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“He is angry, she is sad. A corpus linguistics-based approach to gender bias
in words denoting emotions in American English.”

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Muhammed Demir

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Abstract (English)

Research has shown that gender bias and sexism regarding the display of emotions are still prevalent, and language can be a means of propagating gender bias and inequality. Therefore, it is essential to identify the gender bias patterns of adjectives denoting emotion in the English language to mitigate the potential negative consequences of gender bias in modern society. This thesis examines how gender bias patterns appear in emotion adjectives in the English language across historical and contemporary corpora. This research aims to answer the following research questions: “What kind of gender bias can be observed regarding the use of 105 adjectives denoting emotions in the Google Books American English Corpus and Corpus of Contemporary American English?”, “How has the gender bias these adjectives show changed from the beginning of the 20th century to the early 21st century?”, “In which contexts and to which situations are these emotions triggered in male vs female constructions? What is he/she sensitive about? What is he/she happy about? Who/what is he/she angry at?”, “What kind of gender bias can be observed through a qualitative analysis of the selected set of sample words?”

Using Google Books American English, Corpus of Contemporary American English (COCA) and an Excel template sheet provided by Univ.-Prof. Mag. Dr. Nikolaus Ritt, I conducted a comparative frequency analysis through log odds ratios and qualitative analysis of a randomly selected occurrence set to answer these questions. The results of the quantitative analysis have shown that positively connotated words overall exhibit a slightly more female bias, and negatively connotated words show a significantly more female bias. In contrast, neutral words display a numerically balanced gender pattern. However, the tendency towards a slight female bias in positively connotated emotion words is deceiving, as the results of the qualitative analysis indicate that men are more likely to be portrayed in a hierarchically superior position than women, often as superordinates to women. While men are more often portrayed in a position where they feel emotions due to their own performance or status, women are more often portrayed in a position where they feel these emotions as a result of other people’s actions. The results of the historical analysis also showed that gender bias exhibited by emotion words in English appears to follow a decreasing pattern from the 1810s to the 2000s, especially from the 1960s onwards, yet it persists in the 2000s. Overall, the study suggests that gender bias has decreased over the investigated period due to social progress. Yet, the

traces of gender bias persist to be reflected in the English language, and sexism can also be hidden under the guise of seemingly positive words.

Abstract (Deutsch)

Untersuchungen haben gezeigt, dass geschlechtsspezifische Vorurteile und Sexismus in Bezug auf den Ausdruck von Emotionen nach wie vor weit verbreitet sind und dass Sprache ein Mittel zur Verbreitung von geschlechtsspezifischen Vorurteilen und Ungleichheit sein kann. Daher ist es unerlässlich, die geschlechtsspezifischen Vorurteile in Adjektiven, die Emotionen bezeichnen, in der englischen Sprache zu identifizieren, um die potenziellen negativen Folgen geschlechtsspezifischer Vorurteile in der modernen Gesellschaft zu mildern. Diese Arbeit untersucht, wie geschlechtsspezifische Vorurteile in Adjektiven, die Emotionen bezeichnen, in der englischen Sprache in historischen und zeitgenössischen Korpora auftreten. Diese Untersuchung zielt darauf ab, die folgenden Forschungsfragen zu beantworten: „Welche geschlechtsspezifischen Vorurteile lassen sich hinsichtlich der Verwendung von 105 Adjektiven, die Emotionen bezeichnen, im Google Books American English Corpus und im Corpus of Contemporary American English beobachten?“ „Wie haben sich die geschlechtsspezifischen Vorurteile, die diese Adjektive zeigen, vom Beginn des 20. Jahrhunderts bis zum Beginn des 21. Jahrhunderts verändert?“ „In welchen Kontexten und in welchen Situationen werden diese Emotionen in männlichen vs. weiblichen Konstruktionen ausgelöst? Wofür ist er/sie sensibel? Worüber ist er/sie glücklich? Auf wen/was ist er/sie wütend?“ „Welche Art von geschlechtsspezifischer Voreingenommenheit lässt sich durch eine qualitative Analyse der ausgewählten Wortbeispiele feststellen?“ Unter Verwendung von Google Books American English, dem Corpus of Contemporary American English (COCA) und einer von Univ.-Prof. Mag. Dr. Nikolaus Ritt bereitgestellten Excel-Vorlage habe ich eine vergleichende Häufigkeitsanalyse mittels Log-Odds-Ratios und eine qualitative Analyse einer zufällig ausgewählten Häufigkeit durchgeführt, um Antworten auf diese Fragen zu finden. Die Ergebnisse der quantitativen Analyse haben gezeigt, dass positiv konnotierte Wörter insgesamt eine etwas stärkere weibliche Prägung aufweisen und negativ konnotierte Wörter eine deutlich stärkere weibliche Prägung. Im Gegensatz dazu zeigen neutrale Wörter ein zahlenmäßig ausgeglichenes Geschlechtermuster. Die Tendenz zu einer leichten weiblichen Prägung bei positiv konnotierten Emotionswörtern ist jedoch trügerisch, da die Ergebnisse der qualitativen Analyse darauf hinweisen, dass Männer häufiger in einer hierarchisch höheren Position dargestellt werden als Frauen, oft als Vorgesetzte von Frauen. Während Männer häufiger in einer Position dargestellt werden, in der sie aufgrund ihrer eigenen Leistung oder ihres Status Emotio-

nen empfinden, werden Frauen häufiger in einer Position dargestellt, in der sie diese Emotionen als Folge der Handlungen anderer empfinden. Die Ergebnisse der historischen Analyse zeigten zudem, dass die geschlechtsspezifische Prägung von Emotionswörtern im Englischen von den 1810er bis in die 2000er Jahre, insbesondere ab den 1960er Jahren, einem abnehmenden Muster zu folgen scheint, jedoch in den 2000er Jahren anhält. Insgesamt deutet die Studie darauf hin, dass die geschlechtsspezifische Prägung im untersuchten Zeitraum aufgrund des gesellschaftlichen Fortschritts abgenommen hat. Dennoch spiegeln sich die Spuren geschlechtsspezifischer Vorurteile weiterhin in der englischen Sprache wider und Sexismus kann sich auch unter dem Deckmantel scheinbar positiver Wörter verbergen.

Tables and Figures

Tables

Table 1 He/she [be] afraid -----127

Table 2 He/she [be] concerned-----128

Table 3 He/she [be] alone-----129

Table 4 He/she [feel] guilty-----130

Table 5 He/she [be] glad -----131

Table 6 He/she [be] determined-----132

Table 7 He/she [be] happy -----133

Table 8 He/she [be] pleased -----134

Table 9 He/she [be] surprised -----136

Table 10 He/she [be] sensitive -----136

Figures

Figure 1 Average abs log odds ratios for he or she [be] ADJ constructions	26
Figure 2 He or she [be] happy	28
Figure 3 He or she [be] delighted	29
Figure 4 He or she [be] pleased	30
Figure 5 He or she [be] pleased	31
Figure 6 He or she [be] thrilled.	31
Figure 7 He or she [be] excited.	32
Figure 8 He or she [be] satisfied.....	33
Figure 9 He or she [be] grateful.....	34
Figure 10 He or she [be] thankful.....	35
Figure 11 He or she [be] proud.....	36
Figure 12 He or she [be] confident.	36
Figure 13 He or she [be] assured	37
Figure 14 He or she [be] optimistic.	38
Figure 15 He or she [be] hopeful.....	39
Figure 16 He or she [be] determined.	40
Figure 17 He or she [be] strong.	40
Figure 18 He or she [be] courageous.....	41
Figure 19 He or she [be] brave	42
Figure 20 He or she [be] loving.....	43
Figure 21 He or she [be] tender.....	43
Figure 22 He or she [be] caring	44
Figure 23 He or she [be] kind.....	45
Figure 24 He or she [be] compassionate.	46
Figure 25 He or she [be] inspired	47
Figure 26 He or she [be] attached.....	47
Figure 27 He or she [be] devoted	48
Figure 28 He or she [be] intimate.....	49
Figure 29 He or she [be] resilient	49
Figure 30 He or she [be] tough.....	50
Figure 31 He or she [be] stoic.	51
Figure 32 He or she [be] patient	52

Figure 33 He or she [be] comfortable.....	53
Figure 34 He or she [be] eager	54
Figure 35 He or she [be] glad.	55
Figure 36 He or she [be] relieved.	56
Figure 37 He or she [be] ADJ (denoting positive emotions).....	57
Figure 38 He or she [be] apologetic.	58
Figure 39 He or she [be] isolated.....	59
Figure 40 He or she [be] puzzled.....	60
Figure 41 He or she [be] confused.....	61
Figure 42 He or she [be] indifferent.	62
Figure 43 He or she [be] detached.....	63
Figure 44 He or she [be] calm.	64
Figure 45 He or she [be] steady.....	65
Figure 46 He or she [be] steady.....	66
Figure 47 He or she [be] sensitive	67
Figure 48 He or she [be] delicate.....	68
Figure 49 He or she [be] surprised.	68
Figure 50 He or she [be] reserved.	69
Figure 51 He or she [be] exposed.	70
Figure 52 He or she [be] ADJ (denoting neutral emotions).	71
Figure 53 He or she [be] sad.....	72
Figure 54 He or she [be] unhappy.	73
Figure 55 He or she [be] miserable.	74
Figure 56 He or she [be] depressed.	75
Figure 57 He or she [be] grieving.....	76
Figure 58 He or she [be] heartbroken.	77
Figure 59 He or she [be] hopeless.	78
Figure 60 He or she [be] hopeless.	79
Figure 61 He or she [be] mad.	80
Figure 62 He or she [be] furious.....	81
Figure 63 He or she [be] irritated.	82
Figure 64 He or she [be] annoyed.	82
Figure 65 He or she [be] bitter.....	83

Figure 66 He or she [be] frustrated.....	84
Figure 67 He or she [be] hostile.	85
Figure 68 He or she [be] aggressive.	86
Figure 69 He or she [be] outraged.	87
Figure 70 He or she [be] fearful.	88
Figure 71 He or she [be] fearful.	89
Figure 72 He or she [be] scared.....	89
Figure 73 He or she [be] terrified.	90
Figure 74 He or she [be] nervous.	91
Figure 75 He or she [be] anxious.....	92
Figure 76 He or she [be] worried.....	93
Figure 77 He or she [be] concerned.....	94
Figure 78 He or she [be] uneasy.....	94
Figure 79 He or she [be] alarmed.	95
Figure 80 He or she [be] alarmed.	96
Figure 81 He or she [be] overwhelmed.	96
Figure 82 He or she [be] startled	97
Figure 83 He or she [be] ashamed.....	98
Figure 84 He or she [be] reluctant.....	98
Figure 85 He or she [be] embarrassed.....	99
Figure 86 He or she [be] humiliated.....	100
Figure 87 He or she [be] upset.....	101
Figure 88 He or she [be] disgraced.....	102
Figure 89 He or she [be] apologetic	103
Figure 90 He or she [be] lonely	104
Figure 91 He or she [be] isolated.....	105
Figure 92 He or she [be] alienated.....	106
Figure 93 He or she [be] abandoned.....	106
Figure 94 He or she [be] neglected.....	107
Figure 95 He or she [be] alone	108
Figure 96 He or she [be] jealous.....	108
Figure 97 He or she [be] resentful	109
Figure 98 He or she [be] discontented.....	110

Figure 99 He or she [be] discontented.....	111
Figure 100 He or she [be] uncertain	112
Figure 101 He or she [be] restless	113
Figure 102 He or she [be] disappointed.....	114
Figure 103 He or she [be] discouraged.....	115
Figure 104 He or she [be] disturbed	116
Figure 105 He or she [be] exhausted	117
Figure 106 He or she [be] volatile.	117
Figure 107 He or she [be] fragile.....	118
Figure 108 He or she [be] withdrawn.	119
Figure 109 He or she [be] hysterical.	120
Figure 110 He or she [be] impatient.	121
Figure 111 He or she [be] guilty.....	122
Figure 112 He or she [feel] guilty.	123
Figure 113 He or she [be] ADJ (denoting negative emotions).....	124

Table of Contents

1. Introduction	1
2. Theoretical Background and Relevant Concepts	5
2.1 Gender, Sex, Gender Bias, and Sexism	5
2.2 Research on gender differences and emotions	14
2.3 Gender and Linguistics	17
3. Research Methodology	23
4. Results	26
4.1 Diachronic changes in the log odds ratio of the adjectives denoting positive emotions in Google Books American English Corpus	27
4.2 Diachronic changes in the log odds ratio of the adjectives denoting neutral emotions in Google Books American English Corpus	58
4.3 Diachronic changes in the log odds ratio of the adjectives denoting negative emotions in Google Books American English Corpus	72
4.4 Qualitative analysis of the adjectives denoting emotions in the Corpus of Contemporary American English	126
4.4.1 Qualitative analysis of the adjectives denoting negative emotions in the Corpus of Contemporary American English	126
4.4.2 Qualitative analysis of the adjectives denoting negative emotions in the Corpus of Contemporary American English	131
4.4.3 Qualitative analysis of the adjectives denoting neutral emotions in the Corpus of Contemporary American English	135
5. Discussion	138
6. Conclusion	142
7. Bibliography	145

1. Introduction

Prewitt-Frelino et al. (2011: 268) suggest that the distinction between males and females has likely been present in languages since the existence of languages themselves. They further argue that every language in modern times distinguishes between men and women (Prewitt-Frelino et al., 2011: 268). Stangor et al. (1992 as quoted in Stahlberg et al. (2007: 163)) refers to sex as “one of the most important social categories” and Stahlberg et al. (2007: 163) offer a similar argument to that of Prewitt-Frelino et al. (2011: 268) and suggest that despite the variation in the representations of sexes in different languages; “there does not seem to exist a single language – not even among the so-called genderless languages, as will be shown below which lacks expressions for femaleness and maleness altogether: The sexes are represented in some way in all language systems”. Considering this differentiation, asking the question “How are males and females represented linguistically?” is the next step towards understanding the nature and the purpose of this sex-based social categorization. Research by Marjanovic et al. (2022) has provided evidence regarding the answer to this question. Marjanovic et al. (2022: 27) have found out through their analysis on Reddit comments in English about male and female politicians that a) “Male politicians are more likely to be named professionally than female politicians” and b) “Highly female-gendered words are often about irrelevant descriptors: their body, their clothing, and their family.” The findings of the research by Marjanovic et al. (2007: 163) have shown that evidence of sexism and gender bias can be found in English language and speech communities.

These findings are parallel to the claims of Stahlberg et al. (2007: 163) who argue that “the linguistic representation of the sexes is never restricted to the distinction of female versus male”. Stahlberg et al. (2007: 163) further argue that these representations are affected by the “gender belief system” of the corresponding speech community and they contribute to the “construction and maintenance of this belief system.”

Lomotey & Chachu (2020: 69) offer a similar argument, highlighting the role of language users in perpetuating prejudice and discrimination through the use of stereotypes. Considering that the representation of males and females serves to perpetuate existing norms, stereotypes, and overall belief systems, it is essential to research how these are reflected in language in order to address them effectively.

One of the most commonly held gender stereotypes among many speech communities is about human emotions. Research about the perceptions and attitudes of the general population has shown that women are considered to be more emotional than men in many cultures (Brody & Hall 1993: 396, Timmers et al. 2003: 43). However, when we talk about emotions, we have to consider that there are a variety of emotions, from anger to calmness, happiness to sadness. Are women supposed to feel all of these emotions more than men? According to previous research on gender stereotypes regarding emotions, the answer to this question is no. Timmers et al. (2003: 43) propose the following outline for the gender stereotypes regarding emotions:

“Women are not only believed to be more emotional, but they are also expected to express their positive emotions, and they are expected to express negative emotions as long as these expressions do not hurt others. Men, on the other hand are considered less emotional, and are less permitted to display negative, powerless emotions, although they are allowed to display powerful emotions.”

So it can be observed from previous research that the bias is not limited to the level emotions are expressed; the type of emotions exhibited is also expected to vary between genders. Despite the increased focus and importance put on gender studies from the second half of the 20th century onwards thanks to the rise of feminist movements, these gender stereotypes remained strong to this day as Ruble (1983: 400) and Plant et al. (2000: 81) suggest. However, the reflections of these stereotypes in the English language has been a rather unvisited area. Many studies have been conducted in the intersection of linguistics and gender studies, linguistics and psychology, and gender studies and psychology. Yet the intersection of all three has been relatively unvisited, and as Stahlberg et al. (2007: 163) also argue, “The question of how the sexes are represented in language is therefore not only of linguistic interest but constitutes a transdisciplinary field of research where linguistic aspects intersect with psychological and sociological issues.” As this is a rather unvisited area of research, I would like to focus on the gender bias patterns of adjectives denoting emotions in the English language through a diachronic perspective in order to find out how this bias has changed over the 19th, 20th, and early 21st century in order to fill this gap.

