparing gender-fair and GM forms used, Merkel found that masculine forms were seldom used as generics. Lamb and Nereo (2012) found that both the Basic Law for the Federal Republic of Germany and the Federal Constitution of the Swiss Confederation were largely written in gender-fair language.

Everyday gender-fair language was assessed by a paper-and-pencil study with university students. Moser (2008) used 10 texts where the task was to fill in the gaps. In each text one gap had to be completed with either a gender-fair or a GM form. The author reported that only 7% of the participating students used more gender-fair than GM forms. Using the same task but collecting data through an online study from a heterogeneous sample, Moser et al. (2010) still found that only a minority of the participants (26%) used more gender-fair than GM forms.

The gap between gender-fair language use in official texts and people's everyday language indicates that gender-fair language use is contextual. This difference indicates that although some groups are able to use gender-fair language, that is, have the potential to use it, they hardly ever apply it in their daily language. To understand this gap, we analyzed the aforementioned language-related factors that could promote the use of gender-fair language, namely (1) general language competencies and (2) the motivation to use accurate language.

1. General language competence considers the argument that gender-fair language is difficult, a typical response to why people do not use it more often. If in German GM represents the default, then phrasing one's utterances to meet the standards of gender-fairness is a requirement in language production that comes along with regular formulating effort. Language production is typically recognized to consist of three main steps (Fernandez & Cairns, 2010; Levelt, 1989): accessing the lexicon, building simple sentence structures, and finally building complex sentence structures. In either of these steps, alternatives to GM can be produced. The higher the language competence, the more language resources and strategies to use gender-fair language a person has. In the case of lexical access, a larger lexicon (containing more alternative forms to choose from) should be associated with greater flexibility and thereby facilitate the selection of a neutral form over a GM: for example, *Lehrkraft* [teacher] instead of *Lehrer* [teacher, masc.]. Thus, language competency is a relevant prerequisite for replacing GMs by gender-fair alternatives.
2. Motivation to use accurate language is linked with the linguistic argument that gender-fair language is more accurate than generic forms (Stahlberg et al., 2007), which is believed to be the most persuasive argument for gender-fair language (Koeser & Sczesny, 2013). Thus, it is fair to assume that people who strive for linguistic accuracy are also more likely to be precise when choosing nouns referring to people.

Our hypotheses are as follows:

Given the finding that gender-fair language is prevalent in official text forms, but rarely used in everyday language, we deduce that people's actual use of gender-fair language does not represent their potential, that is, their ability to use gender-fair language. Instructing participants to avoid GM forms will reveal their potential to use gender-fair language. Thus, in writing, we expect that participants will use more gender-fair language when instructed to avoid generic forms than when they use written language spontaneously (Hypothesis 1).

On the assumption that (1) language competence is a relevant prerequisite for being able to use gender-fair language, we expect that the higher an individual's language competence the higher their potential to use gender-fair language will be. Thus, we expect participants' instructed gender-fair language use to be predicted by their language competence (Hypothesis 2).

Assuming that (1) language competence is a relevant prerequisite and (2) motivation to use accurate language is a relevant motive, we expect individuals having both a (1) relatively high language competence, and a (2) relatively high motivation to use accurate language to have a higher actual, that is, spontaneous, gender-fair language use. We hypothesize that the interaction between their language competence and their motivation to use accurate language will predict their spontaneous gender-fair language use (Hypothesis 3).

The three hypotheses were tested on two different samples: university students (ST sample) and trainees (TR sample). Thus, we tested the stability and generalizability of our findings.

Method

Participants

ST sample. Thirty-eight German-speaking university exchange students (24 women, 14 men, $M_{\text{age}} = 23$ years, age range = 19-29 years) were recruited at the Norwegian University of Science and Technology and the University of Bern. A further four students were recruited, but excluded, as they were not native German speakers ($n = 3$) or identified the purpose of the study ($n = 1$). All participants were paid an equivalent of approximately seven euros.

TR sample. Six classes of trainees (36 women, 46 men, $M_{\text{age}} = 18$ years, age range: 16-29 years) attending education programs for health care, logistics, gardening, or forestry participated in the study. A further 20 trainees were recruited, but excluded, as they were not native German speakers ($n = 18$), they identified the purpose of the study ($n = 1$), or did not answer seriously ($n = 1$).

Procedure and Material

Data were collected in a paper-and-pencil format. Participants were welcomed and informed about the procedure.

First, participants performed a language competence test operationalizing the predictor general language competence. The tasks were selected from the test of German as a Foreign Language (DaF; Verlag für Deutsch, 1998). Only production tasks were selected and pretested ($N = 34$ native speakers of German). A set of six tasks (27 items) was selected, with the objective of achieving balanced item difficulty. For example, in one such task participants had to integrate a relative clause into the main clause by rephrasing it as a noun attribute: *Sie produzieren Probleme, die kaum zu lösen sind*. Correct answer: *Sie produzieren kaum lösbare Probleme*. [They produce problems, which are hard to solve. They produce hardly solvable problems.]

Second, participants completed a fill-in-the-gaps task to assess spontaneous gender-fair language use. This task was based on a pilot study ($N = 34$) and consisted of nine short texts (32-51 words) with three gaps in each. For one of these gaps participants had to use either a gender-fair or gender-biased personal noun. The texts were balanced for gender typicality of the personal nouns (five neutral, e.g., friends; two female, e.g., nurses; and two male, e.g., firefighters) and communicative setting (four private and five public). Participants' solutions were coded as gender-fair or gender-biased. An example from a neutral topic and private context is "*Am Samstag Abend sind alle F____, Verwandte und Bekannte herzlich eingeladen, mit mir zusammen meinen 30igsten Geburtstag zu feiern!*" [Saturday night all my f____, relatives and acquaintances are invited to celebrate my 30th birthday with me!] In the example, *F____* could be filled by (a) *Freunde und Freundinnen* [friends, masculine and feminine form, gender-fair] or *Freunde* [friends, masculine form only, gender-biased].

All answers from the first 10 participants in each sample were rated by a second person. Interrater reliabilities for the gaps were almost perfect, with a $\kappa \geq .83$.

Next, participants were probed for suspicion and completed a questionnaire on their motivation to use accurate language, consisting of five pretested statements (see Table 1). The scale had been pretested in an online study ($N = 29$), using Facebook for recruitment. Participants responded on 5-point rating scales ranging from 1 (*totally disagree*) to 5 (*totally agree*).

To assess instructed gender-fair language use, the fill-in-the-gaps tasks were presented, but this time with explicit instructions to avoid generic forms. Finally participants were asked to state age, sex, and native language. Additional variables were assessed, but are not included in the current analysis. On completion, participants were debriefed and thanked.

Results and Discussion

Separate scores for spontaneous and instructed gender-fair language use were computed as proportions of gaps completed with gender-fair solutions. Incorrect solutions were excluded. Means, standard deviations, and correlations of the variables are summarized in Table 2. Spontaneous gender-fair language use was lower for university students than for trainees¹, $F(1, 115) = 3.79$, $p = .05$, $\eta_p^2 = .03$. For instructed gender-fair language use, no difference between the samples was found ($p = .44$). We computed the language competence score as the sum of all correct answers of the DaF

Table 1. Motivation to Use Accurate Language Scale.

	University students (N = 38)				Trainees (N = 80)			
	Cronbach's α	M	SD	Corrected item-total correlation	Cronbach's α	M	SD	Corrected item-total correlation
1. Ich versuche, mich immer so genau wie möglich auszudrücken. [I make an effort to use accurate language]		3.68	0.84	.49		2.80	1.12	.49
2. Ich spiele sehr gerne mit Sprache. [I like to experiment with language.]		3.11	1.23	.57		1.89	1.39	.56
3. Ich achte auf einen präzisen sprachlichen Ausdruck. [I care about precise language use.]		3.87	0.96	.63		2.22	1.14	.68
4. Ich lege viel Wert auf einen schönen Schreibstil. [I greatly value an elaborate writing style.]		3.18	1.20	.56		1.89	1.27	.53
5. Es bereitet mir Vergnügen, möglichst passende Formulierungen zu finden. [I enjoy finding adequate formulations.]		3.26	1.06	.53		2.11	1.25	.66
Scale: Motivation to use accurate language		.78				.80		

Table 2. Correlations and Means of Spontaneous and Instructed Gender-Fair Language Use, Language Competence, and Motivation to Use Accurate Language.

	2	3	4	Sex of participants	M	SD
University students (<i>N</i> = 38)						
1. Spontaneous gender-fair language use	-.02	-.14	.05	-.11	33.72	17.59
2. Instructed gender-fair language use		.40*	.28 [†]	.13	66.87	24.72
3. General language competence			.23	.02	18.79	4.55
4. Motivation to use accurate language				-.12	3.42	0.78
Trainees (<i>N</i> = 82)						
1. Spontaneous gender-fair language use	.24*	.03	.07	-.01	39.89	15.50
2. Instructed gender-fair language use		.28*	.15	-.05	63.67	18.72
3. General language competence			.27*	.20	9.70	4.10
4. Motivation to use accurate language				.09	2.19	0.91

[†] $p < .10$. * $p < .05$.

language competence test (scale range: 0-27). University students scored significantly higher than trainees, $F(1, 115) = 111.78, p < .001, \eta_p^2 = .49$.

Items assessing the motivation to use accurate language were factor analyzed using principal component analysis. Following the Kaiser criterion for both samples one factor was extracted, explaining 54% of the variance in the ST sample and 56% of the variance in the TR sample. For the following analysis, the averaged mean score of the five items was used. University students reported a significantly stronger motivation to use accurate language, than trainees, $F(1, 115) = 52.87, p < .001, \eta_p^2 = .32$.

In line with previous research (Moser, 2008; Moser et al., 2010), we found that people spontaneously used gender-fair language infrequently. Language competence and motivation to use accurate language were higher for university students than for trainees. While trainees used relatively more gender-fair language spontaneously than university students, there were no differences regarding instructed gender-fair language use.

Hypothesis 1: Spontaneous and Instructed Gender-Fair Language Use

To test whether participants used more gender-fair language when explicitly instructed, an analysis of variance with repeated measurement was run. The results for university

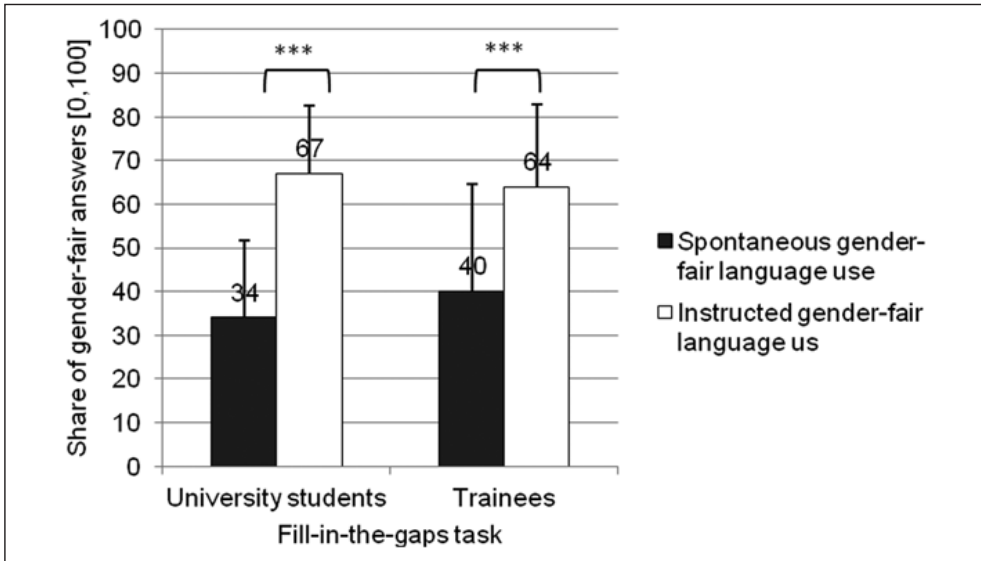


Figure 1. Spontaneous and instructed gender-fair language use for university students and trainees.

*** $p < .001$.

students and trainees are presented in Figure 1. In both samples, instructed gender-fair language use ($M_{ST} = 67\%$, $SD_{ST} = 25$ and $M_{TR} = 64\%$, $SD_{TR} = 19$) was significantly higher than spontaneous gender-fair language use ($M_{ST} = 34\%$, $SD_{ST} = 18$ and $M_{TR} = 40\%$, $SD_{TR} = 16$), $F_{ST}(1, 36) = 44.48$, $p < .001$, $\eta_p^2 = .55$ and $F_{TR}(1, 79) = 104.30$, $p < .001$, $\eta_p^2 = .57$. Despite explicit instructions, the participants in both samples used gender-fair forms in less than 70% of the cases.

When explicitly instructed, people use more gender-fair language than they use spontaneously, thus they have potential which they do not tap in their everyday language use. Thus, a low use of gender-fair language cannot be attributed to competence deficiency alone. That people do not manage to entirely avoid all generic forms indicates that they also have difficulties in recognizing and finding gender-fair alternatives.