In this study, I will try to answer the following research questions: “What kind of gender bias can be observed regarding the use of 105 adjectives denoting emotions in the Google Books American English Corpus and Corpus of Contemporary American

English?”, “How has the gender bias these adjectives show changed from the beginning of the 20th century to the early 21st century?”, “In which contexts and to which situations are these emotions triggered in male vs female constructions? What is he/she sensitive about? What is he/she happy about? Who/what is he/she angry at?”, “What kind of gender bias can be observed through a qualitative analysis of the selected set of sample words?”.

This study hypothesizes that adjectives denoting emotions have been used in a more feminine or masculine context depending on the type of emotion, and thereby exhibit patterns of gender bias. Positive emotion words such as “happy” or “caring”, or negative emotion words such as *depressed* are expected to be more likely to occur with a feminine context. In contrast, negative emotion words such as “angry, aggressive” or positive emotion words such as *strong, determined* are expected to be more likely to occur in a masculine context. I aim to illustrate this bias through a diachronic corpus research of 105 words denoting positive, negative, and neutral emotions. These words will be searched in combination with *he* and *she* (e.g. *he [be] sad* vs *she [be] sad*), and the development of the gender bias patterns will be shown through graphs detailing how likely a word is to be used in a masculine vs feminine context throughout the decades of 1810-2000. Additionally, a qualitative analysis will be conducted on the occurrences of the search term *[made him/her ADJ]* between 1990 and 2019 to determine in which contexts males vs females experience these emotions.

It is expected that words that are stereotypically attributed to femininity, such as *caring, loving, depressed, hysterical* will probably exhibit a female bias, while words that are stereotypically attributed to masculinity, such as *strong, determined, courageous*, will probably exhibit a male bias. However, it is also expected that the gender bias these words show will decrease over time, considering the rise of women’s rights movements and widespread coverage of feminist views since the 1960s.

In addition to the numerical values, investigating the context in which the selected emotion adjectives occur in the male vs female constructions will also be key to a more accurate demonstration of the kind of gender bias exhibited by these words.

Considering these factors, this thesis will answer the above-mentioned research questions in five chapters. Following the introduction in the first chapter, the second chapter will provide the theoretical groundwork and relevant concepts for this study. In Chapter 3, the research methodology will be explained in detail. In the fourth, penulti-

mate chapter, the results of the diachronic analysis of searches conducted on Google Books American English corpora using Excel templates will be presented, the results of the qualitative analysis will be discussed, and the findings will be presented. Finally, the sixth chapter will contain the conclusion.

2. Theoretical Background and Relevant Concepts

The following section of this thesis will consist of 3 parts. In the first part of the review, related views to the notions of gender, gender bias, and sexism will be analysed.

In the second part of this section, previous research on emotions in relation to gender differences will be studied. In the third part, the intersection of linguistics and research on emotions will be investigated.

2.1 Gender, Sex, Gender Bias, and Sexism

When researching gender bias, it is essential to differentiate between the concepts of gender and sex. Although these two notions are sometimes used interchangeably, the distinction between them holds an important point in the field of the human sciences. To make a distinction between these two notions, one must take a look at the definitions of these two words. According to the Oxford English Dictionary (will be referred to as the OED henceforth), sex is defined as:

“Either of the two main categories (male and female) into which humans and many other living things are divided on the basis of their reproductive functions; (hence) the members of these categories viewed as a group; the males or females of a particular species, esp. the human race, considered collectively.”

The first recorded instance of this word dates back to the 14th century. Interestingly enough, the word *gender* also dates back to as early as the 15th century. According to the OED, gender was defined as “Males or females viewed as a group; = sex n.1 1. Also: the property or fact of belonging to one of these groups”. There is another important entry in the OED regarding the definition of gender. It is important to note that in these definitions, the biological properties are of central position. However, the linguistic definition of *gender* allows for more room for categories other than simply *male* and *female*. Another entry in the OED helps pinpoint the origin of the modern definition of gender. According to the OED, gender is also defined as:

“The state of being male or female as expressed by social or cultural distinctions and differences, rather than biological ones; the collective attributes or traits associated with a particular sex, or determined as a result of one's sex. Also: a (male or female) group characterized in this way.”

This definition of gender has its first example from 1945, featured in the *American Journal of Psychology*, according to the OED. Meyerowitz's (2002) findings align with this timeline as well. According to Meyerowitz (2002: 3), the turning point regarding the redefinition of the term *gender* was the second half of the 20th century. Before that, *gender* was mainly used to refer to the “difference between feminine and masculine forms within the language” according to Nicholson (1994: 80). What or who was the driving force behind this change? The answer to this question is multi-layered.

Muehlenhard & Peterson (2011: 792) pinpointed the pioneers of this change: John Money and his colleagues. According to Muehlenhard & Peterson (2011: 792), Money and his colleagues were working on hermaphrodites or with modern terms “intersexed” people and they made a distinction among individuals’ “(a) anatomical and physiological makeup—“chromosomal sex, gonadal sex, hormonal sex, internal reproductive organs, and external genitalia”; (b) childhood socialization—“sex of assignment and rearing”; and (c) psychological characteristics—“gender role and orientation (Money et al. 1955: 319 as quoted in Muehlenhard & Peterson (2011: 792). Money et al. (1955: 319 as cited in Muehlenhard & Peterson (2011: 792) defined gender role as: “<...> all those things that a person says or does to disclose himself or herself as having the status of boy or man, girl or woman, respectively. Their definition includes “sexuality”, “general manners and “demeanor”, hobbies and interests, spontaneous conversation topics and much more”.

This definition embodies a significant shift in the definition of gender. It can be observed that through this definition, Money et. al (1955) introduce a new definition that has a much more socially elemental role. With this distinction, they imply that the differences between the behaviours and psychological characteristics of individuals can be accounted for with a combination of social conditions and actors rather than a more deterministic biological mechanism (Muehlenhard & Peterson 2011: 792).

Some researchers, such as Crawford (2005: 26), also expressed their approval of the significance of this distinction for psychologists. According to Crawford (2006: 26 as quoted in Muehlenhard & Peterson 2011: 793), this distinction “was a very important step in recognizing that biology is not destiny—that many of the apparent differences between women and men might be societally imposed rather than natural or inevitable”. Following Money and his colleagues, multiple other researchers such as Rubin (1975), Lorber (1994) and McConnell-Ginnet (2011), offered a similar distinction and highlighted the social aspect of gender.

For example, Rubin (1975: 16) argues: “Every society also has a sex/gender system—a set of arrangements by which the biological raw material of human sex and procreation is shaped by human, social intervention and satisfied in a conventional manner, no matter how bizarre some of the conventions may be.”

Another notable theory regarding the nature of gender is Lorber's (1994). Lorber (1994: 1) regards gender as “a social institution” and offers the following definition of gender:

“<...> gender is an institution that establishes patterns of expectations for individuals, orders the social processes of everyday life, is built into the major social organizations of society, such as the economy, ideology, the family, and politics, and is also an entity in and of itself.”

Lorber (1994: 1) claims that the gender of a baby is constructed from the moment of birth by the parents according to the genitalia the baby possesses as a result of the social norms and pressure imposed by society. Lorber (1994: 1) argues that “A sex category becomes a gender status through naming, dress, and the use of other gender markers.” The different ways children are treated based on these social factors shape them into their gender roles. In other words, unlike sex, which comes from birth, gender role is assigned to individuals by society according to their sex.

Another important aspect of Lorber's theory of gender as a social institution is the dichotomous nature of gender, where gender is referred to as either man or woman. Lorber (1994: 17) argues, “Western societies have only two genders, man and woman.” According to Lorber (1994: 31), in this dichotomous system, men hold a position of superiority over women. She claims that “gender ranks men above women of the same race and class” (Lorber 1994: 31). However, this defi-

definition of gender is very limited in its nature as it offers a binary view of gender and does not provide room for those who identify as neither male nor female. As explained in more detail in the methodology section of this paper, due to the limitations of the research method and data source, this study will also adopt a binary understanding of gender. It is essential to acknowledge that this definition of gender is flawed at best, and the study's results need to be evaluated with these limitations in mind. However, this does not mean that the research on gender bias is redundant.

As aforementioned through Crawford's argument (2006), the distinction between gender and sex, and acknowledging gender as a social, artificial construct rather than an immutable one inherent to all humans, is very elemental, as these roles were crafted and assigned for a reason. However, problems such as gender inequality and sexism arose. As Lorber (1994: 6) also suggests: "Gender has changed in the past and will change in the future, but without deliberate restructuring it will not necessarily change in the direction of greater equality between women and men."

Before moving on to concepts such as gender bias and sexism, there is another question that needs to be answered to understand the social nature and function of gender. Why is gender assigned to individuals from as early as birth? Lorber's (1994: 15) argument regarding the function of gender is elemental in answering this question. Lorber (1994: 15) argues the division of labor can be done either based on people's "talents, motivations, and competence—their demonstrated achievements" or "on the basis of gender, race, ethnicity—assigned membership in a category of people". According to this argument, gender roles are assigned in order to achieve a well-organized, functioning society. However, as Lorber (1994: 15) also points out in this argument, this election through categorization according to gender or race is only one way of doing this, and it is safe to assume that it is not always the fairest or the most efficient method, especially in modern society where technological advancements and the economic system make traditional gender roles obsolete. Yet we people still often turn to stereotypes, such as "Women are better equipped to take care of children than men" daily. Despite all the developments that should discourage the use of these stereotypes and the efforts to raise awareness against gender bias, why does it persist? Two crucial questions are tied to the answer to this question. The first question is, why does society continue to employ stereotypical thinking? To answer this question, one needs to investigate the

findings of research in the field of human psychology. Hilton & Von Hippel (1996: 238) suggest that there are multiple reasons why stereotypic thinking occurs. One reason is “simplifying the demands on the perceiver”; according to Hilton & Von Hippel (1996: 238), “Stereotypes make information processing easier by allowing the perceiver to rely on previously stored knowledge in place of incoming information.” Other reasons they list are: a) “in response to environmental factors such as different social roles, group conflicts and differences in power”, b) “justifying the status quo”, c) “in response to a need for social identity” (Hilton & Von Hippel, 1996: 238). For all these reasons, people continue to hold on to stereotypical thinking and gender role stereotypes, just like other stereotypes, which continue to exist. However, feminist writers such as Ridgeway (2013: 159) suggest another factor that might contribute to the durability of gender stereotypes, which brings us to the second question: Why does society keep enforcing gender roles on individuals even when they are not functional any longer? Ridgeway (2013: 159) answers this question by the concept of “cultural lag”. Ridgeway (2013: 159) offers the following definition of the concept and builds on this concept with the following argument:

“It (cultural lag) refers to the idea that changes in nonmaterial culture (e.g., shared cultural beliefs) frequently lag behind changes in material culture. I argue that cultural lag occurs with regard to shared beliefs about gender and plays a key role in the persistence of gender inequality over transformations in material arrangements based on gender.”

Ridgeway’s argument entails that the reflection of belief changes in society takes time to manifest. This delay in manifestation may even lead to the preservation of the status quo as Ridgeway (2013: 159-160) argues that during the formation process of new ideas, people may draw on traditional values in a search for stability, which may lead to “the maintenance of the status privilege for men that is currently embedded” in the gender stereotypes.

How about the current situation? According to Ridgeway (2011: 5), gender inequality continues to be a problem in modern society. Ridgeway (2011: 5) found that women have a lower labor force participation than men, earn less than men, and jobs are predominantly filled according to the gender distribution, that is, “most women work in jobs filled predominantly by other women, and most men work in jobs filled predominantly by other men”.

Ridgeway (2011: 5) also further argues:

“Women are also less likely to be in managerial or supervisory positions in the workplace, and when they are, their positions carry less authority and power than those occupied by men (Reskin and McBrier 2000; Smith 2002 as quoted in Ridgeway 2011: 5). Only 15% of top executive positions in Fortune 500 companies are filled by women (Catalyst 2008 as quoted in Ridgeway 2011: 5).”

Ridgeway’s research shows that gender inequality continues to be a problem in today’s society despite the increased efforts to neutralize it, especially through the efforts of the feminist movements from the 1960s onwards. Women are employed less often, and when they are employed, they are paid less than their male colleagues and hold less power than their male counterparts, even in higher-up positions. It is important that this inequality goes further than the conscious choices that were made by employers. According to Ridgeway (2011: 102), “The gender biases that infiltrate employers’ images of the ideal worker set the stage for biases in hiring and promotions by making cultural beliefs about gender status and gender skills implicitly salient and relevant to the evaluation of workers’ qualifications”. The findings of Ridgeway (2011) show that the beliefs about gender roles shape the business world and put women in a more disadvantaged position, where they are forced towards roles that require skills that are stereotypically attributed to women, such as nursing and teaching.

So far, a review of the literature on the difference between sex and gender, the definition and the nature of gender, and gender inequality has been discussed. However, before moving on to the next subsection of the theoretical framework, it is important to discuss another important concept that is of importance to this study: sexism. Of central importance to this study will be “The Ambivalent Sexism Theory” by Glick & Fiske (1996). Glick and Fiske (1996: 491) argue that although sexism is typically described as hostility towards women, this definition is flawed; sexism also includes positive feelings towards women. Glick and Fiske (1996: 491) view sexism as “a multidimensional construct that encompasses two sets of sexist attitudes: hostile and benevolent sexism”. Hostile sexism, as it can be understood from its name, entails hostile attitudes towards women (Glick and Fiske 1996: 491). What is novel in their theory is the recognition of benevolent sexism. Glick and Fiske (1996: 491) define benevolent sexism as

“a set of interrelated attitudes toward women that are sexist in terms of viewing women stereotypically and in restricted roles but that are subjec-

tively positive in feeling tone (for the perceiver) and also tend to elicit behaviors typically categorized as prosocial (e.g., helping) or intimacy-seeking (e.g., self-disclosure)”.

It is important to note that Glick and Fiske (1996: 491) do not view benevolent sexism in a positive light, as it entails the enforcement of traditional gender roles where women are dependent on men as providers. One example of benevolent sexism provided by Glick and Fiske (1996: 492) is when a man tells a female colleague that “she looks cute”. The intention may be well, but the perceiver may feel uncomfortable and feel like she is not being taken seriously professionally. When it comes to the way benevolent sexism manifest, Glick and Fiske (1996: 492) argue that due to a number of reasons, sexism towards women do not exactly mirror other type of inter-group hostilities. Firstly, they refer to the “dyadic power” concept offered by Guttentag and Secord (1983). According to Glick and Fiske (1996: 492), Guttentag and Secord (1983 as quoted in Glick and Fiske 1996: 492) offer the following argument: “Sexual reproduction lends women “dyadic power” (power that stems from dependencies in 2-person relationships) in that it compels men to rely on women as bearers of children and, generally, for the satisfaction of sexual needs”. Another reason Glick and Fiske (1996: 492) cite is that sexism towards women does not seem like other types of hostilities is men’s need for psychological intimacy. Glick and Fiske (1996: 492) argue that men may turn to women to fulfill their psychological intimacy needs rather than to other men. Harris (1991, as quoted in Glick and Fiske, 1996: 492) argues that the reason behind this preference is that it is not easy to fulfill these needs with other men, who are seen as competitors for resources and status. Glick and Fiske (1996: 492) suggest that benevolent sexism occurs more often than it is considered and point to Eagly & Mladinic’s (1993: 6) research, where they even found evidence that there are more positive stereotypes for women than men. Eagly & Mladinic (1993: 6) make it clear that this does not mean a more advantageous position for women in society. Rather than that, as Glick and Fiske (1996: 494) also argue, what lies beneath benevolent sexism is similar to the concept of “white men’s burden” or, in their adapted version, “men’s burden”. Although benevolent sexism may seem well-intentioned, deep down, it holds similar assumptions to hostile sexism in many aspects. Women are depicted as the “weaker” sex and are confined to “domestic” roles. Both types, both benevolent and hostile sexism, serve to justify men’s structural power, albeit in different manners (Glick and Fiske 1996: 492). As

Glick and Fiske (1996: 492) claim: “Hostile sexist beliefs in women's incompetence at agentic tasks characterize women as unfit to wield power over economic, legal, and political institutions, whereas benevolent sexism provides a comfortable rationalization for confining women to domestic roles”. According to their argument, benevolent sexism can be used to justify or legitimize hostile sexism with statements such as “I am not exploiting women; I love, protect, and provide for them”.

Glick and Fiske (1996: 492) suggest that “both hostile and benevolent sexism revolve around issues of social power, gender identity, and sexuality” which they later on updated as “gender hierarchy and power, gender differentiation and heterosexuality” (Lee, Fiske and Glick 2010: 396) and propose the following:

“Hostile sexism and benevolent sexism are composed of three shared components: Paternalism, Gender Differentiation, and Heterosexuality.

Each component reflects a set of beliefs in which ambivalence toward women is inherent (i.e., each construct has a hostile and a "benevolent" aspect) and which serves to justify or explain the underlying social and biological conditions that characterize relationships between the sexes.”.

To begin with, paternalism itself shows that sexism is ambivalent as it features connotations of both domination (dominative paternalism) and protection (protective paternalism) (Glick and Fiske 1996: 493). According to Glick and Fiske (1996: 493), the defenders of dominative paternalism defend patriarchy as they do not view women as fully competent adults and believe that women need a superordinate male figure in their lives. However, it is possible for protective paternalism to coexist with dominative paternalism because of the dyadic power women have over men as men depend on women for heterosexual reproduction as wives, mothers and romantic partners, thus “women are to be loved, cherished, and protected (their "weaknesses" require that men fulfill the protector-and-provider role)” (Glick and Fiske 1996: 493). The second aspect they mention is regarding gender identity. Here they differentiate between “competitive gender differentiation” vs “complementary gender differentiation” (Glick and Fiske 1996: 493). Glick and Fiske (1996: 493) argue that “like dominative paternalism, competitive gender differentiation presents a social justification for male structural power: Only men are perceived as having the traits necessary to govern important social institutions”. They claim that men enhance their self-esteem through this perception by identifying with the male identity (Glick and Fiske 1996: 493). Alongside this competitive

aspect, however, Glick and Fiske (1996: 493) argue that “the dyadic dependency of men on women (as romantic objects, as wives and mothers) fosters notions that women have many positive traits that complement those of men”. Glick and Fiske (1996: 493) account for this idea, also known as complementary gender differentiation, as follows:.

“Just as the traditional division of labor between the sexes creates complementary roles (men working outside the home, women within), the traits associated with these roles (and hence with each sex) are viewed as complementary. The favorable traits ascribed to women compensate for what men stereotypically lack (e.g., sensitivity to others' feelings). Hence a man may speak of his "better half"; for the benevolent sexist, the woman completes the man”.

The first aspect puts men above women in the hierarchy when it comes to eligibility to positions of high power while portraying women as “weaker”; while the second finds positive traits in women but only complementary to those of men, confirming the secondary position women are placed, further emphasizing that the positive traits women possess (e.g. caring) coincidentally align with restrictive and subordinate roles (e.g. homemaker) (Lee, Fiske and Glick 2010: 396).

The third and the last aspect Glick and Fiske (1996: 493) underscore in their theory is the role of heterosexuality. Glick and Fiske (1996: 493) argue that “Heterosexuality is, undoubtedly, one of the most powerful sources of men's ambivalence toward women”. Men’s sexual motivation towards women can be viewed as a search for psychological intimacy, yet men resent women at the same time as they depend on women to have sex, hence they have an ambivalent sexist attitude towards women (Glick and Fiske 1996: 493). This is also referred to as “heterosexual hostility” by Lomotey and Chachu (2020: 72) who define it as “The fusion of sex and power and the tendency to view women merely as sexual objects while believing that feminine sexuality is dangerous because it can be used to gain control over men.”

Overall, this theory is rather important to this research as it shows that women are exposed to sexism not only when they face a hostile attitude, but seemingly positive language can also serve as an agent of sexism.

In this section, previous research on concepts such as gender vs sex, gender as a social construct, gender bias and inequality and the notion of sexism has been discussed. In the following subsection, an overview of the previous research on emotions in the light of gender differences will be presented.

2.2 Research on gender differences and emotions

After a detailed overview of research on gender, sex, sexism and gender bias, an overview of the previous research on emotions and how they are expressed in light of gender differences will be provided in this subsection.

Previous research on the perceptions and attitudes of the general population has shown that the gender stereotype that women are considered to be more emotional than men is still widely believed in many cultures. (Brody & Hall 1993: 396, Timmers et al. 2003: 43). Similarly, Eagly and Mladinic (1994: 21) found evidence through their research on stereotypes against men and women that “emotional” was categorised as a “feminine-positive” trait. Beliefs such as these are deeply engraved in the modern culture, media and society and have their origins dating back to much earlier (Givon et al. 2023: 32470).

However, does this belief hold true? Are women more emotional than men? Are they more emotionally intelligent than men? Are women more empathetic than men? Research on this issue has yielded varied results. However, the notion of “being emotional” must first be unpacked to answer these questions. The word “emotional” is defined in the OED as “Having the capacity for or displaying emotion; easily affected by emotion”. Even this basic definition has two different aspects in terms of meaning, which will be of interest to this research: one is the capacity of possessing and exhibiting emotions, the other is the ease with which one is affected by the emotions themselves. In other words, people are both agents of and objects of emotions. In light of this definition, one must review previous research on gender differences regarding the capacity of possessing and exhibiting emotions, and research on how easily men and women are affected by emotions. To begin with, McDuff et al.’s (2017: 1) research on facial expressions has shown that the idea that women express more emotions than men has some truth to it, but it depends on the kind of emotion exhibited. McDuff et al. (2017: 1) point out that previous research on the exhibition of emotions through facial expressions “has almost exclusively focused on a single facial behaviour: smiling” and therefore

has limitations. In their research, McDuff et al. (2017: 7) found that although women exhibit emotions through facial expressions more often than men overall, this is not the case for all expressions. Women tend to smile more, but men tend to exhibit emotions of negative valence, such as anger, through brow furrowing (McDuff et al. 2017: 7). Fischer and LaFrance (2015: 27) also found that “women cry and smile more and overall show more facial expressiveness than men”. However, it is important to note that these differences in expressing emotions “could serve as a self-fulfilling prophecy for the stereotype that women are more emotional” as it may lead people to think that higher emotional expressivity in women means that they are more emotional (Fischer and LaFrance 2015: 22). Fischer and LaFrance (2015: 27) experience this difference with three factors. The first factor is the gender norms; they found evidence that “explicit norms relating to gender, smiling, and crying have disappeared, but there still are expectations that form the implicit norms by which gender inappropriate behavior of men and women is sanctioned” (Fischer and LaFrance 2015: 27). Fischer and LaFrance (2015: 27) also state that “the implicit norms prescribe that women should smile, whereas men need not, and that men should not cry, whereas women are allowed to” which may be a contributing factor to higher expressivity of emotions in women. However, the second factor they propose, social rules and situational constraints, may override the first factor (Fischer and LaFrance 2015: 27). Fischer and LaFrance (2015: 27) argue that people in professions such as “nurse, police officer, or the prime minister, should express themselves according to the requirements of this role, which are in principle similar for men and women” and that reduces the differences in the expression of emotions.

Lastly, the intensity of the emotions can also override the gender norms; that is, when faced with strong emotions such as grief, both men and women can cry at similar levels, but when the intensity of the emotions goes lower, the expressivity levels can differ more starkly (Fischer and LaFrance, 2015: 27)

Interestingly, research on stereotypes of emotions reveals that although women are often perceived as more emotional, this perception is also heavily dependent on the type of emotions they experience (Brody and Hall, 1993: 396). Other researchers, such as Hess et al. (2000) have also found that stereotypes are also emotion-specific: “Happiness, embarrassment, surprise, sadness, fear, shame,

and guilt are believed to occur more in women, and anger, contempt, and pride more in men” (as quoted in Brody and Hall, 1993: 396). Plant et al. (2000: 89) also found that “women are believed to experience and express awe, embarrassment, fear, distress, happiness, guilt, sympathy, sadness, love, surprise, shame, and shyness more frequently than men. Men are believed to experience and express anger and pride more often than women”. However, Brody and Hall (1993: 396) note that “stereotypes ignore both the social context and individual differences, they often lead to the erroneous assumption that gender differences are exclusively biological in origin”. Brody and Hall (1993: 396) further argue that despite the limitations they possess, gender stereotypes need to be analysed as they a) possess a risk of becoming “self-fulfilling prophecies” and b) “have a strong implicit prescriptive aspect, taking the form of “display rules,””. Brody and Hall (1993: 396) these roles as “cultural norms regulating how, when, and where males and females can express emotions in any particular culture” and argue that the violation of these rules may lead to “negative social consequences, such as social rejection and discrimination”.

Another important finding from Plant et al. (2000: 89) is that stereotypes are stronger for expressions of emotions than for the experience of emotions. Plant et al.’s (2000: 89) findings show that “Participants believed that men expressed the female-stereotyped emotions and women the male-stereotyped emotions less often than they experienced them, suggesting that men and women are believed to suppress the expression of emotions that are inconsistent with their gender role”. These findings coincide with the gender differences in the “display rules” mentioned by Brody and Hall (1993: 396) and defined by Ekman (1984: 320) as “overlearned habits about who can show what emotion to whom and when they can show it (for example) males should not cry; females (except in a maternal role) should not show anger.” These findings are parallel to the argument of Fischer (1993: 312), who proposes that “The general claim that women are more emotional than men tells us more about our cultural stereotypes than about actual sex differences in emotions”.

Overall, research has shown that there are differences in the way men and women experience emotions, however these differences are not due to any inherent traits men and women are born with; but rather a result of their experiences as

a member of their group (mostly because of the roles that are assigned to them from birth) as it can be observed through Filkowski et al.'s research (2016: 930). Furthermore, the way men and women are expected to show emotions also vary, which further triggers a heightened difference in the expressivity of these emotions, as these expectations manifest as so-called “display rules” and failure to adhere to these rules may have debilitating social results for both men and women.

In this subsection, an overview of the research on the differences in the way men and women experience and express emotions have been presented. In the following subsection of this chapter, the relationship between gender, language and linguistics and its implications for this study will be investigated.

2.3 Gender and Linguistics

After the first two subsections on gender and gender differences in emotions research, it is now time to add linguistics to the equation. Why is language an important aspect to consider when it comes to understanding the notion of gender as a social construct and in the efforts to neutralize the negative effects of its hierarchical nature? To answer this question, one must analyse the nature of gender identities. McConnell-Ginnet (2011: 8) and Butler (1999: 33) both argue that there is no identity to “have” behind gender expressions; people actually construct these identities through “performing”. In addition to “ideologies, institutions, social relations, and social practices,” language is one of the most important tools that contribute to the construction of these identities and, as a result, to the construction and maintenance of gender and gender stereotypes (McConnell-Ginnet 2011: 8). How does language contribute to the construction of gender? Motschenbacher (2010: 24) argues that language has obtained the power to construct identities because “certain linguistic forms have gone through a process of repeated performance in which they have obtained this performative potential”. Motschenbacher (2010: 24) further argues that “certain linguistic features have the potential to index the meaning “male” or “female”. Furthermore, these features can be stereotypically connected to the behaviours exhibited by males or females (Motschenbacher 2010: 24). According to Motschenbacher (2010: 24) “due to their performative history, these features will be able to produce gendered identities for a long time to come, even if suddenly all women and men stopped using them or

being constructed through them”. So, it is fair to assume that language plays a big role in constructing gender identities and maintaining them because through stereotypes it ensures the continued existence of gender roles, even when the society chooses to stop using certain linguistic forms as Ridgeway (2013: 159) argues “changes in nonmaterial culture (e.g., shared cultural beliefs) frequently lag behind changes in material culture” due to “cultural lag”. Therefore, it is important to acknowledge the role of language in the construction and the maintenance of gender bias and work on it to neutralize the disadvantages gender bias brings; after all “language is, in Keeney's (1983 as quoted in Freud 1994: 38) words, our foremost “epistemological knife” etching in the distinctions of our social reality, it needs to be the first object of our deconstructive efforts.” Another reason why language and its use are elemental in the construction or deconstruction of gender norms is tied to the Sapir-Whorf hypothesis, which argues that language has an influence on cognition (Perlovsky 2009: 418). In their research on the effect of language on color perception, Franklin et. al (2008: 3224) have found evidence confirming that language has an influence on human cognition, supporting the Sapir-Whorf hypothesis. If we are to acknowledge that the language we use and are exposed to affects the way we think, it is natural to assume that language can be seen as one of the most important tools in the fight against gender bias and gender inequality. According to Pauwels (2003: 553), feminist activists have considered the same, as she argues that “Exposing and documenting sexist practices in language use and communication has been, and continues to be, a grassroots-based activity by feminists with an interest in language and the linguistic representation of the sexes.” Feminist research on language and linguistic representations of sex has shown that there are common features across speech communities and languages (Pauwels 2003: 553). Pauwels (2003: 553) argues that “asymmetrical treatment of women and men, of male/masculine and female/feminine concepts and principles” was one of the striking features commonly found across multiple languages. This asymmetrical treatment includes “considering the male/men as the prototype for human representation”, reducing the women into the status of “subsumed”, “invisible” or “marked” (Pauwels, 2003: 553). Pauwels (2003: 553) argues that generic reference in a lot of languages are expressed with with forms denoting masculinity (e.g. in some languages “he” is as both generic and masculine pronoun) and

“when women are made visible in language, they are “marked”: their linguistic construction is often as a derivative of man/male through various grammatical (morphological) processes” (Pauwels (2003: 553). According to Pauwels (2003: 553), this asymmetry affects more than just the grammar of the languages; it also has a significant effect on the lexicon. Pauwels (2003: 553) accounts for this effect with the “male as norm” principle through the phenomenon of lexical gaps; that is, the absence of words to denote women in a variety of roles, professions, and occupations. Pauwels (2003: 553) argues that when the reverse is considered, this absence of words is filled very quickly when men adopt roles or enter professions that are considered to be female-dominant, “to the extent that the new male form becomes the dominant one from which a new female form is derived”. Pauwels (2003: 553) offers the following example to this principle:

“An example of this practice is found in German where the word *Hebamme* (midwife) is making way for the new word *Entbindungspfleger* (literally “birthing assistant”) as a result of men taking up the role of midwife. Meanwhile a female midwife has been coined *Entbindungspflegerin*, a form derived from *Entbindungspfleger*.”

Pauwels (2003: 553) argues that this semantic asymmetry is of particular concern to feminist researchers as it symbolizes the asymmetrical power dynamic and status differences between men and women. According to Pauwels (2003: 553), “The core of this semantic asymmetry is that woman is a sexual being dependent on man, whereas man is simply defined as a human being whose existence does not need reference to woman”. Pauwels (2003: 554) defends that “linguistic stereotyping” was also considered problematic by feminist researchers, as these stereotypes, like many other gender-related stereotypes, serve to preserve the status quo where women hold a subordinate position in comparison to men. Therefore, feminist language activists believe that “a more balanced representation of women in language” is an important step towards the neutralization of this imbalance and “the liberation of women” as they hold an “interactionist view of language and reality which has its origins in a weaker version of the Sapir–Whorf hypothesis: language shapes and reflects social reality” (Pauwels 2003: 554). According to Pauwels (2003: 552), many feminist researchers view language change

as necessary, and the motivations behind language change revolve around the following three points:

“(1) a desire to expose the sexist nature of the current language system; (2) a desire to create a language which can express reality from a woman’s perspective; or (3) a desire to amend the present language system to achieve a symmetrical and equitable representation of women and men.”

Driven by these desires, one of the main goals of feminist language activism is “to raise awareness against gender bias” (Pauwels 2003: 561). Considering English’s position in the modern society “as a global language” (Crystal 2012: 3), linguistic research on the development and the nature of gender bias is of high relevance. As illustrated through the theoretical framework chapter, there is quite a lot of research at the intersection of gender bias and emotion research, and gender bias and linguistics; the number of studies at the intersection of all three is somewhat limited. One of the most relevant studies to this thesis belongs to Plaza-del-Arco et al. (2024). Plaza-del-Arco et al. (2024: 2) have conducted research on large language models to find out whether they exhibit gender stereotypes in emotion attribution, and they have found “strong evidence of gendered stereotyping across the five LLMs, which strongly aligns with findings in psychology and gender studies: models overwhelmingly link SADNESS with women and ANGER with men”. Another research by Caliskan et al. (2022: 164) investigating the gender bias patterns of word embeddings in internet corpora has found evidence on gender bias in language: “93 of the 100 most frequent words in the GloVe embeddings’ vocabulary are associated with the male attribute group, as well as 774 of the 1000 most frequent words”. Furthermore, another relevant finding of their research to this study is that while words denoting dominance, such as “fight” and “overpower,” are mostly associated with male constructions, words denoting emotion, such as “emotionally” and “giving,” are significantly related to female constructions (Caliskan et al. 2022: 165). Another relevant research conducted by Bhardwaj et al. (2020: 4) has investigated the gender bias patterns in the popular contextual language model (CLM), BERT, and found that “the words *joy*, *anger*, and *fear* “have higher average intensity scores for male phrases than female, while the opposite trend is seen in models for valence and sadness”. In another relevant

study, Pearce (2008: 3) investigates the collocation patterns of MAN and WOMAN, and his findings show that:

“Behaviours and traits associated with competitiveness, rationality, aggression, and dominance are evident in the collocates of MAN (e.g., lead, conquer, wise, and *assault*). WOMAN, on the other hand, often patterns with items that are associated with the stereotypical female. For example, emotional intemperance is captured in subject verbs such as *weep*, *cry*, and *wail*, and adjectives such as *distraught*, *neurotic*, and *hysterical*.