Hypothesis 2: Instructed Gender-Fair Language Use

To test whether language competence predicts instructed gender-fair language use, we conducted a regression analysis with language competence as the predictor and instructed gender-fair language use as the criterion. In both samples, language competence ($\beta_{ST} = .40$, $p < .05$; $\beta_{TR} = .28$, $p < .05$) explained a significant proportion of variance in instructed gender-fair language use, $F_{ST}(1, 35) = 6.68$, $p < .05$ and $F_{TR}(2, 78) = 3.4$, $p < .05$. The higher participants' language competence, the more instructed gender-fair language they used.

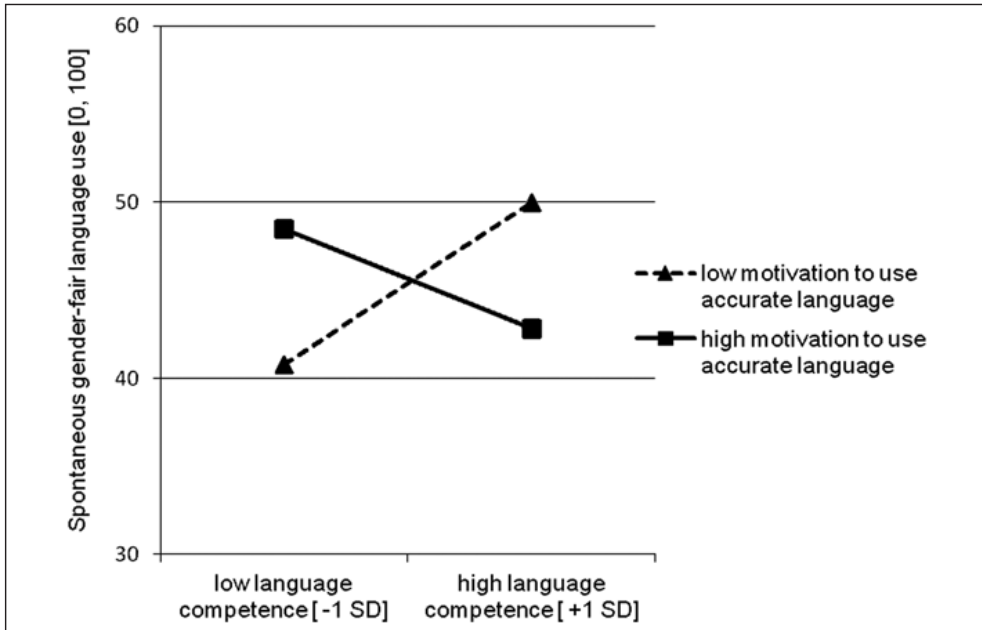


Figure 2. Simple slopes of general language competence predicting spontaneous gender-fair language use for 1 SD below and 1 SD above the mean of motivation to use accurate language.

The finding that people's language competence predicted their potential to use gender-fair language is consistent with the observation that using gender-fair language is difficult and language skills are a relevant prerequisite when it comes to the use of gender-fair language.

Hypothesis 3: Spontaneous Gender-Fair Language Use

We conducted a regression analysis to test whether the interaction of language competence and motivation to use accurate language predicts spontaneous gender-fair language use. In both samples there was no main effect of language competence or motivation to use accurate language on spontaneous gender-fair language use. An effect of the interaction was not found for university students ($\beta_{ST} = .03, p = .87$), but for trainees ($\beta_{TR} = -.38, p < .04$), $F_{TR}(1, 76) = 5.4, p < .05$. The unstandardized simple slopes are presented in Figure 2. With decreasing motivation to use accurate language, there was an increase in strength for the relation between language competence and spontaneous gender-fair language use. Thus, higher than average language competence was associated with more spontaneous gender-fair language use.

Hypothesis 3 was not supported. Language competence and motivation to use accurate language did not predict spontaneous gender-fair language use as we expected. In

the trainee sample, the interaction was in the opposite direction of what we expected: Trainees with a relatively high language competence used less gender-fair language when they were highly motivated to use accurate language. This suggests that trainees with high motivation to use accurate language avoid the use of gender-fair language if they have a high language competence. A possible explanation for this unexpected effect is that trainees with high language competence may have a different understanding of what constitutes accurate language. They might value simplicity in language use and prefer traditional, conservative language forms. This result also indicates that gender-fair forms are not perceived as the more accurate variety, if anything it was the other way round.

Conclusion

Two main conclusions can be drawn from the results presented in this report. First, gender-fair language is difficult. This is supported by (1) the effect people's language competence has on instructed gender-fair language and (2) their inability to avoid all generic forms. In spontaneous language use, however, the same factors seem to have no effect.

Second, trainees with relatively high language competence used less gender-fair language the more they were motivated to use accurate language. From this we conclude that gender-fair language is not generally perceived as the more accurate form. If gender-fair language use is to be promoted, it is necessary to go beyond the mere argument that gender-fair language is the more accurate form. For example, increased awareness of the ambiguity underlying GM forms, and also of how neutralization or making people's biological gender explicit can contribute to accuracy, may be required.

This article discusses the gap between actual and potential gender-fair language use by focusing on language-related factors, as one of many possible approaches to this issue. Further research would benefit from investigating social equality arguments, as people's motivation for fairness or political values.

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Note

1. The scores of absolute gender-fair answers did not differ between the two samples and the results are the same, independent of which scores (percentages or absolute) were used for the analysis.

References

- Blake, C., & Klimmt, C. (2010). Geschlechtergerechte Formulierungen in Nachrichtentexten [Gender-fair formulations in news texts]. *Publizistik, 55*, 289-304.
- Blaubergs, M. S. (1980). An analysis of classic arguments against changing sexist language. *Women's Studies International Quarterly, 3*, 135-147.
- Braun, F., Oelkers, S., Rogalski, K., Bosak, J., & Sczesny, S. (2007). "For reasons of intelligibility . . ." How masculine generics and alternative forms affect the cognitive processing of a text. *Psychologische Rundschau, 58*, 183-189.
- Braun, F., Sczesny, S., & Stahlberg, D. (2005). Cognitive effects of masculine generics in German: An overview of empirical findings. *Communications, 30*, 1-21.
- Fernandez, E. M., & Cairns, H. (2010). *Fundamentals of psycholinguistics*. New York, NY: Wiley-Blackwell.
- Gabriel, U., & Mellenberger, F. (2004). Exchanging the generic masculine for gender-balanced forms: The impact of context valence. *Swiss Journal of Psychology, 63*, 273-278.
- German Research Foundation. (2010, July 16). *DFG aims to strengthen knowledge transfer* (Press Release No. 34). Retrieved from http://www.dfg.de/en/service/press/press_releases/2010/pressemitteilung_nr_34/index.html
- Gygax, P., Gabriel, U., Sarrasin, O., Oakhill, J., & Garnham, A. (2008). Generically intended, but specifically interpreted: When beauticians, musicians, and mechanics are all men. *Language and Cognitive Processes, 23*, 464-485.
- Irmen, L., & Kurovskaja, J. (2010). On the semantic content of grammatical gender and its impact on the representation of human referents. *Experimental Psychology, 57*, 367-375.
- Irmen, L., & Linner, U. (2005). Die Repräsentation generisch maskuliner Personenbezeichnungen: Eine theoretische Intergration bisheriger Befunde [Representing masculine generics: A theoretical integration of empirical findings.] *Zeitschrift für Psychologie, 213*, 167-175.
- Irmen, L., & Roßberg, N. (2004). Gender markedness of language: The impact of grammatical and nonlinguistic information on the mental representation of person information. *Journal of Language and Social Psychology, 23*, 272-307.
- Klimmt, C., Pompetzki, V., & Blake, C. (2008). Der Einfluss von geschlechterbezogenen Sprachformen und Fallbeispielen auf den gedanklichen Einbezug von Frauen und die Bewertung der Beitragsqualität [The influence of gender-related language forms and case examples on the cognitive visibility of women and the evaluation of the contribution's quality]. *Medien & Kommunikationswissenschaft, 56*, 3-20.
- Koeser, S., & Sczesny, S. (2013). *Promoting gender-fair language: The impact of arguments on cognitions, attitudes, and language use*. Manuscript submitted for publication.
- Lamb, V., & Nereo, F. (2012). Equality amongst citizens? A study of how the German basic law and the German version of the Swiss constitution exhibit and avoid sexist language. *German Life and Letters, 65*, 109-126.
- Levelt, W. J. M. (1989). *Speaking: From intention to articulation*. Cambridge, MA: MIT Press.
- Merkel, E. (2011). Geschlechtergerechte Sprache an den universitären Gleichstellungskonzepten—eine vergleichende Analyse [Gender-fair language on universities equality concepts—a comparative analysis]. *CEWS Journal, 87*, 39-45.

- Moser, F. (2008). *Generisches Maskulinum oder Beidnennung? Der Einfluss der Sprache auf die mentale Repräsentation der Frauen* [Generic masculinum or splitting forms? The influence of language on the mental representation of women] (Unpublished master's thesis). Universität Bern, Bern, Switzerland.
- Moser, F., Hubacher, M., Sczesny, S., & Irmen, L. (2010, September). Als Stimmberechtigte werden jene B . . . bezeichnet—Zur Vorhersage eines geschlechtergerechten Sprachgebrauchs [Entitled to vote are the those c . . . who—For the prediction of a gender-fair language use]. Poster presented at the 47th Kongress der Deutschen Gesellschaft für Psychologie, Bremen, Germany.
- Parks, J. B., & Robertson, M. (1998). Contemporary arguments against nonsexist language: Blaubeurgs (1980) revisited. *Sex Roles, 39*, 445-461.
- Parks, J. B., & Robertson, M. A. (2004). Attitudes toward women mediate the gender effect on attitudes toward sexist language. *Psychology of Women Quarterly, 28*, 233-239.
- Sarrasin, O., Gabriel, U., & Gygax, P. (2012). Sexism and attitudes toward gender-neutral language: The case of English, French and German. *Swiss Journal of Psychology, 71*, 113-124.
- Stahlberg, D., Braun, F., Irmen, L., & Sczesny, S. (2007). Representation of the sexes in language. In K. Fiedler (Ed.), *Social communication* (pp. 163-187). New York, NY: Psychology Press.
- Stahlberg, D., & Sczesny, S. (2001). Effekte des generischen Maskulinums und alternativer Sprachformen auf den gedanklichen Einbezug von Frauen [Effects of the generic use of the masculine pronoun and alternative forms of speech on the cognitive visibility of women]. *Psychologische Rundschau, 52*, 131-140.
- Stahlberg, D., Sczesny, S., & Braun, F. (2001). Name your favorite musician: Effects of masculine generics and of their alternatives in German. *Journal of Language and Social Psychology, 20*, 464-469.
- Verlag für Deutsch. (1998). Einstufungstests für Anfänger- und Fortgeschrittenenkurse—Deutsch als Fremdsprache [Placement tests for beginners' and advanced courses—German as a foreign language]. Ismaning, Germany: Author.

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Paper III

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Just Reading? How Gender-Fair Language Triggers Readers' Use of Gender-Fair Forms

Sara Koeser¹, Elisabeth A. Kuhn², and Sabine Sczesny¹

Abstract

Gender-fair language, that is, referring to men and women with symmetrical linguistic forms, has been found to promote gender equality, but it is largely unknown which factors help make gender-fair forms more common in everyday life. Two studies examined whether speakers of German used more gender-fair forms after reading a text with gender-fair wording (vs. masculine generics vs. no personal nouns vs. another topic). Both studies showed consistently that women used more gender-fair forms after reading the gender-fair text than the other texts, whereas men did not. Men employed more gender-fair forms only after being made aware of these forms (Study 2). To conclude, merely reading gender-fair texts enhances women's inclination to use gender-fair language, whereas men need to be made aware of this type of language use. Both studies highlight the importance of using gender-fair language frequently and consistently in everyday life.

Keywords

gender-fair language, language use, trigger, awareness, German, gender, sexist language, gender-inclusive language, generic masculine

In many languages, there is a tradition of using grammatically masculine personal nouns and pronouns in a generic function, that is, to refer to mixed-gender groups, to persons with unknown gender, or in cases where gender is supposed to be irrelevant. Gender-fair language, on the other hand, aims at avoiding these “masculine generics” and at referring to men and women in a symmetrical way (for an overview see, e.g.,

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Hellinger & Bußmann, 2001). Symmetry is achieved by using both feminine and masculine forms (feminization; e.g., *he or she*) and/or gender-neutral forms or rephrasing (neutralization; e.g., *they*).

Use of gender-fair language is an important contribution to gender equality because formulations have been found to influence cognitive representations and behavior. Thus, masculine generics evoke more male representations in the minds of readers than gender-fair forms (for an overview, see Stahlberg, Braun, Irmen, & Sczesny, 2007) and influence behavior and decision making, such as discouraging women from applying or liking stereotypically masculine jobs (Bem & Bem, 1973; Stout & Dasgupta, 2011; Vervecken, Hannover, & Wolter, 2013). Even jury decisions on whether a woman had killed in self-defense were more disadvantageous for the accused when masculine generics appeared in the jury instructions (Hamilton, Hunter, & Stuart-Smith, 1992).

Although use of gender-fair language is a crucial societal issue with far-reaching consequences (Maass & Arcuri, 1996) and has the potential to reduce inequalities in the gender arrangement, it is as yet largely unknown how this type of language use can be promoted. Moreover, it has been observed that resistance against gender-fair language persists (e.g., for German: Demarmels & Schaffner, 2011; Pusch, 2014), even though there are official guidelines and regulations which prescribe and describe gender-fair language (e.g., American Psychological Association, 2009; Schweizerische Bundeskanzlei, 2009).