On a more focused study, Norberg (2012: 160) analysed examples retrieved from the British National Corpus to investigate the gender bias patterns behind the word shame, more specifically “to show in what situations women and men express shame or are associated with the emotion, to explore whether shame is interpreted as a positive or negative emotion in these contexts, whether it is understood as internal or disembodied”. The findings of the study show that women experience the kind of shame that is rather destructive, associated with their identity, filled with a feeling of guilt and drives them towards “hiding, withdrawal and silence” while men experience the kind of shame that is a normal aspect of social life that regulates their behaviour patterns, short-lived and is associated with their actions rather than their identity (Norberg 2012: 180).

It is important to note that the few studies on this area of research have been mostly conducted on corpora. One can question why these studies are conducted on corpora? Baker (2014: 7) argues that corpora “involve authentic cases of language use as it occurs in the real world” and are more authentic than a sentence made up by a linguist in order to prove their point, as these sentences do not always reflect the real language use. Corpus research is “grounded in empiricism”, hence very suitable to illustrate the gender bias patterns the words under investigation exhibit. Furthermore, some corpora, such as the Google Books American English corpus, feature data from an extended period of time (19th to 21st century), which enables the researchers to investigate the historical development of the words under investigation. Therefore, corpus research fulfills all the conditions for the topic of this thesis. Not only does it enable me to compare the gender bias patterns exhibited by 100+ words, but it also allows me to monitor the historical de-

velopment of these patterns through an analysis of the words in an authentic context.

In this chapter of the thesis, the theoretical framework of this study has been established, and an overview of the previous research on themes such as gender, sex, gender bias, gender inequality, gender differences in the experience and expression of emotions, and the intersection of gender research and linguistics has been presented. In the following chapter, the research methodology employed will be explained.

3. Research Methodology

In the following section of this thesis, the methodology employed for this study will be provided in detail. First, the general design of the survey will be presented. Then, the word list used for this study, along with the criteria behind the selection process, will be provided. Lastly, the research method will be explained in more detail.

This thesis will employ a mixed-methods approach, that is, both quantitative and qualitative analyses will be conducted. First, data will be collected from the Google Books American English for the period between the 1810s and 2000s. Then, for a selected small group of words, data will be collected from the Corpus of Contemporary American English and qualitatively analysed.

Before moving on to a more detailed analysis of the research methodology, the list of words to be used will be presented. The following adjectives denoting emotions will be used in this study:

happy, delighted, pleased, cheerful, thrilled, excited, satisfied, grateful, thankful, proud, confident, assured, optimistic, hopeful, determined, strong, courageous, brave, loving, tender, caring, kind, compassionate, inspired, attached, devoted, intimate, sad, unhappy, miserable, depressed, grieving, heartbroken, hopeless, angry, mad, furious, irritated, annoyed, bitter, frustrated, hostile, aggressive, outraged, fearful, afraid, scared, terrified, nervous, anxious, worried, concerned, uneasy, alarmed, distressed, overwhelmed, startled, ashamed, reluctant, embarrassed, humiliated, upset, disgraced, apologetic, lonely, isolated, alienated, abandoned, neglected, alone, jealous, resentful, discontented, insecure, uncertain, puzzled, confused, indifferent, detached, calm, restless, disappointed, discouraged, disturbed, exhausted, steady, volatile, vulnerable, sensitive, delicate, fragile, resilient, tough, stoic, reserved, exposed, withdrawn, patient, hysterical, dramatic, guilty, impatient, comfortable, confident, eager, glad, relieved, satisfied, surprised

The large majority of these words are taken from Rosenberg (1999: 44-46), and some words are added through a random selection for a more balanced representation of a large variety of emotions. The emotions denoted by these words could be divided into three groups: positive, negative, and neutral emotions. Con-

sidering the number of words included in this study, only one construction is used to analyse gender bias patterns, as searching for more than one construction would not be feasible within the limits of an MA study. The following constructions have been searched in the Google Books American English corpus for this study: *he [be] ADJ* vs *she [be] ADJ*. The only exception to this was the word *guilty* as its use with the verb *to be* is more often in a legal context; the number extracted would feature instances that are irrelevant to this study. Therefore, for the adjective *guilty* in addition to the abovementioned construction, the following constructions have been used: *he [feel] guilty* vs *she [feel] guilty*. It is important to note that the parts of speech in brackets are lemma searches, which bring all possible constructions of the part of speech. Another exception to the calculations was the word *kind*. As it is not possible to tag parts-of-speech in Google Books American English, for *he [be] kind* vs *she [be] kind*, there were a lot of false positive cases of *he/she [be] kind of*. Therefore, this construction was also searched, and the number of instances of *he/she [kind]* that are followed by the word " *have was* *subtracted* from the total number of *he/she [kind]*.

This thesis intends to offer evidence on the gender bias patterns present in adjectives denoting emotions in American English through a comparative analysis of the constructions *he [be] ADJ* vs *she [be] ADJ*. For this purpose, searches will be conducted on the Google Books American English Corpus first. The Google Books American English Corpus features a total of 156 billion words. In order to make a diachronic analysis of the gender bias patterns, the number of occurrences for each word will be extracted for the period between the 1810s and 2000s. The Odds Ratio, Log Odds Ratio, and Absolute Log Odds Ratio values will be calculated for every word in both male and female constructions. For this purpose, I will use an Excel sheet provided by my thesis supervisor, Univ.-Prof. Mag. Dr. Nikolaus Ritt. This Excel sheet already contains pre-set formulas for the necessary calculations; only the entry of the number of occurrences for the selected words is required. The Odds Ratio is measured by dividing the odds of each word appearing in the construction *he [be] ADJ* by the odds of the same word appearing in the construction *she [be] ADJ*. For the Odds Ratio, a value of 1 and above indicates a male bias, while a value between 0 and 1 indicates a female bias. For the Log Odds Ratio, the calculation is a bit modified so that a value above 0 indicates a

male bias, while a value below 0 indicates a female bias. These values were calculated for each word between the period of 1810s-2000s, and the results are illustrated in graphs. Absolute Log Odds Ratio values are only positive and are calculated to illustrate the overall gender bias pattern of the Google Books American English corpus.

The second method of research employed in this study is qualitative analysis. The most frequently occurring 10 adjectives denoting positive, negative, and neutral emotions were chosen out of 110 words, as the qualitative analysis of all 110 words would be beyond the scope of this study. The following 10 words have been chosen for the qualitative analysis: *afraid, concerned, alone, guilty (feel), glad, determined, happy, pleased, surprised, sensitive*. The context in which these adjectives occurred was examined to find out what evokes these emotions in males in comparison to females. 100 samples were extracted per word (when possible) from the Corpus of Contemporary American English, and these samples were qualitatively analysed.

In this section of the thesis, the research methodology have been presented in detail. The following section presents the results of the quantitative and qualitative analysis and discusses these results with regard to the hypotheses.

4. Results

In this section of the thesis, the results of this thesis study will be illustrated and interpreted, and the results will be discussed bearing the above-mentioned research questions in mind. First, the overall gender bias pattern of the Google Books American English corpus will be presented. Subsequently, a more detailed comparison of the positive, negative, and neutral emotion words will be conducted, and the individual gender bias patterns exhibited by the chosen words will be presented. Following this, the results of the qualitative analysis of data extracted from the Corpus of Contemporary American English for the selected words will be demonstrated. Finally, the results obtained will be discussed.

Before moving on to the results showing the gender bias patterns of emotion adjectives, it is important to glance at the overall gender bias trend of adjectives preceded by *he/she [be]*. Figure 1 shows the average log odds ratio of ratios of these adjectives from the 1810s to the 2000s in the Google Books American English corpus. It is important to note that in this graph and the other graphs in the thesis, lines have been inserted to identify the trends, and for each decade, there is a separate data point.

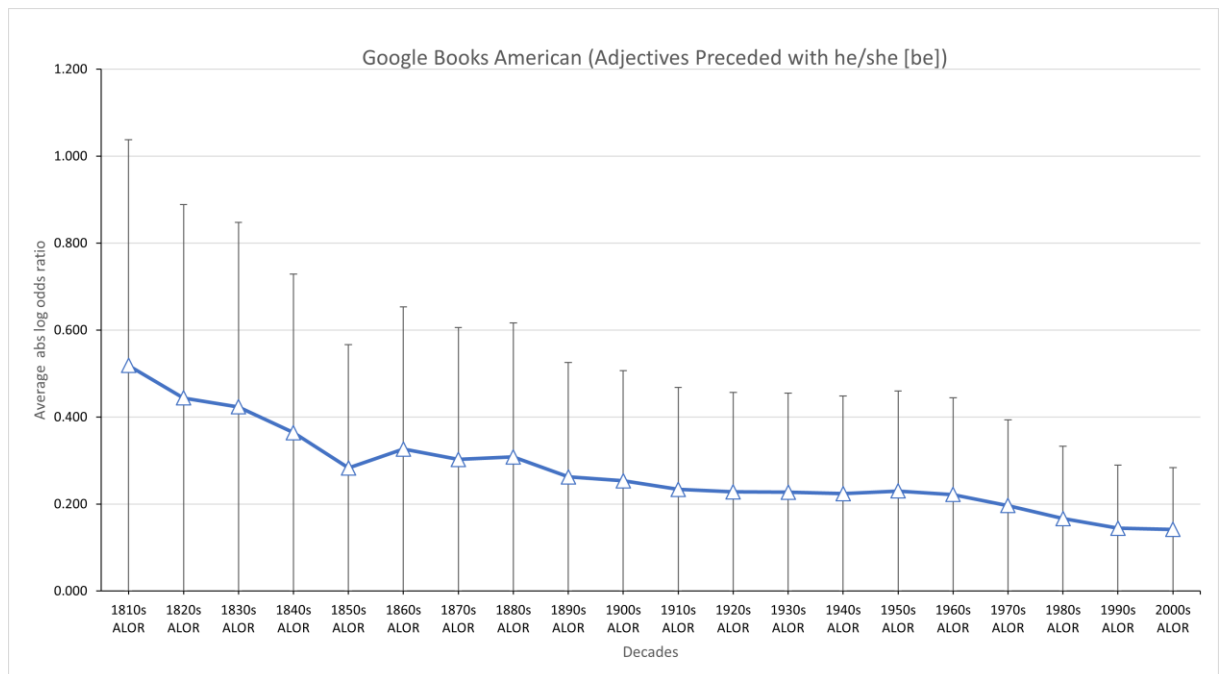


Figure 1 Average abs log odds ratios for the American English sample of *he or she [be]* ADJ constructions showing a consistently decreasing trend.

As illustrated by the graph, the average abs log odds values are above 0 which establishes the presence of gender bias for adjectives preceded by *he/she [be]* in American English. Of particular interest is the decreasing trend the figure shows from the 1810s to 2000s. The average abs log odds ratio value drops from 0.51 to 0.14 from 1810s to 2000s. The error bars overlap which indicates that the results are statistically significant. The results here shows that the gender bias these words exhibit has decreased over time. These results are rather important as they align with the expected decreasing trend of gender bias over the course of the 19th and 20th centuries, especially from the 1960s onwards through the efforts of the feminist activists.

In the following subsection, the gender bias patterns exhibited by emotions with a positive connotation and the diachronic development of this gender bias will be illustrated through graphs.

4.1 Diachronic changes in the log odds ratio of the adjectives denoting positive emotions in Google Books American English Corpus

In this subsection of the thesis, the results of the analysis conducted on the adjectives denoting positive emotions will be presented. Out of the 105 words selected for this study, 35 have positive connotations. As an illustration, 35 words would result in a graph that would be rather difficult to interpret. In this section, the diachronic development of every single word will be individually illustrated and discussed first, which will be followed by the graph and interpretation of all 35 words.

Figure 2 shows the log odds ratio of the construction *he/she [be] happy*.

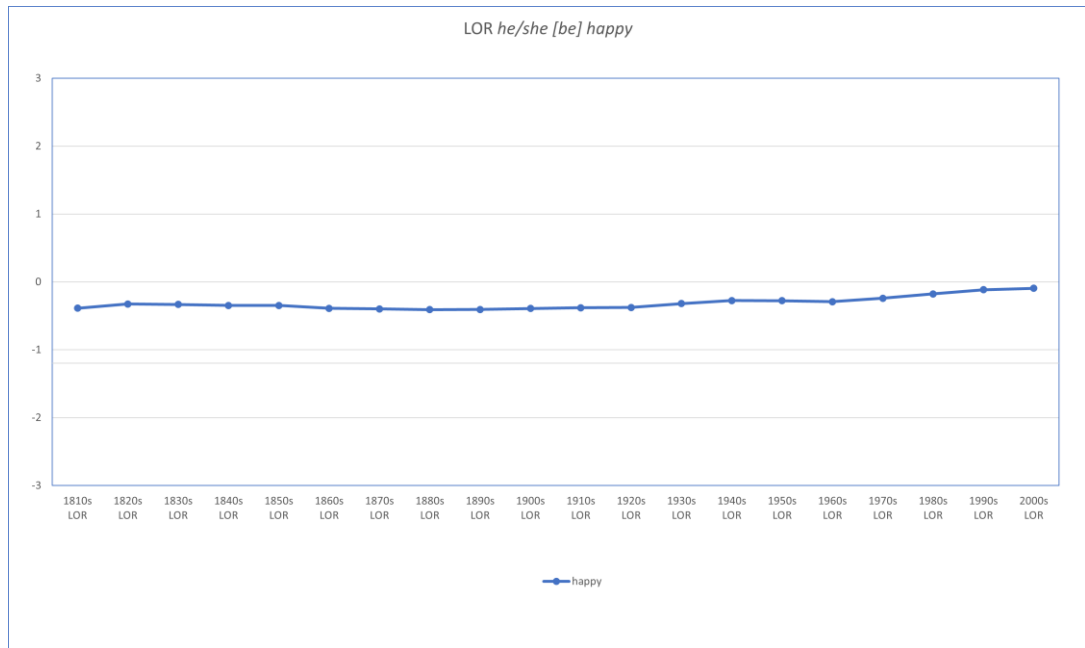


Figure 2 Log odds ratio for the American English sample of *he or she [be] happy*.

As the graph illustrates, the word *happy* overall exhibits a female bias; however, this bias shows a decreasing trend from the early 19th century to the end of the 20th century. The log odds ratio for the *he vs she [be] happy* construction decreases from -0.38 to -0.09 from the 1810s to the 2000s. However, this word still shows a female bias in the 2000s, which aligns with the findings of other researchers such as Timmers et al. (2003: 43), who argued that due to gender stereotypes, women are more likely to be portrayed with positive emotions.

Figure 3 shows the log odds ratio of the construction *he/she [be] delighted*.

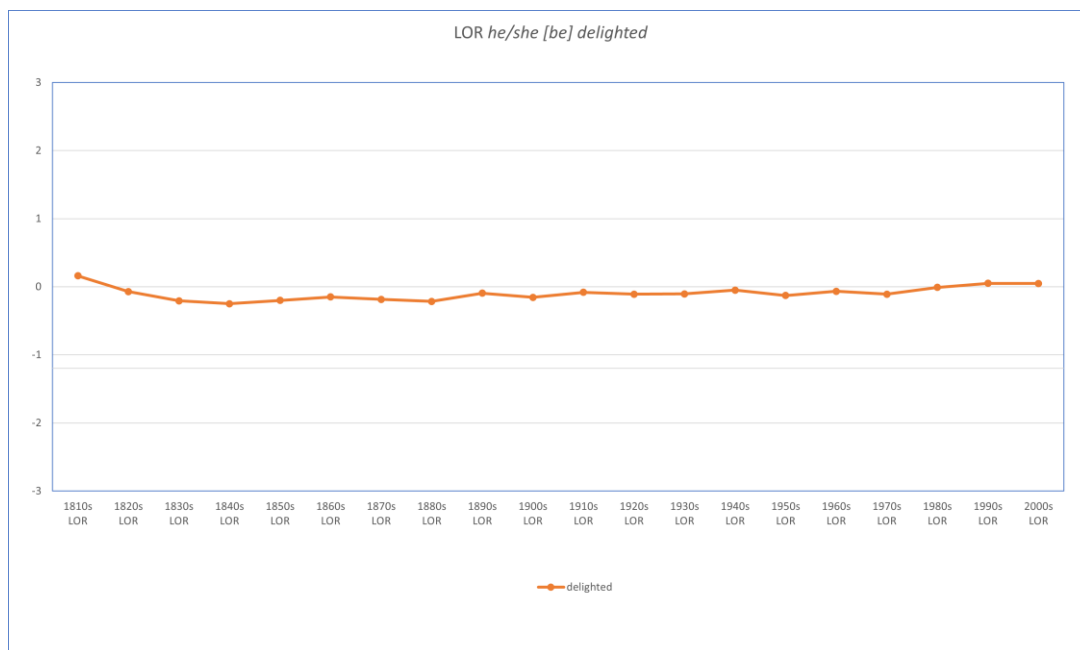


Figure 3 Log odds ratio for the American English sample of *he or she [be] delighted*.