Apart from personality factors, such as lower modern sexism beliefs (e.g., Cralley & Ruscher, 2005), there are situational factors that predict the use of gender-fair language. The use of gender-fair language was found to be predicted by (a) conscious, explicit judgments, when speakers adjust their behavior to their favorable intentions, and as well as (b) more implicit, habitual processes, when speakers simply repeat what they have done previously in similar situations (Sczesny, Moser, & Wood, 2014).

For the promotion of gender-fair language, training effects have been documented: Speakers of English used more gender-fair pronouns when generic forms in their reports had been corrected over one semester (Prentice, 1994) and slightly increased their use of gender-fair forms after a computer-based or a personal lecture on gender-fair language (McMinn, Troyer, Hannum, & Foster, 1991). Speakers of German increased their use of gender-fair forms after being exposed to arguments in favor of gender-fair language (Koeser & Sczesny, 2014). Undoubtedly, these approaches may help to develop strategies to enhance the use of gender-fair language, but these strategies are also fairly effortful.

So the question arises whether there are easier ways of promoting the use of gender-fair language in everyday situations. In everyday circumstances effortless strategies are required, since speakers' attitudes are usually unknown and resources, such as time to argue for gender-fair language, are limited. In search of such a strategy, Cronin and Jreisat (1995) found that participants used more gender-fair pronouns in an English sentence completion task when they had received instructions with two gender-fair examples than after two examples with masculine generics or when no examples were provided. Interestingly, this subtle intervention triggered speakers' use of gender-fair language. The authors conclude that gender-fair language can be

promoted by modeling—or observational learning—a sort of language acquisition, which typically occurs on a subconscious level.

Following this promising finding (Cronin & Jreisat, 1995), it is the aim of the present research to examine whether reading a text with gender-fair forms also facilitates the active use of gender-fair language, assuming that more gender-fair forms would be used after reading gender-fair forms. This strategy is considerably simpler than attempts at training, such as individual feedback (Prentice, 1994) or lectures (McMinn et al., 1991), and can easily be implemented in everyday life. To test the present assumption, two studies were conducted on German, where the use of gender-fair language is more challenging than in English, as more parts of speech are gender-marked (e.g., Hellinger & Bußmann, 2001; Stahlberg et al., 2007).

Study I

Study 1 aimed at investigating whether reading gender-fair forms versus other forms has an impact on German speakers' own use of gender-fair language. Viewing a gender-fair linguistic input as a trigger, it was hypothesized that speakers would use more gender-fair forms after reading a text in gender-fair wording than after other texts (i.e., a text containing masculine generics or texts without personal nouns or about some other topic). Participant gender was considered without making specific predictions. In past research, women used gender-fair language more frequently than men, independent of experimental manipulations (e.g., Cronin & Jreisat, 1995; Koeser & Sczesny, 2014). The influence of experimental manipulations on the use of gender-fair language may, however, be modified by participant gender, as several studies have shown that women are more responsive to experimental manipulations that emphasize gender-fair forms versus masculine generics than men (e.g., Stout & Dasgupta, 2011).

Method

Participants and Design. The study was conducted online with a sample of 102 native speakers of German (46 women, 56 men; $M_{\text{age}} = 25.17$ years, $SD_{\text{age}} = 6.50$, age range: 19-50 years; 94% students). Two nonnative speakers and one person who did not fill any blank were excluded previously. Participants were recruited with the help of mailing lists at diverse German universities. All gave informed consent and were equally distributed over experimental conditions, $\chi^2(7) = 5.608$, $p = .586$.

The experiment was based on a 4 (*Text Condition: gender-fair, masculine generics, no personal nouns, other topic*) \times 2 (*Participant Gender: female, male*) between-participants design. Use of gender-fair language served as dependent variable.

Materials

Text Conditions. Different versions of a package insert for a fictional drug named SAN-OXOL® were used (see the appendix). Used in earlier research on gender-fair language (Braun, Oelkers, Rogalski, Bosak, & Sczesny, 2007), these texts represent a

genre which conveys important information in everyday life. The first version contained gender-fair forms of person reference as recommended in guidelines for German (i.e., a combination of feminization and neutralization), the second contained exclusively masculine generics. As a third condition, a version was created that avoided all personal nouns by using passive voice or omissions. A text about another topic, namely about inflammation, served as a fourth condition.

Use of Gender-Fair Language. Language use was assessed with ten fill-in-the-blank tasks which occurred in paragraphs on various public and personal issues (Kuhn & Gabriel, 2014; Sczesny et al., 2014). Each paragraph contained three or four blanks one of which required reference to a person. This blank could be filled either with a gender-fair form (i.e., feminine–masculine word pair or gender-neutral noun) or with a masculine generic. Answers were coded respectively. This type of task is beneficial because it yields standardized responses and enhances validity by referring to different private and official topics.

Procedure

The data was collected online. The study was introduced as research on readers' perceptions of different texts. Participants read one of the stimulus texts, then answered the fill-in-the-blank tasks, semantic differentials,¹ multiple-choice questions about the content of the text, a social desirability questionnaire, and demographic variables. Finally, participants were debriefed and invited to take part in a lottery for vouchers, for example, for books.

Results

Participants used gender-fair forms rarely.² The distribution of gender-fair language use was significantly nonnormal, $H(102) = 0.21$, $W(102) = 0.87$, both $p < .001$, therefore we used nonparametric tests (Kruskal–Wallis and Mann–Whitney U) with subsequent pairwise comparisons with one-tailed significance for hypothesized effects and two-tailed significance for post-hoc analyses.

No reliable effects were found for text condition, $H(3) = 6.06$, $p = .109$, and for participant gender, $U = 1341.00$, $z = 0.37$, $p = .712$, $r = .036$. The interaction effect, however, was significant, $H(7) = 14.35$, $p = .045$. Means are illustrated in Figure 1; data are listed in Table 1. Women used significantly more gender-fair forms in the gender-fair condition than in the masculine generic condition ($U = 244.00$, $z = -1.74$, $p = .001$, $r = .241$), in the condition without personal nouns ($U = 201.50$, $z = -2.20$, $p = .014$, $r = .311$) and marginally with another topic ($U = 252.00$, $z = -1.38$, $p = .085$, $r = .193$), whereas men did not ($ps \geq .287$).^{3,4}

Discussion

In Study 1, presenting gender-fair forms in a text revealed an effective strategy to increase readers' own use of gender-fair language, at least with female speakers. In the

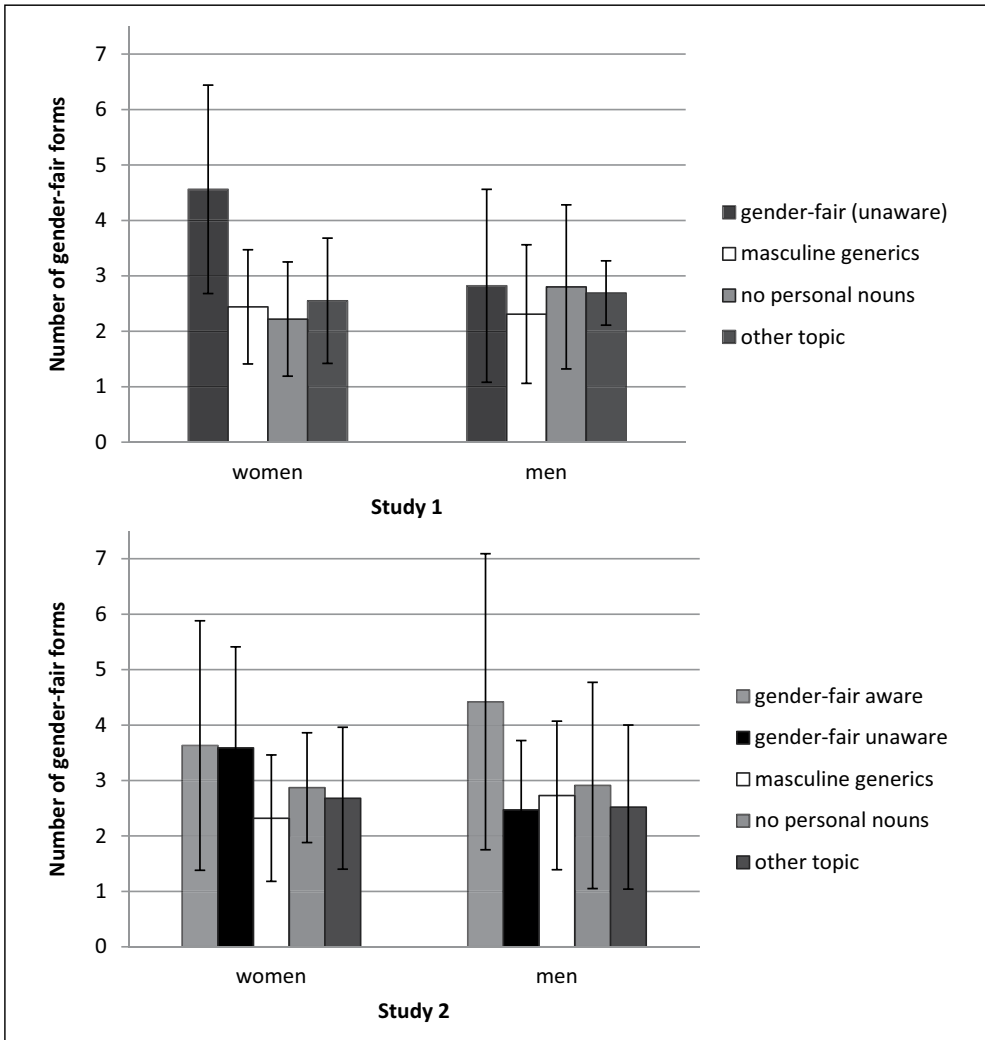


Figure 1. Number of gender-fair forms used (from 1 to 10) by text condition.

experiment, women used more gender-fair forms after reading a gender-fair text than after all other texts, whereas men's language use was unaffected.

Thus, use of gender-fair language seems to be easy to trigger in women, maybe because gender-fair forms are generally more important for women than for men: Whenever masculine forms are used, women have to ask themselves whether they are included or not (Gabriel & Mellenberger, 2004), but when gender-fair forms are used women know for sure that they are included. In contrast, gender-fair language is less relevant and obvious for men, because they are included anyhow, no matter whether gender-fair forms are used or masculine generics. Consequently, there is no need for them to pay attention and they use the common masculine generics by default.

Table 1. Number of Gender-Fair Forms Used (from 1 to 10) by Text Condition.

Text condition	Women				Men			
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>Mdn</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>Mdn</i>
Study 1								
Gender-fair (unaware)	9	4.56	1.88	4.0	17	2.82	1.74	2.0
Masculine generics	16	2.44	1.03	2.0	13	2.31	1.25	2.0
No personal nouns	10	2.20	1.03	2.0	10	2.80	1.48	3.0
Other topic	11	2.55	1.13	3.0	16	2.69	0.58	3.0
Total	46	2.83	1.50	3.0	56	2.66	1.29	3.0
Study 2								
Gender-fair aware	43	3.63	2.25	3.0	19	4.42	2.67	3.0
Gender-fair unaware	37	3.59	1.82	3.0	15	2.47	1.25	2.0
Masculine generics	38	2.32	1.14	2.0	26	2.73	1.34	3.0
No personal nouns	38	2.87	0.99	3.0	23	2.91	1.86	3.0
Other topic	38	2.68	1.28	2.5	25	2.52	1.48	2.0
Total	194	3.03	1.65	3.0	108	2.98	1.87	3.0

In the study by Cronin and Jreisat (1995), both women and men adapted their language use after reading examples with gender-fair forms which could be employed in a subsequent task. In their study, the link between the stimuli, that is, the examples, and the subsequent task was closer than in the present study, where the stimuli were not linked to the fill-in-the-blank tasks. Therefore, participants may have been less aware of the linguistic forms presented in the present experiment. Hence, it appears that influencing women's language behavior by presenting gender-fair language is easier, whereas men need to be made aware of the linguistic forms involved. In Study 2, this idea was followed up by manipulating participants' awareness of gender-fair language.

Study 2

Study 2 aimed at replicating the results of Study 1, with the following modification: Women were expected to use more gender-fair forms after reading a gender-fair text than after reading masculine generics or texts with no personal nouns or about another topic, independent of whether they were made aware of gender-fair language or not. Men were expected to use more gender-fair forms after reading a gender-fair text when they were made aware of the presented forms than after all other texts.

Method

Participants. The study was conducted online with a sample of 305 native speakers of German (194 women, 108 men, 3 without gender information; $M_{\text{age}} = 24.11$ years,

$SD_{\text{age}} = 4.89$, age range: 18-63 years; 95% students). Six nonnative speakers, two persons who did not indicate their native language, six who did not receive a stimulus text for technical reasons, and five who skipped the fill-in-the-blank task after 0 to 4 target blanks (while all others filled at least seven blanks) were excluded from the analyses previously. All participants gave informed consent. Female and male participants were equally distributed over all conditions, $\chi^2_{\text{women}}(4) = 0.59, p = .964$; $\chi^2_{\text{men}}(4) = 3.85, p = .426$.

Design, Materials, and Procedure. The procedure was largely the same as in Study 1, but there was one additional text condition, i.e., gender-fair with raised awareness. In this condition, use of gender-fair wording was made explicit by adding the following sentence to the instructions: “In the text on the following page, persons will be referred to with feminine-masculine pairs forms such as *Diabetikerinnen und Diabetiker* ‘diabetics_{fem} and diabetics_{masc}’ or with nouns that do not differentiate for gender, e.g., *Erwachsene* ‘adults_{neuter}’.”

Results

As in Study 1, participants used gender-fair forms infrequently.⁵ The distribution of language forms was significantly nonnormal, $H(305) = 0.21, W(305) = 0.87$, both $p < .001$, therefore, the same tests as in Study 1 were applied.

Participant gender did not significantly influence the use of gender-fair language ($U = 10997.50, z = 0.73, p = .463, r = .042$). For text condition, however, a significant effect emerged, $H(4) = 16.69, p = .002$, which was moderated by participant gender, $H(9) = 24.28, p = .004$. Means are illustrated in Figure 1, data are listed in Table 1; comparisons are shown in Table 2. As hypothesized, women used significantly more gender-fair forms after reading the gender-fair text (without raised awareness) than in all other conditions. After reading the gender-fair text with raised awareness, they used significantly more gender-fair forms than after the text with masculine generics and the text about another topic, but not than after the text without personal nouns. For women, there was no significant difference between the gender-fair text with and without raised awareness. As in Study 1, men’s use of gender-fair forms did not differ in the four conditions which had been included in Study 1. After reading the gender-fair text with raised awareness, however, they used significantly more gender-fair forms than after reading the gender-fair text without reference to gender-fair language, the text with masculine generics or the one about another topic, and marginally more than after the text without personal nouns.^{6,7}

Discussion

In line with the hypothesis, women used more gender-fair forms after reading a gender-fair text (without raised awareness) than after all other texts. This was mostly independent of whether they had been made aware of the gender-fair forms presented or not. However, women used a similar number of gender-fair forms after reading the

Table 2. Study 2: Pairwise Comparisons Between Conditions of Gender-Fair Language (GFL) Use, Split by Participant Gender.

	Women				Men			
	<i>U</i>	<i>z</i>	<i>p</i>	<i>r</i>	<i>U</i>	<i>z</i>	<i>p</i>	<i>r</i>
GFL unaware vs. masculine generics	401.0	-3.27	<.001	.377	175.0	-0.56	.585 ^a	.087
GFL unaware vs. no personal nouns	539.5	-1.79	.037	.207	152.5	-0.62	.541 ^a	.100
GFL unaware vs. other topic	484.0	-2.37	.009	.274	182.5	-0.15	.896 ^a	.023
GFL aware vs. GFL unaware	750.0	-0.45	.330	.050	81.5	-2.72	.014	.373
GFL aware vs. masculine generics	530.5	-2.77	.003	.308	162.0	-1.99	.023	.297
GFL aware vs. no personal nouns	724.5	-0.90	.185	.100	150.0	-1.77	.039	.272
GFL aware vs. other topic	629.0	-1.82	.034	.203	134.0	-2.51	.006	.378

a. Two-tailed tests.

gender-fair text with raised awareness as after the text without personal nouns. An explanation might be that in this sample avoidance of personal nouns operated as a trigger for gender-fair language in some female participants; this idea is supported by the slightly higher mean in this condition compared with Study 1.

Men used more gender-fair forms only after reading the gender-fair text with raised awareness than after other texts. This shows that men do not refrain from using gender-fair language but adapt to the presented forms when they are made aware of these forms. Their use of gender-fair language cannot be triggered as easily as women's, but awareness raising might be a promising strategy to increase their use of gender-fair language.

General Discussion

The reported research investigated the question whether presenting gender-fair forms is an effective and effortless strategy to facilitate speakers' own use of gender-fair language. Women consistently used more gender-fair forms after reading a text containing such forms than after reading a text with masculine generics, a text about some other topic and particularly than after reading a text without personal nouns (Studies 1 and 2). This was independent of whether or not attention was drawn to the gender-fair forms presented (Study 2). In contrast, men's use of gender-fair forms is facilitated when they were made aware of the gender-fair forms appearing in the text

(Study 2). It is an interesting finding that women adjusted their language use to the gender-fairness of texts in both circumstances, whereas men needed an explicit hint. This may be due to the fact that the importance of masculine generics and gender-fair forms is higher for women, which may make them more sensitive to their use than men.

Reading a text with masculine generics triggered a similar amount of gender-fair forms as other control conditions. In earlier studies, this was also the case for generic masculine examples (Cronin & Jreisat, 1995) or arguments promoting masculine generics (Koeser & Sczesny, 2014). We ascribe this to the fact that masculine generics, as the traditional form, are the common option (Demarmels & Schaffner, 2011) and function as a baseline.

The present results indicate a promising approach to promoting gender-fair language in everyday situations, but their validity should be enhanced by examining more heterogeneous samples and other types of texts. Moreover, more research is needed for a deeper understanding of when, why, and by whom gender-fair language is actually used. With respect to the question “when,” the validity of the present results could be increased by including other types of texts, for example, self-generated texts or spoken language (Cralley & Ruscher, 2005; McMinn, Lindsay, Hannum, & Troyer, 1990). Concerning “why,” the present insights on effects of a raised awareness would need to be examined more thoroughly in future research: Are speakers aware of the linguistic or political implications of gender-fair language or do they want to accommodate their language behavior to be a good communicator (as stated in the *Communication Accommodation Theory*; Gallois, Ogay, & Giles, 2005)? Future studies could manipulate participants’ focus by mentioning different motivations for gender-fair language, for example, that it is important for gender equality or for linguistic correctness and precision. Furthermore, speakers’ willingness to accommodate their linguistic behavior could be manipulated, for example, by varying (dis)agreement tendencies via a communicator’s high versus low status. To answer the question “by whom” gender-fair language is used, it should be investigated which underlying variables moderate the intervention effect or its strength. For example, speakers with high sexist beliefs might react differently to interventions than speakers with less sexist beliefs, for example, because they do not care or do not see why masculine generics are said to be not gender-fair (Swim, Mallett, & Stangor, 2004).

Reading a text with gender-fair wording influences readers’ own propensity of using this kind of language in a subsequent task. Women use more gender-fair forms after reading a gender-fair text, whereas men do so only when they are made aware of the gender-fair forms occurring in the text. This result points to a sort of domino effect with far-reaching consequences: The more people read gender-fair forms (and are aware of it), the more likely they are to use gender-fair forms themselves and so on. As simply reading gender-fair forms may trigger speakers’ active use of gender-fair language, a higher prevalence of gender-fair forms in everyday life has the potential to change linguistic habits and to promote gender equality.

Appendix

The original texts were provided in German. The grammatical gender of the respective German nouns is subscripted; personal nouns without specification do not differentiate for gender.

Text Containing Gender-Fair Forms

With SANOXOL® you have received a highly effective drug for the treatment of inflammatory airway diseases. Please read this package leaflet carefully. It contains important information on the use of SANOXOL®. If you have any questions, please seek medical advice or consult your pharmacist_{fem} or pharmacist_{masc}.

Dosage instructions

Unless otherwise prescribed, adults swallow one tablet of SANOXOL® whole with some liquid three times a day. Particularly patients_{fem} and patients_{masc} with sensitive stomachs are advised to take SANOXOL® immediately after meals.

Warning

Diabetics_{fem} and diabetics_{masc} and persons with high blood pressure should seek medical advice prior to treatment with SANOXOL®.

Side effects

With respect to the following side effects, it should be taken into account that they depend on the dosage and the general health status of the patient_{fem} or the patient_{masc}:

- Mucosal irritations
- Stomach cramps
- Nausea
- Vomiting
- Palpitation

Persons who experience the above symptoms should consult their doctor_{fem} or their doctor_{masc} so that they can decide on the further use and dosage of SANOXOL®. In the event of acute or rapidly increasing shortness of breath, medical attention must be sought immediately.

Text Containing Masculine Generics

With SANOXOL® you have received a highly effective drug for the treatment of inflammatory airway diseases. Please read this package leaflet carefully. It contains important information on the use of SANOXOL®. If you have any questions, please consult your doctor_{masc} or pharmacist_{masc}.

Dosage instructions

Unless otherwise prescribed, adults swallow one tablet of SANOXOL® whole with some liquid three times a day. Particularly patients_{masc} with sensitive stomachs are advised to take SANOXOL® immediately after meals.

(continued)

Appendix (continued)

Warning

Diabetics_{masc} and patients_{masc} with high blood pressure should seek medical advice prior to treatment with SANOXOL®.

Side effects

With respect to the following side effects, it should be taken into account that they depend on the dosage and the general health status of the patient_{masc}:

- Mucosal irritations
- Stomach cramps
- Nausea
- Vomiting
- Palpitation

Patients_{masc} who experience the above symptoms should consult their doctor_{masc} so that he can decide on the further use and dosage of SANOXOL®. In the event of acute or rapidly increasing shortness of breath, a doctor_{masc} or a hospital must be attended immediately.

Text Containing No Personal Nouns

SANOXOL® is a highly effective drug for the treatment of inflammatory airway diseases.

This package leaflet contains important information on the use of SANOXOL®. Apart from dosage instructions it contains information on how to use the drug, warnings and a list of side effects.

Dosage instructions

SANOXOL® is provided in the form of a tablet and should be swallowed whole with sufficient liquid three times a day. It is advised to take SANOXOL® immediately after meals and not on an empty stomach.

Warning

In the case of diabetes and high blood pressure, SANOXOL® should be administered only with accompanying measures and the dosage should be adjusted accordingly.

Side effects

With respect to the following side effects, it should be taken into account that they depend on dosage and general health status:

- Mucosal irritations
- Stomach cramps
- Nausea
- Vomiting
- Palpitation

If one or several of these symptoms occur measures should be taken immediately. In the case of slight side effects, the dosage can be adjusted; in case of severe complications some other form of treatment should be considered. In the event of acute or rapidly increasing shortness of breath use of SANOXOL® should be discontinued immediately.

Text About Inflammation

SANOXOL® is a highly effective drug for the treatment of inflammatory airway diseases.

Numerous scientific investigations on the effectiveness of SANOXOL® show that the substances it contains have anti-inflammatory effects. This is observed especially with chronic airway diseases such as bronchitis or asthma.

Inflammation

Inflammation is defined as a vital reaction to a structural damage in the body. The inflammation serves to remove the potentially damaging irritation and to stop its spread.

The inflammation also helps to repair damages that have occurred. Drugs such as SANOXOL® are administered to better control this physical immune response.

Consequences

Usually inflammations heal quickly. In the worst case, tissue can die in certain areas.

Symptoms of inflammation

The following phenomena are characteristic for inflammatory processes:

- Redness
- Swelling
- Increased temperature in the inflamed area
- Pain
- Impaired function

SANOXOL® reduces the substances whose production is increased during inflammation.

Even if the effects of SANOXOL® do not occur in the acute stage, a gradual decrease of inflammatory processes will ensue. In this way healing is assisted effectively.

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Author's Note

Sara Koeser is now at University of Hagen, Institute of Psychology. The studies were authorized by the ethics committee of the Faculty of Human Sciences at the University of Bern, Bern, Switzerland.

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Notes

1. Attitudes toward gender-fair language and masculine generics were explored after measuring language use in this sample and in another sample of participants, who indicated their attitudes first and then their use. In line with previous research (Koeser & Sczesny, 2014; Prentice, 1994), attitudes were not influenced by the experimental manipulation in a reliable way. This may be due to the fact that attitudes are a stable construct that requires more intensive intervention.
2. Sixteen percent of the participants used one out of ten possible gender-fair forms, 28% used two, 33% used three, 16% used four, 2% used five, 1% used six, 1% used seven, and 2% used eight. In all, one participant filled in seven blanks, all others nine or ten.
3. An additional analysis in which social desirability, measured by the German version of the Balanced Inventory of Desirable Responding (Musch, Brockhaus, & Bröder, 2002) served as covariate (Quade, 1967), revealed almost the same pattern of results (with one exception for women: the marginal comparison of gender-fair text vs. the text about another topic became significant).
4. Eighteen participants aged 36 years or more were identified as outliers by exploratory analyses. When excluding these participants, the significant interaction became nonsignificant ($p = .144$); however, the respective contrasts did not change in significance level.
5. One percent of the participants used no gender-fair form, 15% used one, 26% used two, 28% used three, 15% used four, 6% used five, 4% used six, and each 1% used seven, eight, nine, and ten gender-fair forms.
6. An additional analysis in which social desirability served as covariate (Quade, 1967) revealed almost the same pattern of results (with the following exception for men: the significant comparisons of the gender-fair text with raised awareness vs. masculine generics and vs. no personal nouns became marginally significant).
7. Eleven participants aged 32 years or more were identified as outliers by exploratory analyses. Results excluding these participants showed no change in significance levels.