From the graph, it is evident that the word *delighted* throughout the 19th and 20th centuries mostly shows a slight female bias; however, in terms of gender bias, it shows an overall decreasing pattern. Only in the 1810s, 1990s, and 2000s, this word shows male bias. However, this bias is very minor, as the log odds ratio for the 2000s is 0.04, which is significantly lower in comparison to the 1810s, when the log odds ratio was 0.16. The word *delighted* mostly follows the pattern offered by Timmers et al. (2003: 43).

Figure 4 shows the log odds ratio of the construction *he/she [be] pleased*.

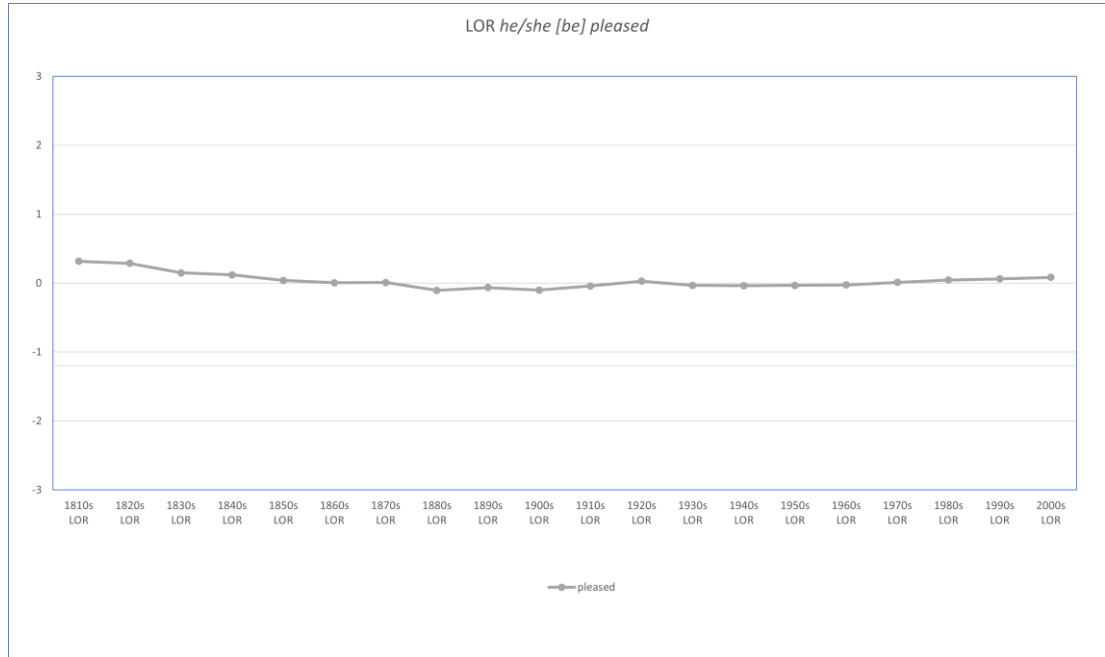


Figure 4 Log odds ratio for the American English sample of *he or she [be] pleased*.

As can be observed from the graph, the word *pleased* shows a very similar pattern to *delighted*. Overall, it shows a female bias, albeit rather slight. In the early 19th century, it shows a significant male bias, then it shows a decreasing trend in terms of gender bias, and mostly exhibits female bias. From the 1970s onwards, it starts showing male bias again; however, this bias is significantly lower in comparison to the 1810s. For the 1810s, the log odds ratio value is 0.31, while it is only 0.08 for the 2000s, which once again aligns with the overall decrease in gender bias.

Figure 5 shows the log odds ratio of the construction *he/she [be] cheerful*.

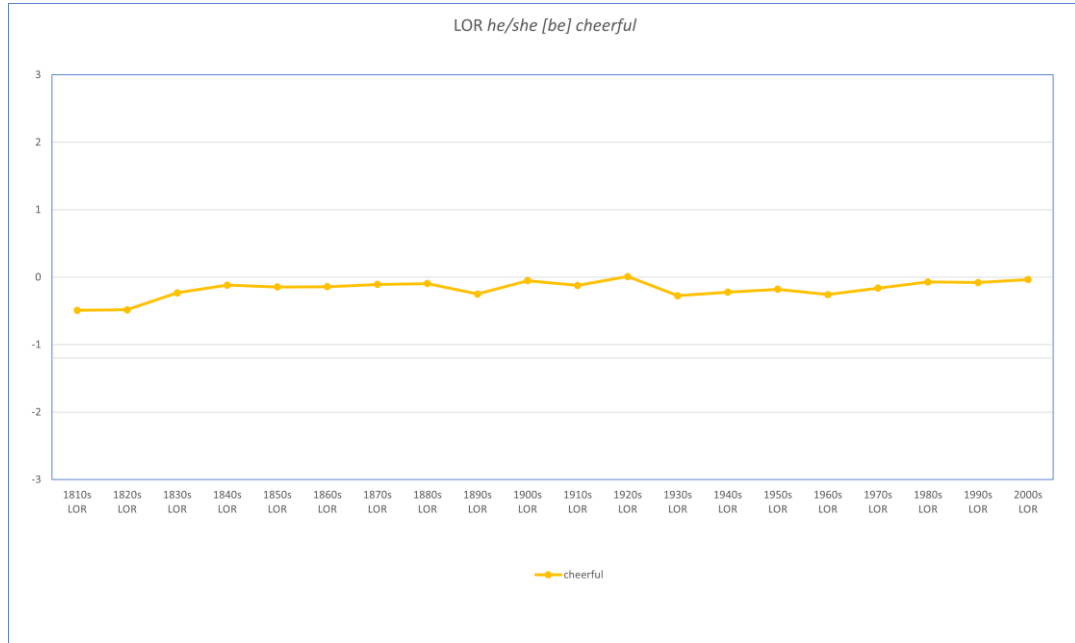


Figure 5 Log odds ratio for the American English sample of *he or she [be] pleased*.

As can be observed from the graph, *cheerful* shows female bias in nearly all decades examined (excluding the 1920s). Initially, it shows a noticeable female bias with a log odds ratio value of -0.49 for the 1810s. Over time, it shows a decreasing trend, and especially from the 1970s onwards, it reaches almost 0, with an overall negligible female bias. For the 2000s, the log odds ratio value is -0.03. The development of the gender bias patterns of *cheerful* aligns with the expected decreasing trend in gender bias.

Figure 6 shows the log odds ratio of the construction *he/she [be] thrilled*.

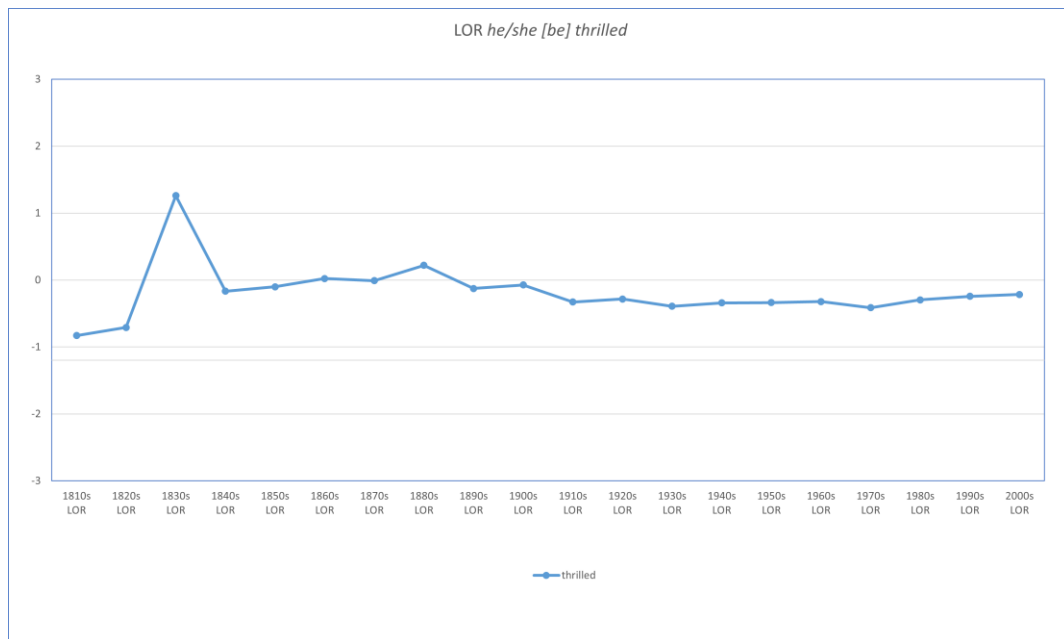


Figure 6 Log odds ratio for the American English sample of *he or she [be] thrilled*.

As visualized in the graph, excluding the early 1800s, the word *thrilled* shows only a slight gender bias, mostly female, excluding the 1880s. The reason for the stark data difference is that there are not enough occurrences before the 1840s to make a sound comparison, as there were 0 instances, and the number 0.1 has been inserted for female construction and 0.11 for male constructions to be able to obtain data. *Thrilled* mostly follows the same pattern as the previously analysed words and shows a slightly decreasing trend from the 1840s to the 1960s, then again a minor increasing trend in gender bias, which deviates from the other words analysed so far and the overall trend, with a log odds ratio of -0.16 for the 1840s to -0.21 for the 2000s.

Figure 7 displays the log odds ratio of the construction *he/she [be] excited*.

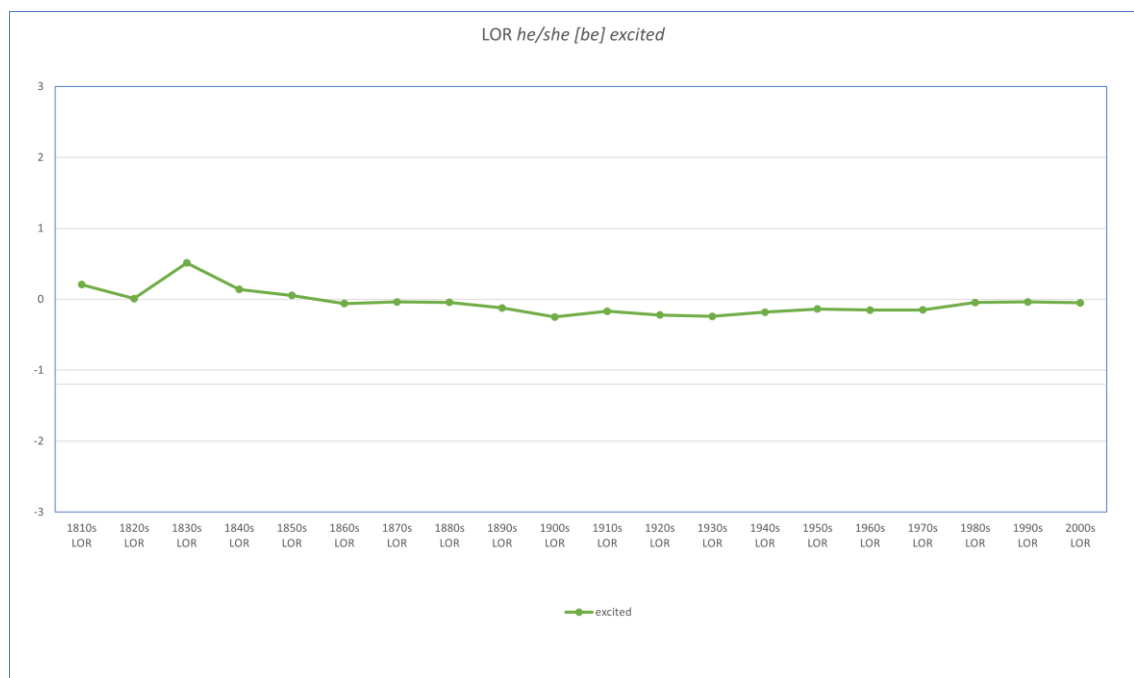


Figure 7 Log odds ratio for the American English sample of *he or she [be] excited*.

As evidenced by the graph, *excited* mainly shows female bias. In the early 19th century, *excited* exhibits male bias, with the highest log odds ratio documented 0.51 showing a rather strong male bias in the 1830s. However, over time, the bias shows first a decreasing trend, then an increase towards female bias. From the 1970s onwards, the bias significantly decreases again and nearly reaches 0, which follows the overall decreasing pattern in gender bias with a log odds ratio value of -0.05 for the 2000s. The graph of *excited* is further proof to the partial success of efforts towards neutralizing gender bias in language.

Figure 8 displays the log odds ratio of the construction *he/she [be] satisfied*.

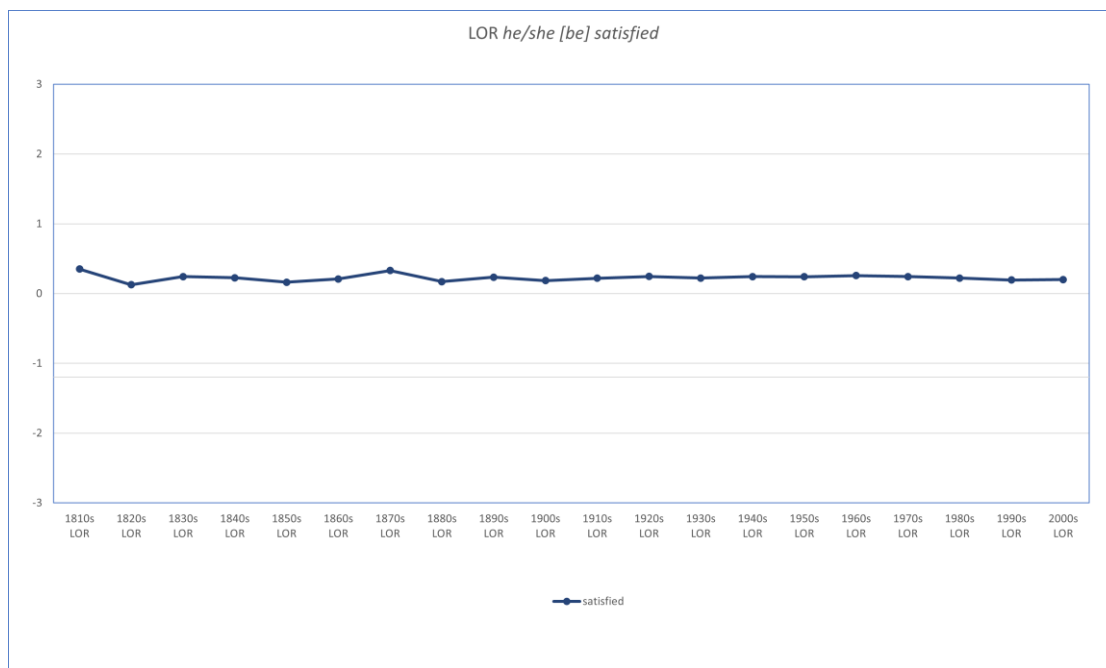


Figure 8 Log odds ratio for the American English sample of *he or she [be] satisfied*.

From the graph it is evident that *satisfied* does not exhibit the same type of bias as the other positively connotated words, as it shows a consistent male bias throughout the 19th and 20th century, however this is mostly a slight bias. The overall trend is similar to the other words analysed so far and to the overall gender bias pattern of the adjectives. Just like in the case of the other words, the gender bias decreases from the 1970s onwards. For the 1810s, the log odds ratio value is 0.35, while for the 2000s it is 0.19.

Figure 9 displays the log odds ratio of the construction *he/she [be] grateful*.