References

- American Psychological Association. (2009). *Publication manual of the American Psychological Association* (6th ed.). Washington, DC: Author.
- Bem, S. L., & Bem, D. J. (1973). Does sex-biased job advertising “aid and abet” sex discrimination? *Journal of Applied Social Psychology*, 3, 61-73.
- Braun, F., Oelkers, S., Rogalski, K., Bosak, J., & Sczesny, S. (2007). “Aus Gründen der Verständlichkeit . . .”: Der Einfluss generisch maskuliner und alternativer Personenbezeichnungen auf die kognitive Verarbeitung von Texten [“For reasons of intelligibility . . .” How masculine generics and alternative forms affect the cognitive processing of a text]. *Psychologische Rundschau*, 58, 183-189.
- Cralley, E. L., & Ruscher, J. B. (2005). Lady, girl, female, or woman: Sexism and cognitive busyness predict use of gender-biased nouns. *Journal of Language and Social Psychology*, 24, 300-314.
- Cronin, C., & Jreisat, S. (1995). Effects of modeling on the use of nonsexist language among high school freshpersons and seniors. *Sex Roles*, 33, 819-832.
- Demarmels, S., & Schaffner, D. (2011). Gendersensitive Sprache in Unternehmenstexten [Gender-sensitive language in corporate texts]. In S. Demarmels & W. Kesselheim (Eds.), *Textsorten in der Wirtschaft. Zwischen textlinguistischem Wissen und wirtschaftlichem*

- Handeln* [Gender-sensitive language in business texts] (pp. 89-120). Wiesbaden, Germany: VS Verlag.
- Gabriel, U., & Mellenberger, F. (2004). Exchanging the generic masculine for gender-balanced forms—The impact of context valence. *Swiss Journal of Psychology, 63*, 273-278.
- Gallois, C., Ogay, T., & Giles, H. (2005). Communication accommodation theory: A look back and a look ahead. In W. B. Gudykunst (Ed.), *Theorizing about intercultural communication* (pp. 121-148). Thousand Oaks, CA: Sage.
- Hamilton, M. C., Hunter, B., & Stuart-Smith, S. (1992). Jury instructions worded in the masculine generic: Can a woman claim self-defense when “he” is threatened? In J. C. Chrisler & D. Howard (Eds.), *New directions in feminist psychology. Practice, theory, and research* (pp. 169-178). New York, NY: Springer.
- Hellinger, M., & Bußmann, H. (2001). The linguistic representation of women and men. In M. Hellinger & H. Bußmann (Eds.), *Gender across languages: The linguistic representation of women and men—Volume I* (pp. 1-25). Amsterdam, Netherlands: John Benjamins.
- Koeser, S., & Sczesny, S. (2014). Promoting gender-fair language: The impact of arguments on language use, attitudes, and cognitions. *Journal of Language and Social Psychology, 33*, 548-560.
- Kuhn, E. A., & Gabriel, U. (2014). Actual and potential gender-fair language use: The role of language competence and the motivation to use accurate language. *Journal of Language and Social Psychology, 33*, 214-225.
- Maass, A., & Arcuri, L. (1996). Language and stereotyping. In C. N. Macrae, C. Stangor, & M. Hewstone (Eds.), *Stereotypes and stereotyping* (pp. 193-226). New York, NY: Guilford Press.
- McMinn, M. R., Lindsay, S. F., Hannum, L. E., & Troyer, P. K. (1990). Does sexist language reflect personal characteristics? *Sex Roles, 23*, 389-396.
- McMinn, M. R., Troyer, P. K., Hannum, L. E., & Foster, J. D. (1991). Teaching nonsexist language to college students. *Journal of Experimental Education, 59*, 153-161.
- Musch, J., Brockhaus, R., & Bröder, A. (2002). Ein Inventar zur Erfassung von zwei Faktoren sozialer Erwünschtheit [An inventory for the assessment of two factors of social desirability]. *Diagnostica, 48*, 121-129.
- Prentice, D. A. (1994). Do language reforms change our way of thinking? *Journal of Language and Social Psychology, 13*, 3-19.
- Pusch, L. F. (2014). *Gerecht und Geschlecht: Neue sprachkritische Glossen* [Fair and gender: New commentaries on language critique]. Göttingen, Germany: Wallstein.
- Quade, D. (1967). Rank analysis of covariance. *Journal of the American Statistical Association, 62*, 1187-1200.
- Schweizerische Bundeskanzlei. (2009). *Geschlechtergerechte Sprache: Leitfaden zum geschlechtergerechten Formulieren im Deutschen* [Gender-fair language: Guideline for gender-fair wording in German]. Retrieved from <http://www.bk.admin.ch/dokumentation/sprachen/04915/05313/>
- Sczesny, S., Moser, F., & Wood, W. (2014). *Beyond sexist beliefs: How do people decide to gender-inclusive language?* Manuscript submitted for publication.
- Stahlberg, D., Braun, F., Irmen, L., & Sczesny, S. (2007). Representations of the sexes in language. In K. Fiedler (Ed.), *Social communications* (pp. 163-187). New York, NY: Psychology Press.
- Stout, J. G., & Dasgupta, N. (2011). When *he* doesn't mean you: Gender-exclusive language as ostracism. *Personality and Social Psychology Bulletin, 37*, 757-769.

- Swim, J. K., Mallett, R., & Stangor, C. (2004). Understanding subtle sexism: Detection and use of sexist language. *Sex Roles, 51*, 117-128.
- Vervecken, D., Hannover, B., & Wolter, I. (2013). Changing (S)expectations: How gender fair job descriptions impact children's perceptions and interest regarding traditionally male occupations. *Journal of Vocational Behavior, 8*, 208-220.

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Paper IV

Kuhn, E. A., Koeser, S., & Gabriel, U. (2021). *Spreading the gender-neutral word: Recency and prevalence effects in Norwegian gender-marked and unmarked role nouns*. Manuscript in revision.

A previous version of this manuscript was submitted to a journal for consideration but was rejected. The manuscript was revised in part, based on the reviewers' comments. The reviewer's comments are available on request.

This paper is awaiting publication and is not included in NTNU Open

APPENDICES

Appendix A: Material and Measures

Texts Experiment 1

The following texts were presented in Experiment 2. The two forms of the role noun are underlined and in parenthesis it is indicated in which version each role noun was presented.

Når man skal velge en tillitsmann (V1) / tillitsvalgt (V2) i et borettslag bør man ikke velge hvem som helst. Ærlighet, stabilitet, organisatorisk og økonomisk erfaring og evne til å bruke tid og energi på et upartisk grunnlag er viktige egenskaper for en i denne rollen.

[When choosing a trustman (V1) / trusteelected (V2) in a housing association, you should not choose anyone. Honesty, stability, organizational and financial experience, and the ability to spend time and energy on an impartial basis are important qualities for one in this role.]

Ni ganger så mange politimenn (V1) / politibetjenter (V2) vokter Oslos gater i ukedagene sammenlignet med nattetid i helgen. Når kriminaliteten skjer, har store deler av politistyrken fri. Nå skal antall uniformerte politibetjenter som vokter gatene dobles i helgene.

[Nine times as many policemen (V1) / police officers (V2) guard the streets of Oslo on weekdays compared to nights on weekends. When a crime occurs, large parts of the police force have time off. Now the number of uniformed police officers guarding the streets should be doubled on the weekends.]

Nordmenn (V1) / Det norske folk (V2) har lite tro på klimameldingen. Skepsisen er omtrent likt fordelt over hele landet, men den er hakket større på landsbygda. Mange føler at klimameldingen har gode mål og ambisjoner, men for få konkrete tiltak.

[Northmenn (V1) / The Norwegian people (V2) have little faith in the climate report. The skepticism is about the same throughout the country, but it is greater in the countryside. Many feel that the climate report has good goals and ambitions but too few concrete measures.]

En kontormedarbeider (V1) / kontordame (V2) er en person som har en støtterolle i en administrasjon. Vanlige oppgaver er å svare på telefoner, skrive brev, andre dokumenter, samt utføre forefallende, administrative oppgaver. I noen organisasjoner har

kontormedarbeider (V1) / kontordamen (V2) ansvaret for koordineringen, og fungerer derfor som en daglig leder.

[An office worker (V1) / office lady (V2) is a person who has a supporting role in an administration. Common tasks are answering telephones, writing letters, other documents, as well as performing overdue administrative tasks. In some organizations, the office worker (V1) / the office lady (V2) is responsible for the coordination, and therefore acts as a general manager.]

To drap står uopplart: I drapssaker er det mange som velger tausheten når politiet ber om hjelp. Nesten alltid, i saker som starter med ukjent gjerningsperson (V1) / gjerningsmann (V2), er politiet avhengig av publikums hjelp for å komme på sporet av gjerningspersonen (V1) / gjerningsmannen (V2).

[Two murders are unsolved: In murder cases, many people choose silence when the police ask for help. Almost always in cases that start with an unknown offenderperson (V1) / offenderman (V2), the police are dependent on the public's help to get on the trail of the offenderperson (V1) / offenderman (V2).]

Det elektriske anlegget er boligens nervesystem. Strøm er farlig! Er du i ferd med å planlegge ombygging, eller et nybygg, så lytt til erfarne fagfolk (V1) / fagmenn (V2). De kan gi deg tips og råd om gode løsninger som kan gi deg bedre komfort, lavere strømrkning og høyere sikkerhet.

[The electrical system is the home's nervous system. Electricity is dangerous! If you are in the process of planning a renovation or a new building, then listen to experienced specialistmens (V1) / specialistpeople (V2). They can give you tips and advice on good solutions that can give you better comfort, lower electricity bills, and higher safety.]

Recall Experiment 1

The following are the asked target questions in the recall. In italics we marked the corresponding role noun or if it was a filler question, which was not displayed in the experiment.

- Hva skal nå fordobles i helgene? [What will now be doubled on the weekends?]
- Hvem har lite tro på klimameldingen? [Who has little faith in the climate message?]
- Hvem skal du lytte til når du planlegger ombygging? [Who should you listen to when planning to remodel?]

- For hvilken rolle er ærlighet og stabilitet viktige egenskaper? [For what role are honesty and stability important qualities?]
- Hvem har en støtterolle i en administrasjon? [Who has a supporting role in an administration?]
- Hvem er politiet avhengig av publikums hjelp for å finne? [Who do the police depend on the public's help to find?]

Texts Experiment 2

The following texts were presented in Experiment 2. The two forms of the role noun are underlined and in parenthesis it is indicated in which version each role noun was presented.

Når man skal velge en tillitsmann (V1) / tillitsvalgt (V2) i et borettslag burde man ikke velge hvem som helst. Ærlighet, stabilitet, organisatorisk og økonomisk erfaring og evne til å bruke tid og energi på et upartisk grunnlag er viktige egenskaper i rollen som tillitsmann (V1) / tillitsvalgt (V2).

[When choosing a trustman (V1) / trusteelected (V2) in a housing association, you should not choose anyone. Honesty, stability, organizational and financial experience, and the ability to spend time and energy on an impartial basis are important qualities for one in role of a a trustman (V1) / trusteelected (V2).]

Ni ganger så mange politimenn (V1) / politibetjenter (V2) vokter Oslos gater i ukedagene sammenlignet med nattetid i helgen. Når kriminaliteten skjer, har store deler av politistyrken fri. Nå skal antall uniformerte politimenn (V1) / politibetjenter (V2) som vokter gatene doubles i helgene.

[Nine times as many policemen (V1) / police officers (V2) guard the streets of Oslo on weekdays compared to nights on weekends. When s crime occurs, large parts of the police force have time off. Now the number of uniformed police policemen (V1) / police officers (V2) guarding the streets should be doubled on the weekends.

To drap står uoppløst: I drapssaker er det mange som velger tausheten når politiet ber om hjelp. I saker som starter med ukjent gjerningsperson (V1) / gjerningsmann (V2), er politiet nesten alltid avhengig av publikums hjelp for å komme på sporet av gjerningspersonen (V1) / gjerningsmannen (V2).

[Two murders are unsolved: In murder cases, many people choose silence when the police ask for help. Almost always, in cases that start with an unknown offenderperson (V1) /

offenderman (V2), the police are dependent on the public's help to get on the trail of the offenderperson (V1) / offenderman (V2).]

I Oslo lever mange med alvorlige psykiske lidelser et liv i kaos, utmattelse og isolasjon. Fordi dagens hjelpeapparat ikke alltid klarer å møte brukeren på brukerens egne premisser, burde bruken av personlig ombud (V1) / ombudsmannen (V2) prøves. Oppgaven til et ombud (V1) / ombudsmann (V2) er å bistå dem som faller utenfor det offentlige helsevesenet.

[In Oslo, many with severe mental illness live a life of chaos, exhaustion, and isolation. Because the current assistance apparatus is not always able to meet the user on the user's own terms, the use of a personal ombud (V1) / ombudsman (V2) should be tried. The task of an ombud (V1) / ombudsman (V2) is to assist those who fall outside the public health service.]

Recall Experiment 2

The following are the asked target questions in the recall.

- Hvem er politiet avhengig av publikums hjelp for å finne? [Whom do the police depend on the public's help to find?]
- For hvilken rolle er ærlighet og stabilitet viktige egenskaper? [For what role are honesty and stability important qualities?]
- Hva skal nå fordobles i helgene? [What will now be doubled on the weekends?]
- Hvem har som oppgave å bistå dem som faller utenfor det offentlige helsevesenet? [Who has the task of assisting those who fall outside the public health service?]

Appendix B: Abbreviations and Definitions

Table 3

Abbreviations and Definitions

Gender-fair language	Language use that aspires towards a fair representation of men and women. In order to ensure equal representation of men and women, the use of masculine forms to refer to groups or individuals of unknown gender must be avoided. Strategies to replace such masculine forms can be either a feminisation strategy, such as using feminine-masculine pair forms or a neutralisation strategy, such as using gender-natural terms
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Gender-neutral language	Language use that applies a neutralisation strategy by using a gender-neutral terminology without any lexical or grammatical linguistic gender cues
GM	Gender-marked
UM	Unmarked
Presented role noun form	The role noun form presented in the text that the participants were reading (GM or UM role noun forms)
Prevalent role noun form	The role noun form that was – based on a corpus analysis – the more frequently used form (GM or UM role noun form)
POLI _{GM}	Police officer in gender-marked form
TILL _{GM}	Trustee in gender-marked form
NOR _{GM}	Norwegians in gender-marked form
KONT _{GM}	Office worker in gender-marked form
GJER _{GM}	Offender in gender-marked form
FAG _{GM}	Specialist in gender-marked form
OMBU _{GM}	Ombud in gender-marked form
POLI _{UM}	Police officer in unmarked form
TILL _{UM}	Trustee in unmarked form
NOR _{UM}	Norwegians in unmarked form
KONT _{UM}	Office worker in unmarked form
GJER _{UM}	Offender in unmarked form
FAG _{UM}	Specialist in unmarked form
OMBU _{UM}	Ombud in unmarked form

Appendix C: Answers in Recall

Table 4
Frequency and Answers in Recall Experiment 1 by Role Noun Form of Experiment 1

Role noun forms	Version	Number of entries in the NoWaC corpus	N	Answers	Correct answers	Correct answers in %	GM answers	UM answers	GM in %
Politimenn	V2	1069	19	19	19	100,0	9	8	47,4
Politibejenter	V1	199	21	20	19	90,5	3	13	14,3
Tillitsmann	V2	173	19	14	9	47,4	1	8	5,3
Tillitsvalgt	V1	1648	21	18	11	52,4	1	10	4,8
Nordmenn	V2	> 7500	19	18	17	89,5	2	15	10,5
Det norske folk	V1	3203	21	20	19	90,5	0	18	0,0
Kontordame	V1	55	21	19	19	90,5	14	5	66,7
Kontormedarbeider	V2	86	19	19	18	94,7	1	17	5,3
Gjerningsmann	V1	365	21	19	17	81,0	14	3	66,7
Gjerningsperson	V2	66	19	17	15	78,9	7	8	36,8
Fagmenn	V1	22	21	21	19	90,5	2	17	9,5
Fagfolk	V2	92	19	18	18	94,7	0	18	0,0

Note: Prevalent role noun forms are marked bold.
Abbreviations: GM, gender-marked; UM, unmarked.

Table 5
Frequency and Answers in Recall Experiment 1 by Role Noun Form of Experiment 2

Role noun forms	Also in Exp. 1	Version	Number of entries in the NoWaC corpus	n	Answers	Correct answers	Correct answers in % of n	GM answers	UM answers	GM answers in %
Politimenn	yes	V2	1069	43	43	100,0	11	23	25,6	
Politibetjenter	yes	V1	199	34	34	100,0	6	26	17,6	
Ombudsmann	no	V1	531	34	33	97,1	30	3	88,2	
Ombud	no	V2	1229	43	30	69,8	3	27	7,0	
Gjærningsmann	yes	V1	365	34	27	79,4	22	4	64,7	
Gjærningsperson	yes	V2	66	43	41	74,4	19	10	44,2	
Tillitsmann	yes	V2	173	43	41	86,0	8	27	18,6	
Tillitsvalgt	yes	V1	1648	34	33	97,1	2	31	5,9	

Note: Prevalent role noun forms are marked bold.

Abbreviations: GM, gender-marked; UM, unmarked.

Appendix

The appendix contains all material used. The material was originally in either German or Norwegian; an English translation is provided in squared brackets. In the translation of the German language test, it was not always possible to translate in such a way that the difficulty of the task was represented. In the Norwegian translations, the literal translation was used to make the gender marks visible. Moreover, the layout in the used material can deviate: for example, more space was provided for the gaps in the applied material.

A. Material Paper II

A.1. Tasks to Assess General Language Competence

A Ergänzen Sie bitte die Lücken. Das x kann für ein oder mehrere Wörter stehen.

[Please fill in the gaps. The x can stand for one or more words.]

1. Du, dort geht die Schülerin, x ich gestern in der Cafeteria über die Vorlesung gesprochen habe.

[You, there goes the student, x I talked yesterday in the cafeteria about the lecture.]

2. Inge fährt nicht nur heute mit dem Fahrrad zur Schule, x jeden Tag.

[Inge not only rides her bike to school today, x every day.]

3. Wir gehen heute zu Herrn Kunz, x er hat uns zum Essen eingeladen.

[Today we go to Mr. Kunz's house, x he invited us to dinner.]

4. Wann fliegt Herr Bergson nach Helsinki? – Er x schon heute mit der ersten Maschine x .

[When does Mr. Bergson fly to Helsinki? - He x already today, with the first machine.]

5. Denken Sie bitte daran: x morgen nach Aachen mitfahren will, muss schon um 7.30 Uhr bei der Schule sein.

[Please remember: X wants to go to Aachen tomorrow, you have to be at the school by 7.30 am.]

6. Gehst du mit uns ins Kino? – Nein, denn ich x gestern schon einen Film x .

[Are you going to the cinema with us? - No, because I already x the film yesterday.]

B Verwenden Sie anstelle der kursiv gedruckten Wörter Modalverben (wollen, sollen, dürfen, können, mögen und müssen).

[Use modal verbs (want, should, may, can, like, and must) instead of the words in italics.]

1. *Es ist notwendig*, dass der Nahverkehr gefördert wird, um einen Verkehrsfarkt der Städte zu verhindern.

Um einen Verkehrsfarkt der Städte zu verhindern, _____ der Nahverkehr gefördert werden.

[*It is necessary* that local transport is promoted in order to prevent traffic congestion in the cities.]

In order to prevent traffic congestion in the cities, the local traffic _____ be promoted.]

2. *Man liest*, dass die Bevölkerung in den Städten in den nächsten hundert Jahren gigantisch anwachsen wird.

Die Bevölkerung in den Städten _____ in den nächsten hundert Jahren gigantisch anwachsen.

[*One reads* that the population in the cities will grow gigantically in the next hundred years.]

The population in the cities _____ grow gigantically in the next hundred years.]

3. *Möglicherweise* dauert die Akklimatisierung bis zu zwei Wochen.

Die Akklimatisierung _____ bis zu zwei Wochen dauern.

[*Acclimatization probably* takes up to two weeks.]

Acclimatization _____ takes up to two weeks.]

4. *Es ist zu vermuten*, dass diese Probleme nicht mit herkömmlichen Mitteln zu lösen sind.

Diese Probleme _____ mit herkömmlichen Mitteln nicht zu lösen sein.

[*It can be assumed* that these problems cannot be solved by conventional means.]

These problems _____ solved by conventional means.]

C Setzen Sie bitte die richtigen Passivformen ein.

[Please use the correct passive forms.]

1. Ich hatte gedacht, dass man mich am Flughafen abholt, doch leider x ich nicht x.

[I had thought that I would be picked up at the airport, but, unfortunately, I x not x up.]

2. Herr Meier wollte erst das Auto nicht verkaufen, aber dann musste es doch x .

[At first, Mr. Meier didn't want to sell the car, but then it had to x.]

3. Ich kann diesen Laut nicht aussprechen. Ich weiß nicht, wie er x .

[I cannot pronounce this sound. I don't know how he x.]

D Verwandeln Sie bitte die Relativsätze in Attribute, die vor den Nomen stehen.

[Please convert the relative clauses into attributes that come before the nouns.]

Beispiel: In Gebieten, die von Industrieabgasen bedroht sind, steigen die Erkrankungen der Atemwege rapide an.

[Example: In areas threatened by industrial emissions, respiratory diseases are increasing rapidly.]

In von Industrieabgasen bedrohten Gebieten steigen die Erkrankungen der Atemwege rapide an.

[In industrial-emissions threatened areas, respiratory diseases are increasing rapidly.]

1. Sie produzieren Probleme, die kaum zu lösen sind.

Sie produzieren _____ Probleme.

[They produce problems that can hardly be solved.]

They produce _____ problems.]

2. Man sucht nach Maßnahmen, die geeignet sind, die Städte menschenfreundlicher zu machen.

Man sucht nach _____ Maßnahmen, die die Städte menschenfreundlicher machen.

[One looks for measures that are suitable to make cities more humane.]

One looks for _____ measures that make cities more humane.]

3. Die Ausgaben, die für die Verbesserung der Infrastruktur aufgebracht werden müssen, steigen ins Unermessliche.

Die _____ Ausgaben steigen ins Unermessliche.

[The expenditures that have to be raised for the improvement of the infrastructure increase immeasurably.]

The _____ expenditures increase immeasurably.]

E Ergänzen Sie bitte die Adjektivendungen in dieser Zeitungsanzeige

[Please complete the adjective endings in this newspaper advertisement]

Möbliert _____ Wohnung mit sonnig _____ Wohn- und Schlafzimmer, moder _____

Küche, Bad, Balkon, günstig an jung _____ Ehepaar ab sofort zu vermieten.

[Furnish _____ apartment with sunn _____ living room and bedroom, mode _____

kitchen, bathroom, balcony, cheap to you _____ couple for rent immediately.]

F Ersetzen Sie die kursiv gedruckten Satzglieder (Präpositionen + Nomen) durch einen Gliedsatz (Konjunktion + Satz)

[Replace the clauses in italics (prepositions + nouns) with a clause (conjunction + sentence)]

Beispiel: *Nach Einführung* vieler technischer Neuerungen waren die Städte noch attraktiver geworden.

Die Städte waren noch attraktiver geworden, _____ *weil* _____ viele technische Neuerungen _____ *eingeführt wurden* _____.

[Example: *After the introduction* of many technical innovations, the cities had become even more attractive.

The cities had become even more attractive _____ *because* _____ many technical innovations _____ *were introduced* _____.]

1. *Durch Aussiedlungen* der Fabriken erreichte man eine Reinhaltung der Luft.

Eine Reinhaltung der Luft erreichte man, _____ man die Fabriken _____.

[*By relocation* of the factories, the air was cleaned.

The air was cleaned, _____ the factories.]

2. *Wegen der Zunahme* der Zahl der Autos in den Städten bricht der Verkehr jetzt immer öfter zusammen.

Der Verkehr bricht jetzt immer öfter zusammen, _____ die Zahl der Autos in den Städten _____.

[*Because of the increase* in the number of cars in cities, traffic is now collapsing more and more often.

The traffic is now collapsing more and more often _____ the number of cars in the cities _____.]

3. *Zur Lösung* der Probleme muss man auch zu unpopulären Maßnahmen greifen.

Man muss auch zu unpopulären Maßnahmen greifen, _____ man die Probleme _____ will.

[*As a solution* to the problems, one also has to resort to unpopular measures.

You also have to resort to unpopular measures _____ you want to _____ the problems.]

4. *Trotz der Zunahme* des Verkehrs verzichten nur wenige Menschen auf ihr Auto.

_____ der Verkehr _____, verzichten nur wenige Menschen auf ihr Auto.

[*Despite the increase* in traffic, few people give up their cars.

_____ the traffic _____, only a few people give up their car.]

A.2. Fill-in-the-Gaps Task to Assess Gender-Fair Language Use

For spontaneous gender-fair language use, the tasks were presented as below. For instructed gender-fair language use, the nonessential gaps were already answered.

Lückentexte

[Fill-in-the-gaps task]

Ihre Aufgabe besteht darin, Lückentexte zu ergänzen. Bitte füllen Sie in die Lücken das nach Ihrem Verständnis **passende Wort oder die passenden Wörter** ein. Dabei gibt es manchmal nicht nur eine richtige Lösung. Wichtig ist, dass der Satz vollständig und sinnvoll ist.

Falls Ihnen bei einer Lücke keine Lösung einfällt, lesen Sie weiter und versuchen Sie später die Lücke auszufüllen.

Vergessen Sie nicht, dass Sie auch mehrere Wörter in eine Lücke einfüllen können!

[Your task is to fill in the gaps. Please fill in the gaps with the **appropriate word or words** according to your understanding. Sometimes there is more than one correct solution. It is important that the sentence is complete and meaningful.

If you can't come up with a solution to a gap, keep reading and try to fill in the gap later. Don't forget that you can also fill in several words in one space!]

Beispiel:

Tom und Jerry ist e ine _____ Serie von 161 kurzen Zeichentrickfilmen, die von 1940 bis 1967 fürs Kino produziert wurden. Die meisten Folgen handeln von Streit zwischen Tom und Jerry, wobei sich skurrile Verfolgungsjagden und Zweikämpfe ergeben, i n denen meistens die Maus die Oberhand behält.

[Example:

Tom and Jerry is a series of 161 short cartoons produced for the cinema between 1940 and 1967. Most of the episodes deal with a quarrel between Tom and Jerry, resulting in bizarre chases and duels, in which the mouse usually has the upper hand.]

Geburtstagsparty

Am Samstag Abend sind alle F _____, Verwandte und Bekannte herzlich eingeladen mit mir zusammen meinen 30. Geburtstag zu feiern! Die _____ beginnt um 19 Uhr bei mir zu Hause. Ich freue mich auf euer _____!