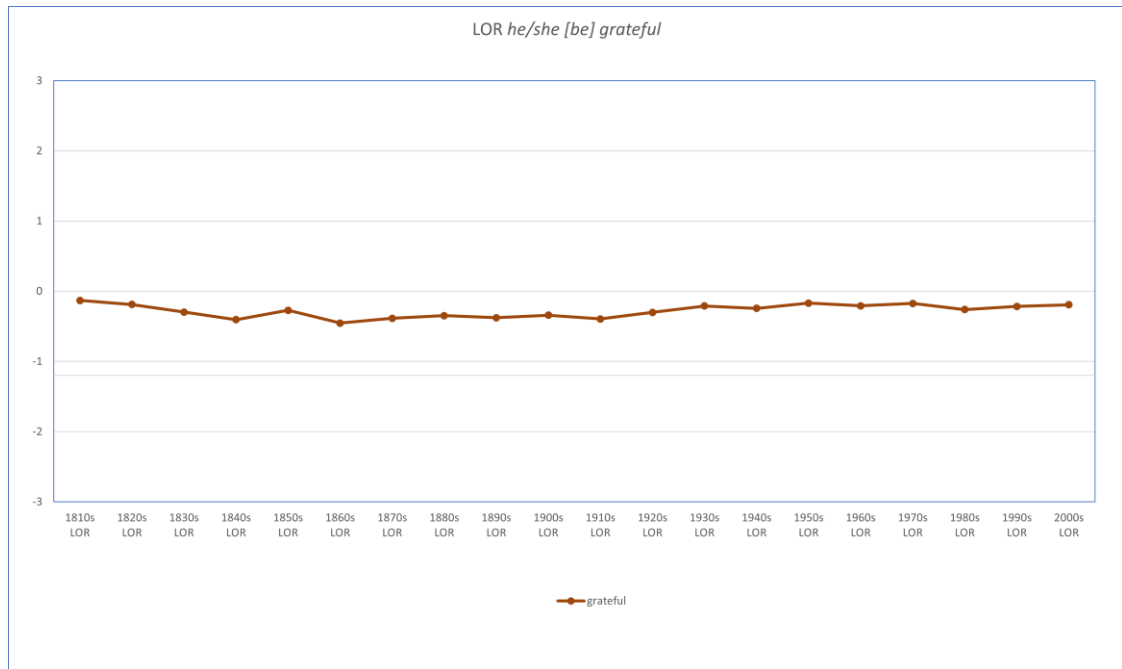


Figure 9 Log odds ratio for the American English sample of *he or she [be] grateful*.

As illustrated in the graph, *grateful* shows a female bias throughout the investigated time period, similar to the majority of the words denoting positive emotions. Overall, the gender bias shows an increasing trend until the 1880s, then shows a consistently decreasing trend. However, compared to the 1810s, for which the log odds ratio value is -0.13, there is a slight increase overall in the gender bias, as for the 2000s, the log odds ratio value is -0.19. Unlike the case of the majority of the other words, gender bias starts to decrease for *grateful* from as early as the 1900s and consistently continues to decrease despite a slight increase in the 1980s.

Figure 10 displays the log odds ratio of the construction *he/she [be] thankful*.

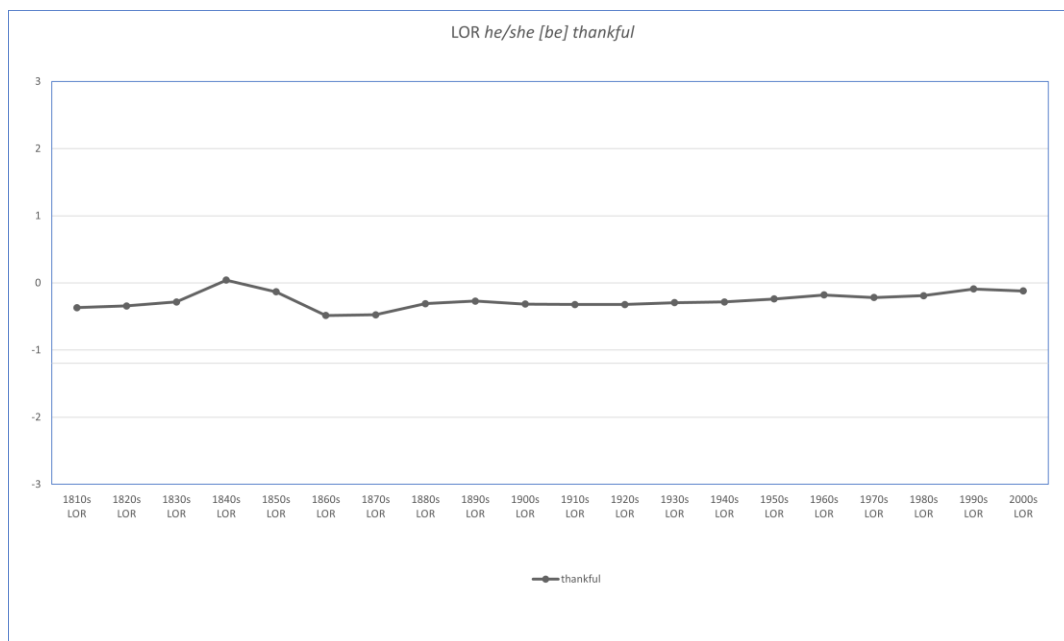


Figure 10 Log odds ratio for the American English sample of *he or she [be] thankful*.

As can be observed from Figure 10, *thankful* follows nearly the exact same pattern as *grateful*, with the exception of the 1840s showing a barely detectable male bias and otherwise consistently showing a female bias. Excluding the increasing trend from the 1840s to the 1860s, this female bias consistently decreases and overall matches the pattern observed in the majority of the positive emotion words analysed so far and that of the adjectives in general. For the 1810s, the log odds ratio value is -0.36, while for the 2000s it is -0.12.

Figure 11 displays the log odds ratio of the construction *he/she [be] proud*.

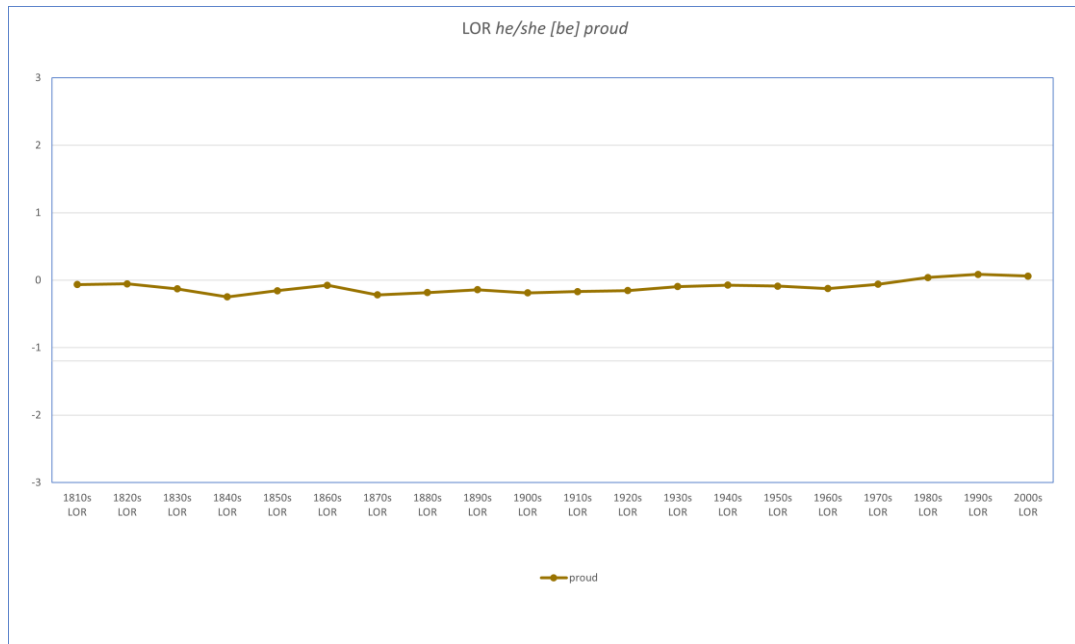


Figure 11 Log odds ratio for the American English sample of *he or she [be] proud*.

As it is exhibited by Figure 11, *proud* shows a relatively similar pattern to the other words analysed so far, with a mostly female bias and an overall decreasing gender bias trend; however, from the 1970s onwards it shows a male bias. However, throughout the 19th and 20th centuries, gender bias is overall barely noticeable. For the 1810s, the log odds ratio value is -0.06, while in the 2000s it is 0.06.

Figure 12 displays the log odds ratio of the construction *he/she [be] confident*.

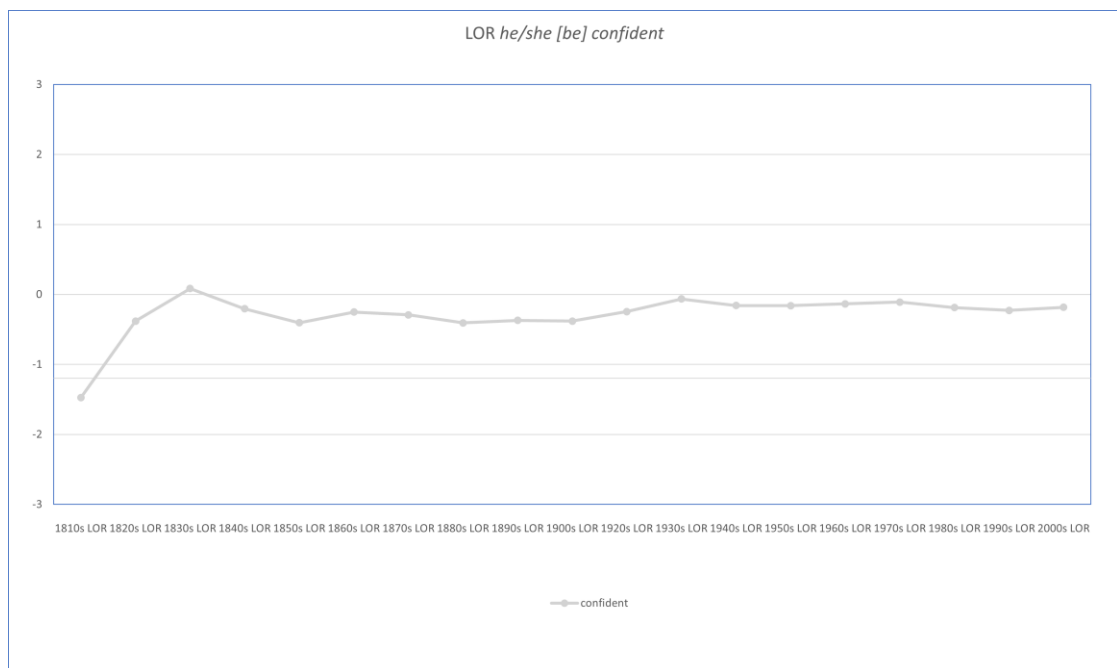


Figure 12 Log odds ratio for the American English sample of *he or she [be] confident*.

As it is also shown in the graph, similar to the majority of the positively connotated emotion adjectives, *confident* almost exclusively shows female bias from the 19th century to the early 21st century except for the 1830s. In terms of the overall bias, the log odds ratio of *confident* exhibits a decreasing trend. The female bias is higher for the 1810s than it is for the 2000s. For the 1810s, the log odds ratio is -1.47, then for the 1840s it drops to 0.08, however by the 2000s it is -0.18. Fischer (2018: 14) has found that men themselves are less confident in themselves when it comes to emotional intelligence. It is interesting that they are also less likely to be referred to as *confident*, which contradicts the gender stereotypes.

Figure 13 displays the log odds ratio of the construction *he/she [be] assured*.

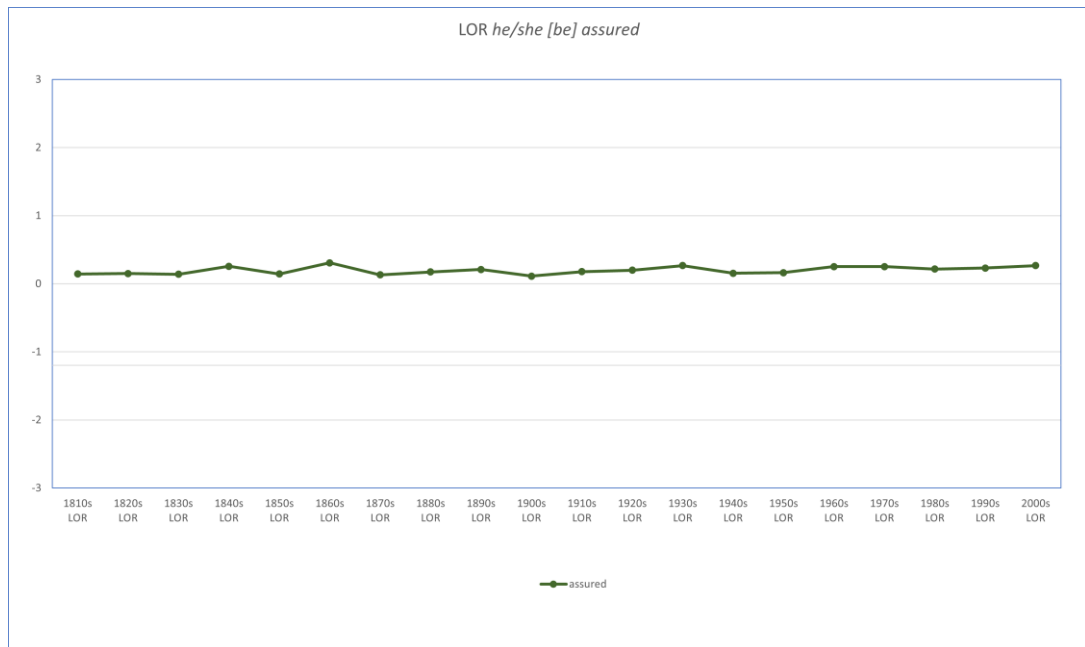


Figure 13 Log odds ratio for the American English sample of *he or she [be] assured*.

From the graph it is evident that just like *confident*, *assured* does not follow the overall trend as it also shows a male bias throughout the investigated period. Furthermore, unlike the majority of the words analysed so far, it does not follow a decreasing trend, but rather exhibits a slow but steady increase in terms of gender bias. The log odds ratio nearly doubles from the 1810s to the 2000s, with an increase from 0.14 to 0.26. This finding offers evidence that men have been more likely to be called *assured* since the 1810s, and this bias has even increased over time.

Figure 14 displays the log odds ratio of the construction *he/she [be] optimistic*.

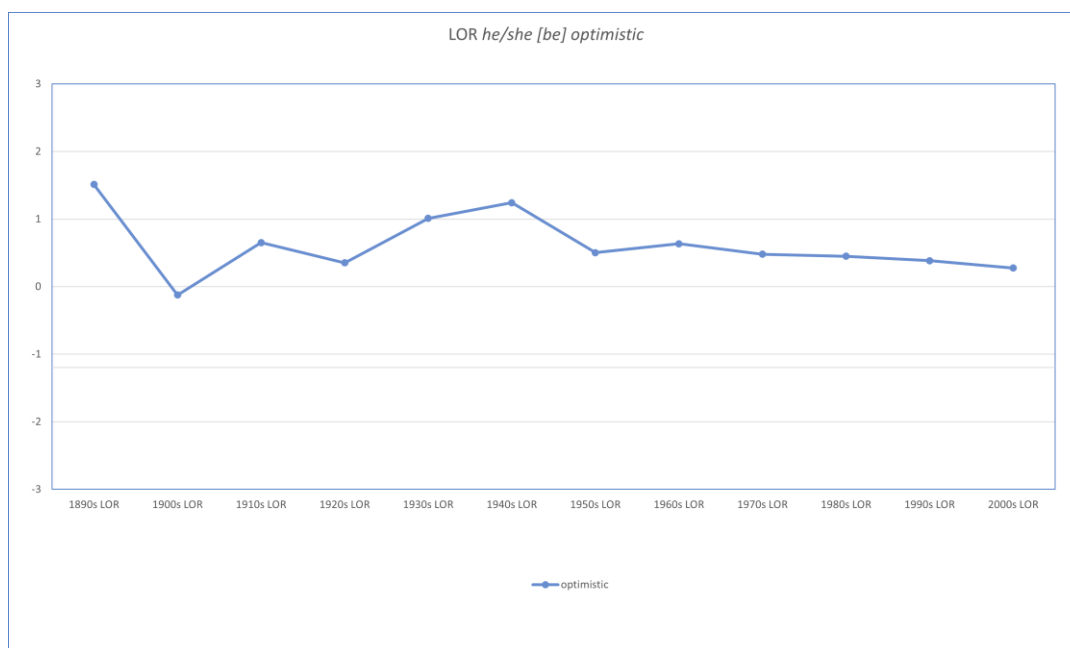


Figure 14 Log odds ratio for the American English sample of *he or she [be] optimistic*.