[Birthday party

On Saturday evening, all f _____, relatives and acquaintances are cordially invited to celebrate my 30th birthday with me! The _____ starts at 7 p.m. at my home. I am looking forward to your _____!]

Weiterbildung

Die meisten Spitäler bieten verschiedene Weiterbildungen für _____ an. Beispiele für den Akutpflegebereich sind Anästhesiepflege, Intensivpflege oder Notfallpflege. Zusätzlich werden _____ zur Sicherheit und Gesundheit, Leistungserfassung in der Pflege oder Qualitätssicherung angeboten, um eine möglichst optimale A _____ zu garantieren.

[Further education

Most hospitals offer various training courses for _____. Examples of the acute care area are anesthetic care, intensive care or emergency care. In addition, _____ for safety and health, performance recording in nursing or quality assurance are offered to guarantee the best possible e _____.]

Kasse

Stell dir vor: Du gehst in einen Supermarkt und _____ an der Kasse gibt dir einen falschen Betrag zurück. Kaum aus dem _____, bemerkst du es. Gehst du zurück, um es _____?

[Cash register

Imagine: You go to a supermarket and _____ at the cash register gives you the wrong amount. As soon as you left the _____, you notice it. Are you going back to _____ it?]

Spionage

Während des Kalten Krieges wurden von beiden Seiten viele zivile _____ eingesetzt, um

an geheime _____ zu gelangen. Insbesondere die Geheimnisse um den Bau von Nuklearwaffen und die militärische Aufklärung waren dabei Gegenstand des gegenseitigen _____.

[Espionage

During the Cold War, both sides used many civilian _____ to get secret _____. In particular, the secrets of the construction of nuclear weapons and military reconnaissance were the subject of mutual _____.]

Brand

Liebes Tagebuch!

Gestern hat das Nachbarhaus gebrannt. Es kamen mindestens dreissig _____ und die brauchten beinahe eine Stunde, um das _____ zu löschen. Die Nachbarsfamilie wohnt jetzt vorübergehend _____, da ihr Haus bis auf den Grund niedergebrannt ist.

[Fire

Dear Diary,

Yesterday, the neighboring house burned. At least thirty _____ came, and it took them almost an hour to extinguish the _____. The neighboring family is now living temporarily _____ because their house has burned to the ground.]

Packungsbeilage

Lesen Sie diese Packungsbeilage sorgfältig, denn sie enthält wichtige I _____. Dieses Arzneimittel haben Sie entweder persönlich verschrieben bekommen, oder Sie haben es ohne ärztliche Verschreibung in der A _____ oder Drogerie bezogen. Wenden Sie das Arzneimittel gemäss Packungsbeilage, beziehungsweise nach Anweisung des Arztes bzw. d _____ an, um den grössten Nutzen zu haben.

[Package insert

Read this package insert carefully because it contains important i _____. You have either been prescribed this medicine personally, or you have obtained it from a p _____ or drugstore without a medical prescription. Use the drug according to the package insert or as directed by your d _____ to get the greatest benefit.]

Stimmberechtigt

Als Stimmberechtigte werden in der Schweiz jene B _____ bezeichnet, die bestimmte politische Rechte wahrnehmen können. Das Stimmrecht fällt in den meisten Fällen mit

dem Wahlrecht zusammen. Stimmberechtigt sind _____ mündige Personen ab 18 Jahren mit schweizerischer Nationalität. Die Abstimmungsunterlagen werden jeweils per Post _____ die Haushalte verschickt.

[Eligible to vote

In Switzerland, voters are those citizens _____ who can exercise certain political rights. In most cases, the right to vote coincides with the right to participate in elections. Eligible to vote are _____ adults aged 18 and over with Swiss nationality. The voting documents are sent to the households by the post _____.]

Spaziergang

Bevor ich morgens zur _____ fahre, drehe ich mit meinem Hund eine Runde im Wald. Dabei treffe ich an der immer gleichen Stelle eine Gruppe _____, die mir im Chor „Guten Morgen“ entgegen rufen. Das _____ mir jedes Mal den Tag.

[Walk

Before I go to _____ in the morning, I take my dog for a walk in the forest. I always meet a group of _____ in the same place, who call out to me in chorus, “Good morning!” That _____ me every day.]

Klassisches Konzert

Liebe Frau _____ der klassischen Musik,
sehr geehrte _____

Mit Freuden begrüße ich Sie zum heutigen Konzertabend. Wir hören einige _____ aus Mozarts Zauberflöte. Ich wünsche Ihnen viel Vergnügen und einen _____ Abend.

[Classical concert

Dear friend _____ of classical music,

L _____

I look forward to welcoming you to today's concert evening. We will hear some _____ from Mozart's Magic Flute. I wish you a lot of fun and an _____ evening.]

A.3. Instruction at the Beginning to Measure Instructed Gender-Fair Language Use

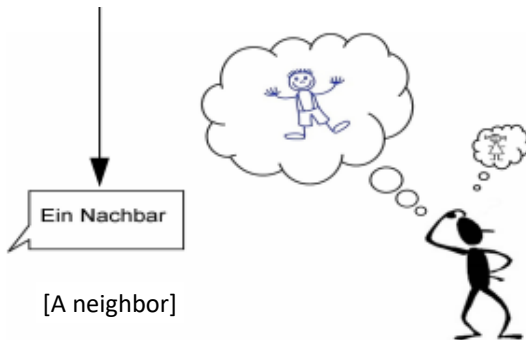
Wichtig! Vermeiden Sie die Verwendung von Wörtern, die Männer (z.B. Studenten) bzw. Frauen (z.B. Hebammen) in den Vordergrund stellen. Entweder können Sie beide - also Frauen und Männer - nennen. Oder Sie können Begriffe verwenden, die keine Hinweise auf das Geschlecht liefern.

[**Important!** Avoid using words that put men (e.g. students_{masc}) or women (e.g. midwives_{fem}) in the foreground. You can name both women and men, or you can use terms that don't provide any indication of gender.]

Beachten Sie bitte, dass Sie auch mehrere Wörter in eine Lücke einfüllen können!

[Please note that you can also fill in several words in one gap!]

Vermeiden [avoid]



A.4. Items to Assess Motivation to use Accurate Language

- Ich versuche, mich immer so genau wie möglich auszudrücken.
- Ich spiele sehr gerne mit Sprache.
- Ich achte auf meinen sprachlichen Ausdruck.
- Ich lege viel Wert auf einen schönen Schreibstil.
- Es bereitet mir Vergnügen, möglichst passende Formulierungen zu finden.

[I always try to express myself as specifically as possible.

I really enjoy playing with language.

I pay attention to my linguistic expression.

I value a beautiful writing style.

I take pleasure in finding appropriate formulations.]

B. Material Paper III

B.1. Experimental Texts: Gender-Fair, Masculine Generics, Without Personal Nouns

Text containing gender-fair forms

Mit SANOXOL® wurde Ihnen ein hochwirksames Medikament zur Behandlung von entzündlichen Atemwegserkrankungen verschrieben. Bitte lesen Sie diese

Gebrauchsinformation aufmerksam. Sie enthält wichtige Hinweise zur Anwendung von SANOXOL®. Bei Fragen holen Sie bitte ärztlichen Rat ein oder erkundigen Sie sich bei Ihrer Apothekerin oder Ihrem Apotheker.

Dosierungsanleitung

Wenn nicht anders verordnet, nehmen Erwachsene dreimal täglich eine Tablette SANOXOL® unzerkaut mit etwas Flüssigkeit. Insbesondere Patientinnen und Patienten mit empfindlichem Magen wird empfohlen, SANOXOL® direkt nach den Mahlzeiten einzunehmen.

Warnhinweise

Diabetikerinnen, Diabetiker und Personen mit Bluthochdruck sollten vor der Behandlung mit SANOXOL® ärztlichen Rat einholen.

Nebenwirkungen

Bei den folgenden Nebenwirkungen ist zu berücksichtigen, dass sie abhängig von der Dosierung und dem allgemeinen Gesundheitszustand der Patientin oder des Patienten sind:

- Schleimhautreizungen
- Bauchkrämpfe
- Übelkeit
- Erbrechen
- Herzrasen

Personen, bei denen die genannten Symptome auftreten, sollten sich an ihre Ärztin oder ihren Arzt wenden, damit diese über die weitere Anwendung und Dosierung von SANOXOL® entscheiden. Bei akuter oder sich rasch verschlimmernder Atemnot muss unverzüglich ärztliche Hilfe in Anspruch genommen werden.

[With SANOXOL® you have been prescribed a highly effective medication for the treatment of inflammatory respiratory diseases. Please read this package insert carefully. It contains important information on the use of SANOXOL®. If you have any questions, please seek medical advice or ask your pharmacist_{fem} or pharmacist_{masc}.

Dosage instructions

Unless otherwise prescribed, adults take one tablet of SANOXOL® three times daily, unchewed, with some liquid. Patients_{fem} or patients_{masc} with sensitive stomachs are

particularly recommended to take SANOXOL® directly after meals.

Warnings

Diabetics_{fem}, diabetics_{masc}, and persons with high blood pressure should seek medical advice before taking SANOXOL®.

Side effects

It should be noted that the following side effects depend on the dosage and the general state of health of the patient_{fem} and patient_{masc}:

- irritation of the mucous membranes
- abdominal cramps
- nausea
- vomiting
- tachycardia

Persons experiencing the above symptoms should contact their doctor_{fem} or doctor_{masc} to decide on the further use and dosage of SANOXOL®. In case of acute or rapidly worsening shortness of breath, medical attention must be sought immediately.]

Text containing masculine generics

Mit SANOXOL® wurde Ihnen ein hochwirksames Medikament zur Behandlung von entzündlichen Atemwegserkrankungen verschrieben. Bitte lesen Sie diese Gebrauchsinformation aufmerksam. Sie enthält wichtige Hinweise zur Anwendung von SANOXOL®. Bei Fragen wenden Sie sich bitte an Ihren Arzt oder Apotheker.

Dosierungsanleitung

Wenn nicht anders verordnet, nehmen Erwachsene dreimal täglich eine Tablette SANOXOL® unzerkaut mit etwas Flüssigkeit. Insbesondere Patienten mit empfindlichem Magen wird empfohlen, SANOXOL® direkt nach den Mahlzeiten einzunehmen.

Warnhinweise

Diabetiker und Patienten mit Bluthochdruck sollten vor der Behandlung mit SANOXOL® ärztlichen Rat einholen.

Nebenwirkungen

Bei den folgenden Nebenwirkungen ist zu berücksichtigen, dass sie abhängig von der Dosierung und dem allgemeinen Gesundheitszustand des Patienten sind:

- Schleimhautreizungen
- Bauchkrämpfe
- Übelkeit
- Erbrechen
- Herzrasen

Patienten, bei denen die genannten Symptome auftreten, sollten sich an ihren Arzt wenden, damit dieser über die weitere Anwendung und Dosierung von SANOXOL® entscheidet. Bei akuter oder sich rasch verschlimmernder Atemnot muss unverzüglich ein Arzt oder Krankenhaus aufgesucht werden.

[With SANOXOL®, you have been prescribed a highly effective medication for the treatment of inflammatory respiratory diseases. Please read this package insert carefully. It contains important information on the use of SANOXOL®. If you have any questions, please ask your doctor_{masc} or pharmacist_{masc}.

Dosage instructions

Unless otherwise prescribed, adults take one tablet of SANOXOL® three times daily, unchewed, with some liquid. Patients_{masc} with sensitive stomachs are particularly recommended to take SANOXOL® directly after meals.

Warnings

Diabetics_{masc} and patients_{masc} with high blood pressure should seek medical advice before taking SANOXOL®.

Side effects

It should be noted that the following side effects depend on the dosage and the general state of health of the patient_{masc}:

- irritation of the mucous membranes
- abdominal cramps
- nausea
- vomiting
- tachycardia

Patients_{masc} experiencing the above symptoms should contact their doctor_{masc} to decide on the further use and dosage of SANOXOL®. In case of acute or rapidly worsening shortness of breath, you should immediately see a doctor_{masc} or visit a hospital.]

Text without personal nouns

SANOXOL® ist ein hochwirksames Medikament zur Behandlung von entzündlichen Atemwegserkrankungen. Diese Gebrauchsinformation enthält wichtige Hinweise zur Anwendung von SANOXOL®. Neben einer Dosierungsanleitung beinhaltet sie Gebrauchsinformationen, Warnhinweise und eine Auflistung der Nebenwirkungen.

Dosierungsanleitung

SANOXOL® wird in Tablettenform hergestellt und soll dreimal täglich unzerkaut mit viel Flüssigkeit eingenommen werden. Es wird empfohlen, SANOXOL® direkt nach den Mahlzeiten und nicht auf nüchternen Magen einzunehmen.

Warnhinweise

Bei Diabetes und Bluthochdruck sollte SANOXOL® nur mit begleitenden Massnahmen verabreicht und die Dosierung angepasst werden.

Nebenwirkungen

Bei den folgenden Nebenwirkungen ist zu berücksichtigen, dass sie abhängig von Dosierung und Gesundheitszustand sind:

- Schleimhautreizungen
- Bauchkrämpfe
- Übelkeit
- Erbrechen
- Herzrasen

Bei Auftreten eines oder mehreren genannten Symptomen sollte sofort reagiert werden. Bei leichten Nebenwirkungen kann die Dosierung angepasst werden, bei schweren Komplikationen sollte eine andere Behandlungsform in Erwägung gezogen werden. Bei akuter oder sich rasch verschlimmernder Atemnot muss SANOXOL® unverzüglich abgesetzt werden.