At one quick glance, one can notice the difference in the graph for the word *optimistic* as unlike the other words, in the case of *optimistic* the graph only exhibits data from the 1890s to 2000s. This is due to the fact that there are no occurrences of *he/she [be] optimistic* before 1890s. In the 1890s, it exhibits such a strong male bias because there were no occurrences of *optimistic* in the female construction; thus, a frequency value of 0.1 was assigned to the female construction. Although throughout the investigated decades *optimistic* continue to show male bias, this bias shows a decreasing trend pursuant to the overall trend exhibited by the adjectives. The log odds ratio varies significantly over time; for the 1890s it is 1.51, while for the 2000s, it is only 0.27.

Figure 15 displays the log odds ratio of the construction *he/she [be] hopeful*.

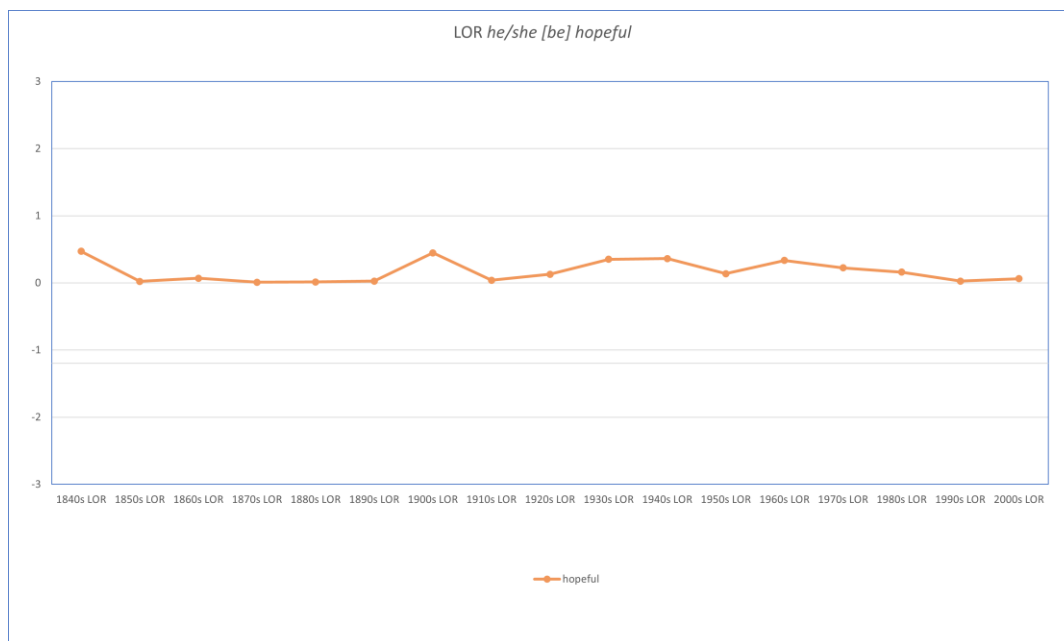


Figure 15 Log odds ratio for the American English sample of *he or she [be] hopeful*.

As evidenced by the graph, the case of *hopeful* bears some similarities to that of *optimistic*. For *hopeful*, the analysis starts from the 1840s, as there are no occurrences of *he/she [be] hopeful* for the 1810s, 1820s, and 1830s. Throughout the investigated period, the adjective *hopeful* shows male bias. In terms of overall gender bias, it shows a fluctuating, but decreasing trend. For the 1840s, the log odds ratio value is 0.47, while by the 2000s it drops to 0.06. Furthermore, similarly to most of the positively connotated words and the adjectives overall, *hopeful* shows a particularly decreasing trend from the 1960s onwards.

Figure 16 illustrates the log odds ratio of the construction *he/she [be] determined*.

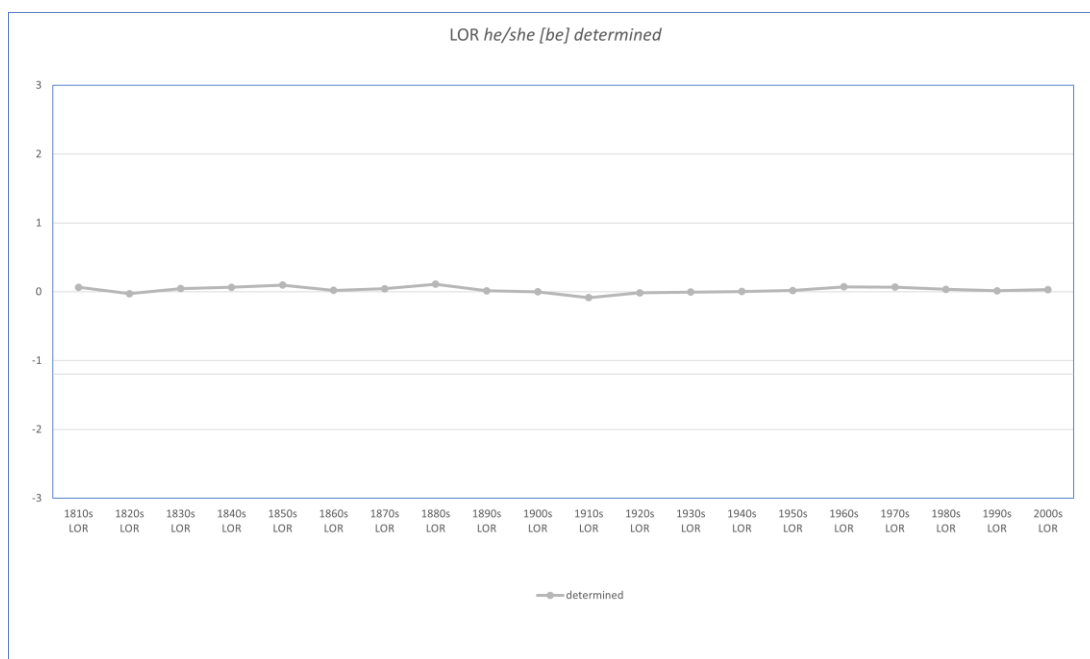


Figure 16 Log odds ratio for the American English sample of *he or she [be] determined*.

The development of *determined* is a very interesting case as it is one of the words that show the least amount of bias throughout the investigated period. Although overall it mainly shows a male bias, the log odds ratio value is 0.10 at its highest (for the 1890s). The overall gender bias mostly remained constant, but the log odds ratio exhibits a slight drop from the 1890s to 2000s (from 0.06 to 0.03). However, it is important to note that these values mostly signal a barely noticeable bias.

Figure 17 shows the log odds ratio of the construction *he/she [be] strong*.

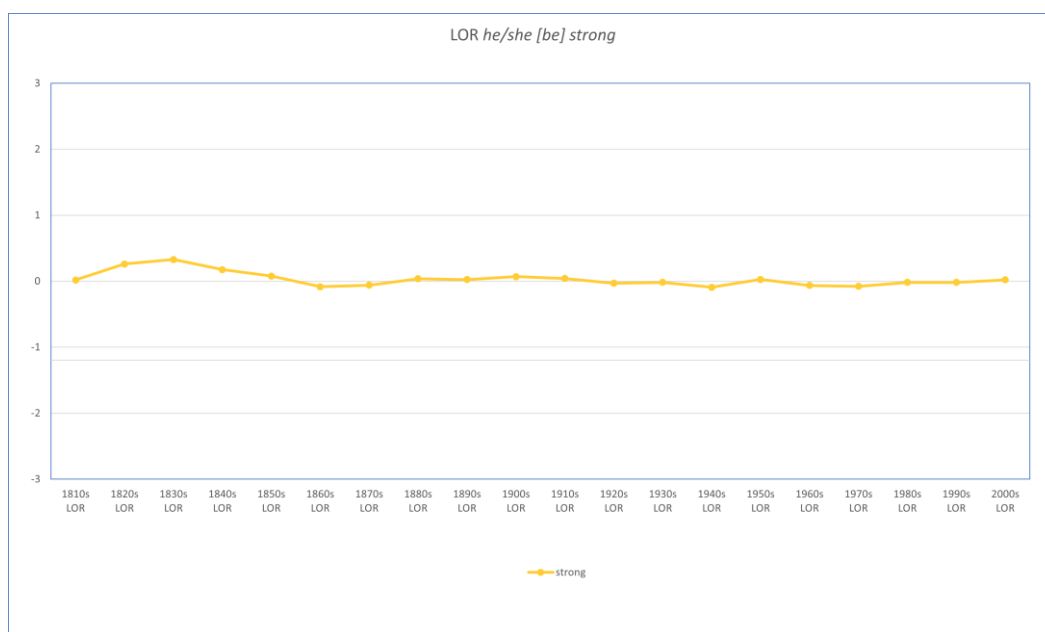


Figure 17 Log odds ratio for the American English sample of *he or she [be] strong*.

From the graph it is evident that although *strong* initially shows an increase towards male bias, overall the log odds ratio value fluctuates and shows mostly a negligible bias, initially male, later on female. These results are rather interesting considering the existing gender stereotype that males are depicted as strong. The results contradict this idea as it shows that the bias is barely noticeable most of the time and *strong* even exhibits a minor female bias from the 1960s onwards. Overall, the gender bias also barely changes from the 1810s to the 2000s excluding a peak of 0.32 for the 1830s. For the 1810s, the log odds ratio value is 0.018, while for the 2000s it is 0.02.

Figure 18 illustrates the log odds ratio of the construction *he/she [be] courageous*.

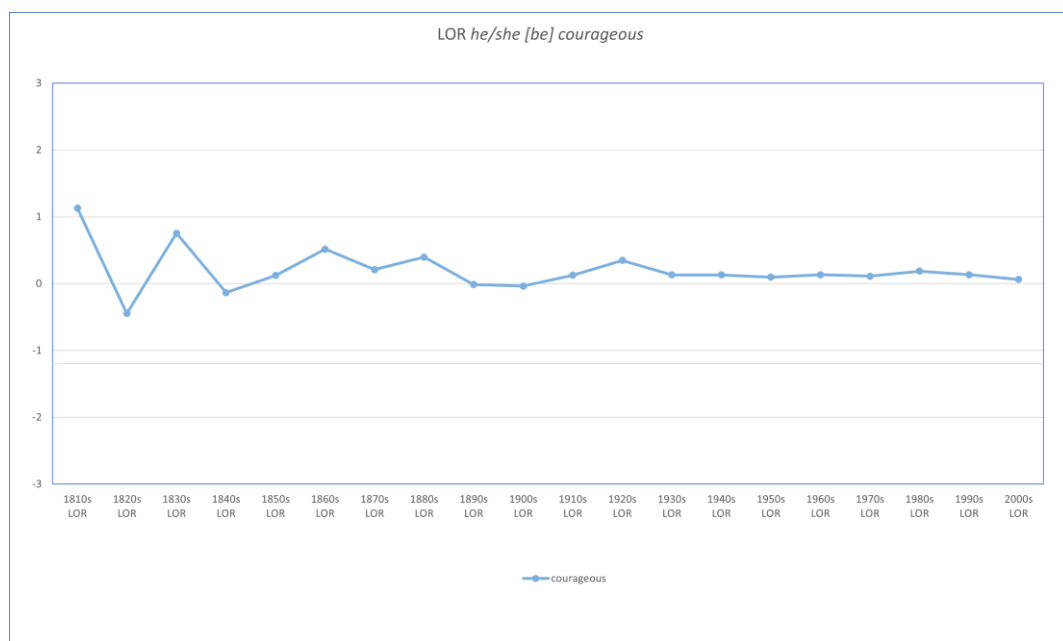


Figure 18 Log odds ratio for the American English sample of *he or she [be] courageous*.

As illustrated by the graph, *courageous* exhibits a strong male bias initially. This is due to the fact that there were 18 occurrences of *he [be] courageous* in the 1830s, while there were 0 occurrences of *she [be] courageous* (for which 0.1 was inserted to obtain data). However, this strong male bias decreases over time and becomes barely noticeable, especially from the 1960s onwards. For the 1810s, the log odds ratio value is 1.12, while for the 2000s it drops to 0.06. This significant decrease actually shows that gender bias regarding the use of the word *courageous* has almost disappeared by the 2000s. Still, it can be observed that *courageous* mostly shows male bias throughout the investigated period, which aligns with the existing gender stereotypes.

Figure 19 illustrates the log odds ratio of the construction *he/she [be] brave*.

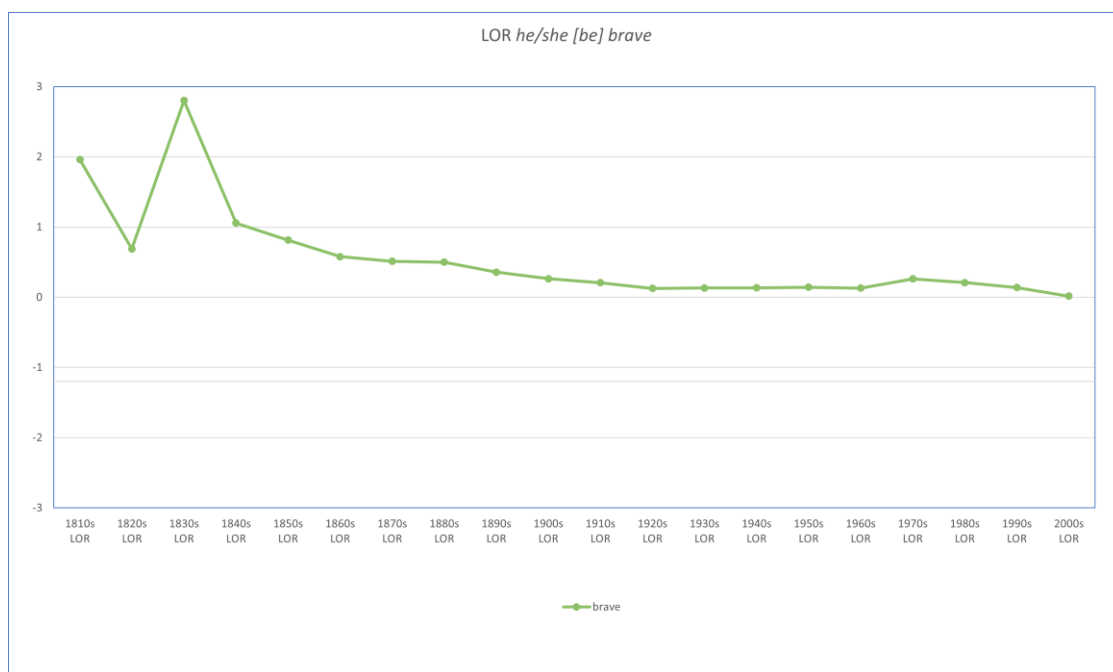


Figure 19 Log odds ratio for the American English sample of *he or she [be] brave*.

From the graph, it is obvious that *brave* resembles *courageous*; not only in terms of meaning but also in the overall pattern they exhibit. However, *brave* shows an even stronger male bias than *courageous*. For the 1810s, the log odds ratio value is 1.96, while for the 1830s it is 2.80. However, it is important to note that for both of these decades, there were no instances of *she [be] brave* and therefore 0.1 was inserted as a frequency value. The strong male bias in the early 19th century consistently decreases over time, and by the 2000s, the male gender bias is barely noticeable. The log odds ratio value drops to 0.01 in the 2000s from 1.96 in the 1810s. The case of *brave*, one of the traits that are traditionally attributed to males offers further proof to the decrease in gender bias over time.

Figure 20 shows the log odds ratio of the construction *he/she [be] loving*.