[SANOXOL® is a highly effective drug for the treatment of inflammatory respiratory diseases. This package insert contains important information on the use of SANOXOL®. In addition to dosing instructions, it includes directions for use, warnings, and a list of side effects.

Dosage instructions

SANOXOL® is manufactured in tablet form and should be taken three times daily,

unchewed, with plenty of liquid. It is recommended to take SANOXOL® immediately after meals and not on an empty stomach.

Warnings

In case of diabetes and hypertension, SANOXOL® should be administered only with accompanying measures, and the dosage should be adjusted.

Side effects

It should be noted that the following side effects are dependent on dosage and health status:

- mucosal irritation
- abdominal cramps
- nausea
- vomiting
- tachycardia

If one or more of the above symptoms occur, immediate action should be taken. In the case of mild side effects, the dosage can be adjusted; in the case of severe complications, another form of treatment should be considered. In case of acute or rapidly worsening respiratory distress, SANOXOL® must be discontinued immediately.]

Text about inflammation

SANOXOL® ist ein hochwirksames Medikament zur Behandlung von entzündlichen Atemwegserkrankungen. Zahlreiche wissenschaftliche Untersuchungen zur Wirksamkeit von SANOXOL® belegen, dass die enthaltenen Substanzen entzündungshemmend wirken. Dieses zeigt sich besonders bei chronischen Atemwegserkrankungen wie Bronchitis oder Asthma.

Entzündung

Unter einer Entzündung versteht man eine vitale Reaktion auf einen Strukturschaden im Körper. Die Entzündung dient dazu, den potenziell schädigenden Reiz zu beseitigen und seine Ausbreitung zu verhindern. Auch unterstützt die Entzündung das Reparieren von entstandenen Schäden. Um diese körpereigene Abwehrreaktion besser zu kontrollieren, werden Medikamente wie SANOXOL® verabreicht.

Folgen

Üblicherweise heilen Entzündungen schnell wieder ab. Im schlimmsten Fall kann Gewebe örtlich begrenzt absterben.

Symptome einer Entzündung

Folgende Merkmale sind charakteristisch für einen Entzündungsprozess:

- Rötung
- Schwellung
- erhöhte Temperatur im Entzündungsgebiet
- Schmerz
- eingeschränkte Funktion

Durch SANOXOL® werden die Substanzen reduziert, die im Körper bei Entzündungen vermehrt gebildet werden. Auch wenn die Wirksamkeit von SANOXOL® nicht akut eintritt, so stellt sich doch allmählich eine Verringerung der entzündlichen Prozesse ein. Die Heilung wird somit wirksam unterstützt.

[SANOXOL® is a highly effective drug for the treatment of inflammatory respiratory diseases. Numerous scientific studies on the efficacy of SANOXOL® prove that the substances it contains have an anti-inflammatory effect. This is particularly evident in chronic respiratory diseases such as bronchitis or asthma.

Inflammation

Inflammation is a vital reaction to structural damage in the body. Inflammation serves to eliminate the potentially damaging stimulus and prevent its spread. Inflammation also assists in repairing the damage that has occurred. Medications such as SANOXOL® are administered to better control this endogenous defense response.

Consequences

Usually, inflammation heals quickly. In the worst-case scenario, localized tissue death can occur.

Symptoms of inflammation

The following features are characteristic of an inflammatory process:

- redness
- swelling
- increased temperature in the inflamed area
- pain
- restricted function

SANOXOL® reduces the substances that are increasingly produced in the body during inflammation. Even if the effectiveness of SANOXOL® is not acute, a gradual reduction of the inflammatory processes is achieved. Healing is thus effectively supported.

B.2. Text Making Participants Aware of Gender-Fair Language Use

Im Text auf der folgenden Seite werden Personen mit feminin-maskulinen Paarformen wie *Diabetikerinnen und Diabetiker* bezeichnet oder mit Begriffen, die nicht nach Geschlecht differenzieren, wie etwa *Erwachsene*.

[In the text on the following page, persons will be referred to with feminine–masculine pair forms such as *Diabetikerinnen_{fem} und Diabetiker_{masc}* (“female and male diabetics”) or with nouns that do not differentiate for gender, such as *Erwachsene_{plural}* (“adults”).]

B.3. Fill-in-the-Gaps Task to Assess Gender-Fair Language Use

Ihre nächste Aufgabe besteht darin, Lückentext zu ergänzen.

Bitte tragen Sie in jede Lücke das nach Ihrem Verständnis passende Wort oder die passenden Wörter ein.

- Tragen Sie bitte jeweils eine Lösung in jede Lücke ein, sodass der Satz vollständig und sinnvoll ist. Es sind auch mehrere Wörter pro Lücke möglich.
- Falls ein Anfangsbuchstabe vorgegeben ist, ergänzen Sie bitte die restlichen Buchstaben.
- Falls Ihnen mehrere Lösungen einfallen, entscheiden Sie sich bitte für eine. Falls Ihnen bei einer Lücke keine Lösung einfällt, lesen Sie weiter und versuchen Sie später, die Lücke auszufüllen.

Die Größe der Felder sagt nichts über die Länge der Lösung aus.

[Your next task is to fill in the gaps in the text.

Please fill in each gap the appropriate word or words according to your understanding.

- Please enter a solution in each gap so that the sentence is complete and makes sense. It is also possible to fill in more than one word per gap.
- If an initial letter is given, please fill in the remaining letters.
- If you can think of several solutions, please choose one. If you can't think of a solution for a gap, keep reading and try to fill in the gap later.

The size of the boxes does not indicate the length of the solution.

Beispiel: Tom und Jerry ist eine Serie von 161 kurzen Zeichentrickfilmen, die von 1940 bis 1967 fürs Kino produziert wurden. Die meisten Folgen handeln von Streit zwischen Tom und Jerry, wobei sich skurille Verfolgungsjagden und Zweikämpfe ergeben, in denen meistens die Maus die Oberhand behält. Die Produktion war weltweit außerordentlich erfolgreich und hat zahlreiche Preise erhalten.

[**Example:** Tom and Jerry is a series of 161 short cartoons produced for the cinema between 1940 and 1967. Most of the episodes deal with a quarrel between Tom and Jerry, resulting in bizarre chases and duels, in which the mouse usually has the upper hand. The production was extremely successful worldwide and has received numerous awards.]

Bahnhofplatz Bern

Das Wahlvolk h_____ im Juni 2005 über die Annahme oder Verwerfung zum Umbau des Bahnhofplatzes Bern abgestimmt. Die W_____ haben das Projekt mit 58 Prozent angenommen, somit steht dem U_____ des neuen Bahnhofplatzes nichts mehr im Wege.

[Station square Bern

In June 2005, the electorate h_____ voted on the acceptance or rejection of the renovation of the station square in Bern. The v_____ accepted the project with 58 percent, so nothing stands in the way of the r_____ of the new station square.

Schule

Der gesellschaftliche Auftrag der Schule ist die Entwicklung von S_____ zu mündigen und verantwortungsvollen Persönlichkeiten. Die Schule soll Bildung (Wissen, Fähigkeiten und Werte) im U_____ gezielt vermitteln. D_____ schulische Persönlichkeitsbildung entbindet die Eltern nicht von ihrem Erziehungsauftrag, sondern ergänzt diesen. In der Schweiz beginnen die meisten Kinder im A_____ sechs oder sieben Jahren die Schule.

[School

The social mission of the school is the development of s_____ to mature and responsible personalities. The school should specifically convey education (knowledge, skills and values) in the c_____. T_____ development of personality in the school does not release the parents from their educational mandate but complements it. In Switzerland, most children start school at the a_____ six or seven years.]

Zeitungen

Zeitungen bestehen inhaltlich aus dem so genannten redaktionellen Teil, der durch R_____ verantwortet wird, und dem Anzeigenteil. A_____ werden in ihrem Inhalt von den Personen verantwortet, welche die Anzeigen „schalten“, d.h. bei der Anzeigenredaktion abliefern und für ihr Erscheinen bezahlen. Der Verlag k_____ bestimmte Anzeigen auch ablehnen. Ist die Anzeige gedruckt, i_____ Verlag für den Inhalt der Anzeige verantwortlich.

[Newspapers

In terms of content, newspapers consist of the so-called editorial part, for which the e_____ is responsible, and the advertising part. The contents of a_____ is the responsibility of the people who “place” the ads, i.e., deliver them to the advertising department and pay for their appearance. The publisher can also refuse certain advertisements. Once the advertisement is printed, the publisher i_____ responsible for the content of the advertisement.]

Sport

Am 15. Dezember 2007 war es wieder soweit: Sportfans, Sportredaktionen und Sektionen des Verbandes sportpress.ch wählten die S_____ des Jahres. Die Credit Suisse Sports Awards f_____ den BEA-Hallen in B_____ statt. Die Sportfans wählen per TED i_____ Livesendung. Die Publikumsstimmen machen ein Drittel aus, den Rest des Stimmengewichts haben Redaktionen der Schweizer Medien.

[Sports

On December 15, 2007 it was that time again: sports fans, sports editors, and sections of the sportpress.ch association voted for the a_____ of the year. The Credit Suisse Sports Awards t_____ the BEA halls in B_____. The sports fans vote via TED i_____ live broadcast. The audience votes make up a third; the rest of the weight of the votes go to the editorial offices of the Swiss media.]

Stimmberechtigte

Als Stimmberechtigte werden in der Schweiz jene B_____ bezeichnet, die bestimmte politische Rechte wahrnehmen können. Das Stimmrecht fällt in den meisten Fällen mit dem Wahlrecht zusammen. Stimmberechtigte s_____ mündige Personen ab 18 Jahren mit schweizerischer Nationalität. Die Abstimmungsunterlagen werden jeweils per P_____ die Haushalte verschickt.

[Eligible to vote

In Switzerland, voters are those c_____ who can exercise certain political rights. In most cases, the right to vote coincides with the right to participate in elections. Eligible to vote a_____ adults aged 18 and over with Swiss nationality. The voting documents are sent to the households by the p_____.]

Packungsbeilage

Lesen Sie diese Packungsbeilage sorgfältig, denn sie enthält wichtige I_____. Dieses Arzneimittel haben Sie entweder persönlich verschrieben bekommen, oder Sie haben es ohne ärztliche Verschreibung in _____ bezogen. Wenden Sie das Arzneimittel gemäß Packungsbeilage beziehungsweise nach Anweisung Ihr_____ an, um den größten Nutzen zu haben. Bewahren Sie die _____ auf; vielleicht wollen Sie sie später noch einmal lesen.

[Package insert

Read this package insert carefully because it contains important i_____. You have either been prescribed this medicine personally, or you have obtained it from a p_____ or drugstore without a medical prescription. Use the drug according to the package insert or as directed by your d_____ to get the greatest benefit. Save the _____; you may want to read it again later.]

Musikstunde

Heute fällt die Musikstunde leider aus. Ich bitte _____ von Noah, Karen und Christiane sich bei mir zu _____ um einen neuen Termin für die Musikstunde der Kinder zu finden. Ich entschuldige mich für die _____.

[Music lesson

Today the music lesson is unfortunately canceled. I ask the _____ of Noah, Karen, and Christiane to _____ me to find a new date for the children's music lesson. I apologize for the _____.

Brand

Liebes Tagebuch,
gestern hat das Nachbarhaus gebrannt. Es kamen mindestens dreißig _____, und die brauchten beinahe zwei Stunden, um das Haus zu löschen und alle Verletzten zu _____. Die Nachbarsfamilie wohnt jetzt vorübergehend _____, da ihr Haus bis auf den Grund niedergebrannt ist.

[Fire

Dear Diary,

Yesterday, the neighboring house burned. At least thirty _____ came and it took them almost an hour to extinguish the _____ and _____ all the injured. The neighboring family is now living temporarily _____ because their house has burned to the ground.]

Weiterbildung

Die meisten Kliniken bieten verschiedene Weiterbildungen für _____ an. Beispiele für den Akutpflegebereich sind Anästhesiepflege, Intensivpflege oder Notfallpflege. Zusätzlich werden _____ zur Sicherheit und Gesundheit, Leistungserfassung in der Pflege oder Qualitätssicherung angeboten, um möglichst optimale A_____ zu garantieren.

[Further education

Most hospitals offer various training courses for _____. Examples of the acute care area are anesthetic care, intensive care, or emergency care. In addition, _____ for safety and health, performance recording in nursing or quality assurance are offered to guarantee the best possible e_____.]

Geburtstagsparty

Am Samstagabend sind alle F_____, Verwandte und Bekannte herzlich eingeladen, mit mir zusammen meinen dreißigsten Geburtstag zu feiern! Die _____ beginnt um 19 Uhr bei mir zu Hause. Ich freue mich auf Euer _____!

[Birthday party

On Saturday evening, all f_____, relatives and acquaintances are cordially invited to celebrate my 30th birthday with me! The _____ starts at 7 p.m. at my home. I am looking forward to your _____!]

C. Material Paper IV

Paper IV is awaiting publication and is not included in NTNU Open

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