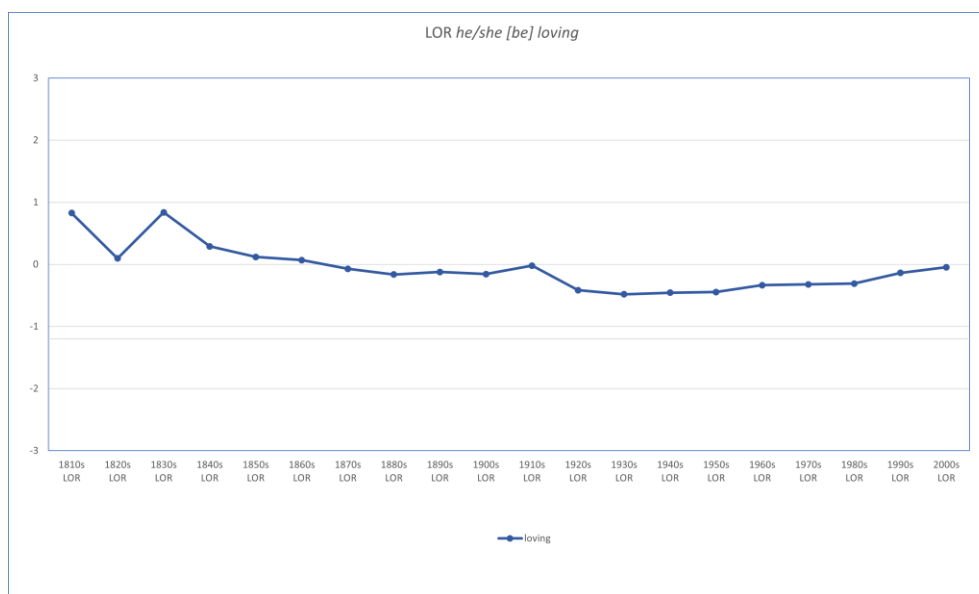


Figure 20 Log odds ratio for the American English sample of he or she [be] loving.

As it can be observed in the graph, the word *loving* initially shows a strong male bias. For the 1830s, this can be explained by the fact that there were no occurrences of she [be] loving (0.1 was inserted as a frequency value to get data); however, this bias continues in the 1830s as well. However, after the 1830s, *loving* first shows a decreasing trend and then an increasing trend in favor of female bias, and mostly continues to show female bias. However, especially from the 1950s onwards, the gender bias gets weaker, and by the 2000s, it is barely noticeable. The log odds ratio drops from 0.82 for the 1830s to -0.04 for the 2000s.

Figure 21 illustrates the log odds ratio of the construction *he/she [be] tender*.

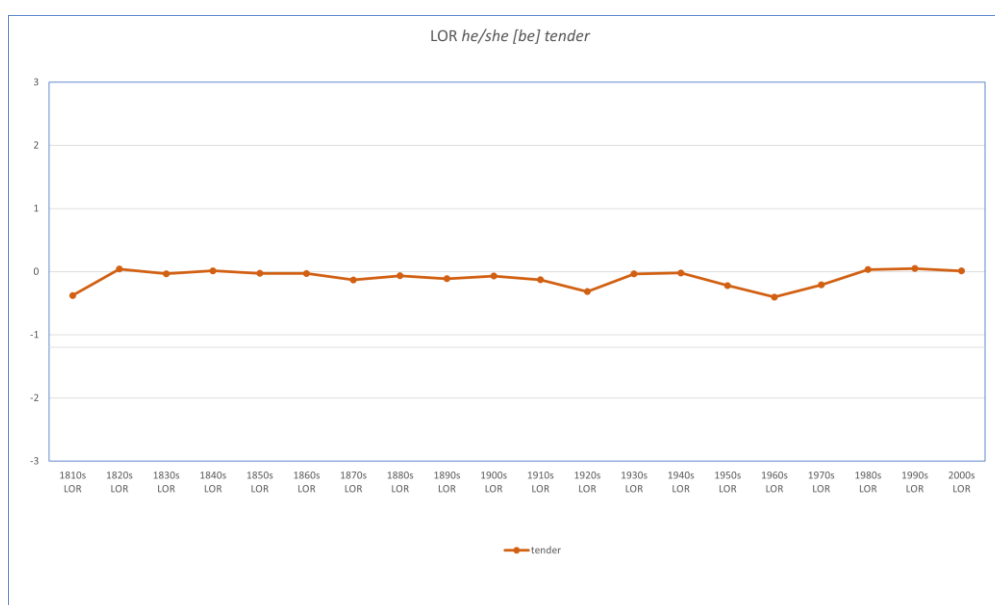


Figure 21 Log odds ratio for the American English sample of he or she [be] tender.

As visualized in the graph, *tender* mainly shows a female bias throughout the investigated period. Although the gender bias it exhibits fluctuates over the years, it shows a decreasing trend from the 1960s onwards and is almost negligible by the 2000s. The log odds ratio for the 1810s is -0.37, while it is 0.01 in the 2000s. *Tender* is yet another example of the hypothesis of this thesis that gender bias decreases over time, especially from the 1960s onwards.

Figure 21 illustrates the log odds ratio of the construction *he/she [be] caring*.

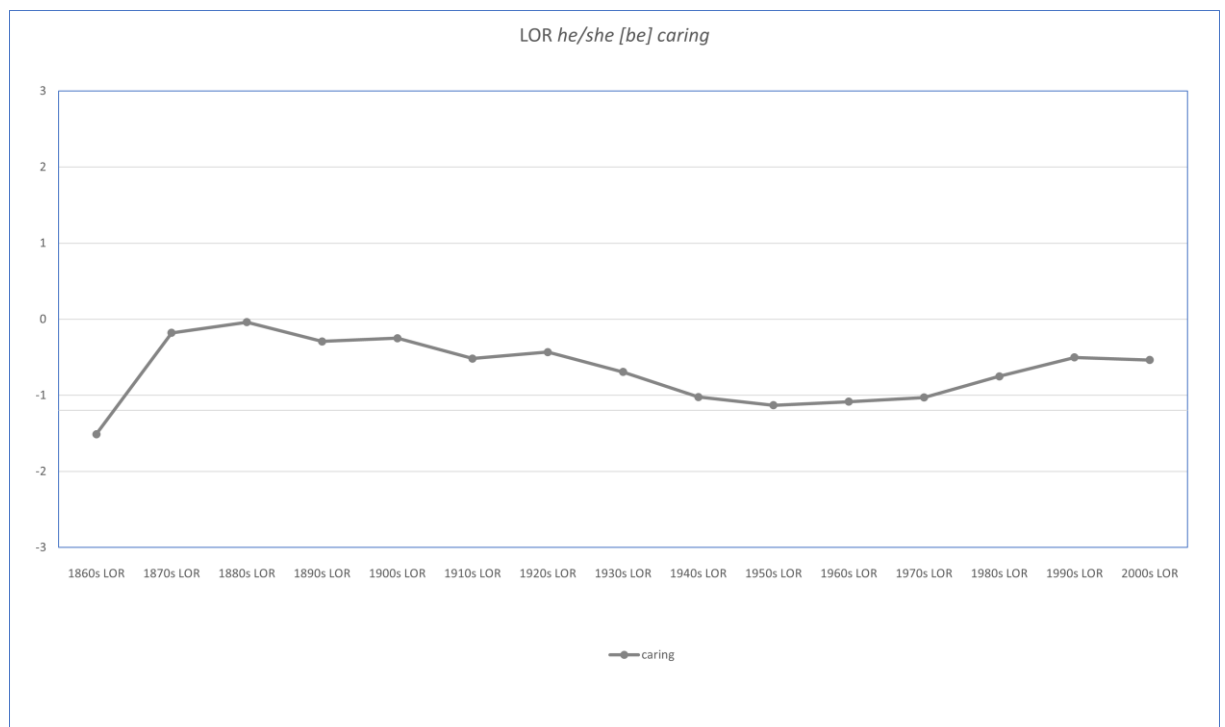


Figure 22 Log odds ratio for the American English sample of *he or she [be] caring*.

From the graph, it is evident that *caring* mostly shows female bias and exhibits a fluctuating trend through the examined period. As there were 0 occurrences of either *he [be] caring* or *she [be] caring* or both, until the 1860s, the graph shows data from the 1860s to 2000s. After an initially weakening trend in gender bias from the 1860s to 1870s, the overall trend until the 1950s is an increasing one; however, from the 1950s onwards, gender bias for *caring* decreases significantly. Nevertheless, *caring* still shows female bias in the 2000s, albeit a relatively weaker one. For the 1860s, the log odds ratio value is -1.51, while it is -0.53 for the 2000s. It is important to note that this is still a significantly high value compared to the other words analysed so far. The development of *caring* shows that gender bias still exists in the 2000s, although it is lower than in the 19th century.

Figure 23 shows the log odds ratio of the construction *he/she [be] kind*.

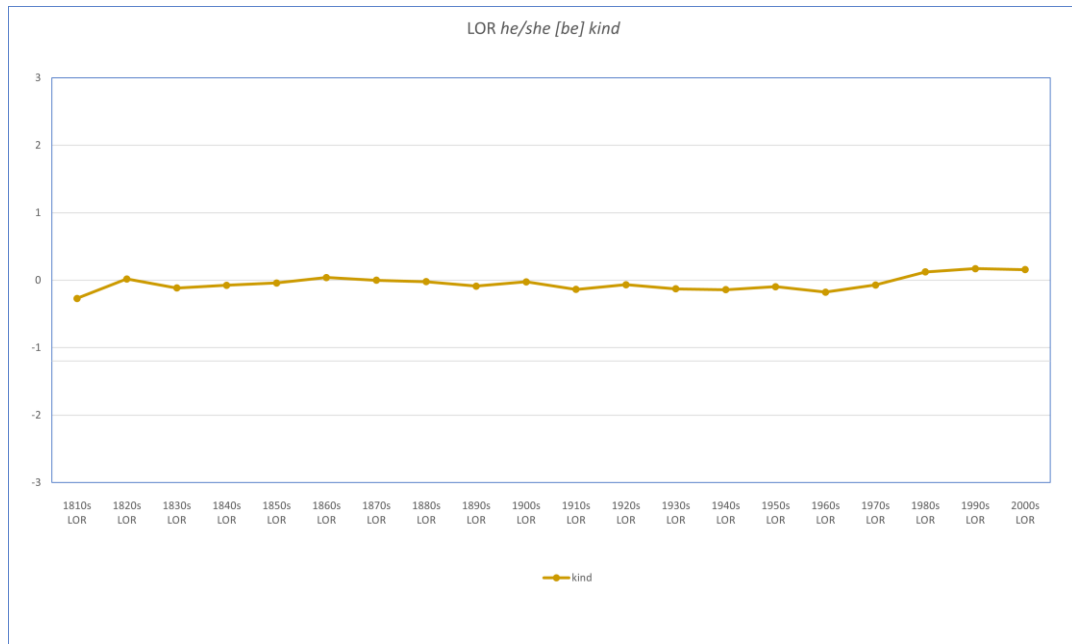


Figure 23 Log odds ratio for the American English sample of *he or she [be] kind*.

As illustrated by the graph, *kind* shows a more or less stable trend in terms of gender bias. Initially, there is evidence of some level of female bias; however, over time this bias gets weaker and surprisingly, from the 1980s onwards, increases again and exhibits male bias. For the 1810s, the log odds ratio value is -0.27, whereas in the 2000s it is 0.15. The findings of this research shows that *kind*, a stereotypically “feminine” trait, has been more often used to refer to men than women in the 1980s, 1990s and 2000s which proves that some gender norms are changing.

Figure 24 depicts the log odds ratio of the construction *he/she [be] kind*.

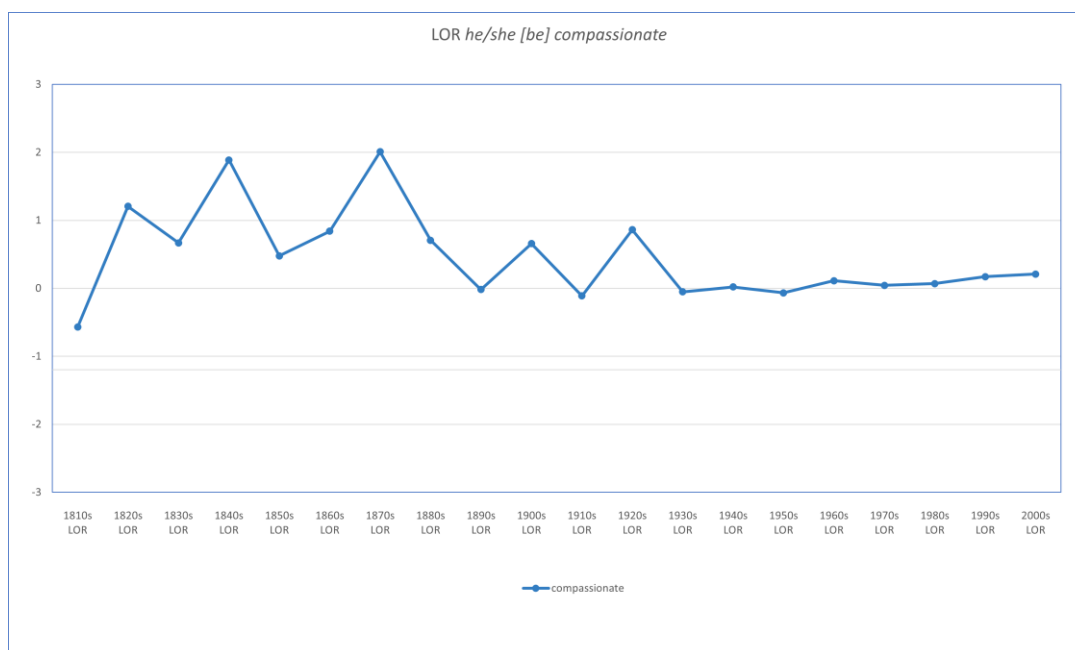


Figure 24 Log odds ratio for the American English sample of *he or she [be] compassionate*.

According to the graph, *compassionate* shows a strong male bias throughout most of the 19th century. Interestingly, a female bias is observed in the 1810s, but this shifts from the 1820s onwards, and a very strong male bias is observed. As there are no occurrences of *she [be] compassionate* in the 1820s and 1840s, 0.1 was inserted as the frequency value for the female construction; however, the findings for other decades in the 19th century offer similar results. Nevertheless, from the 1930s onwards, the gender bias is significantly weaker than before, and the log odds ratio values remain close to 0. From the 1980s onwards, there has been a slight increase in favour of male bias once again. Overall, the gender bias declines from the 1810s to the 2000s. For the 1810s, the log odds ratio value is -0.57, while for the 2000s, it is 0.20.

Figure 25 maps the log odds ratio of the construction *he/she [be] inspired*.

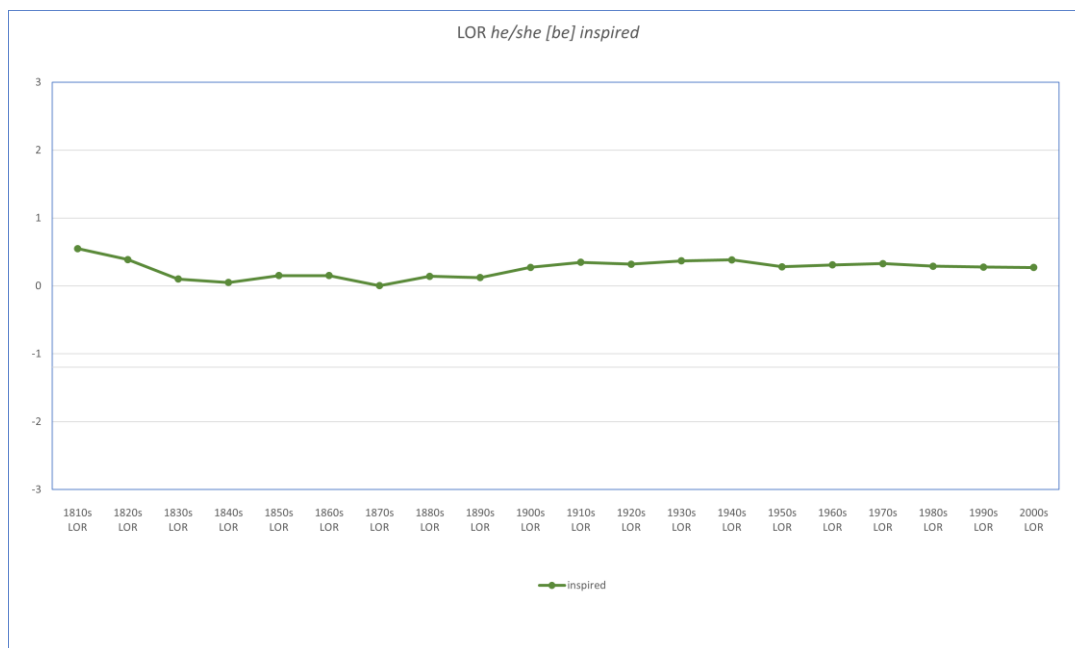


Figure 25 Log odds ratio for the American English sample of *he or she [be] inspired*.

From the graph, it is evident that *inspired* almost exclusively exhibits male bias throughout the investigated time. Overall, the gender bias has decreased over the two centuries analysed: for the 1810s, the log odds ratio value is 0.55, while by the 2000s it is halved with a value of 0.27. *Inspired* shows a relatively stable trend from the 1890s onwards, and from the 1970s onwards, a slight decrease in gender bias can be observed.

Figure 26 portrays the log odds ratio of the construction *he/she [be] attached*.

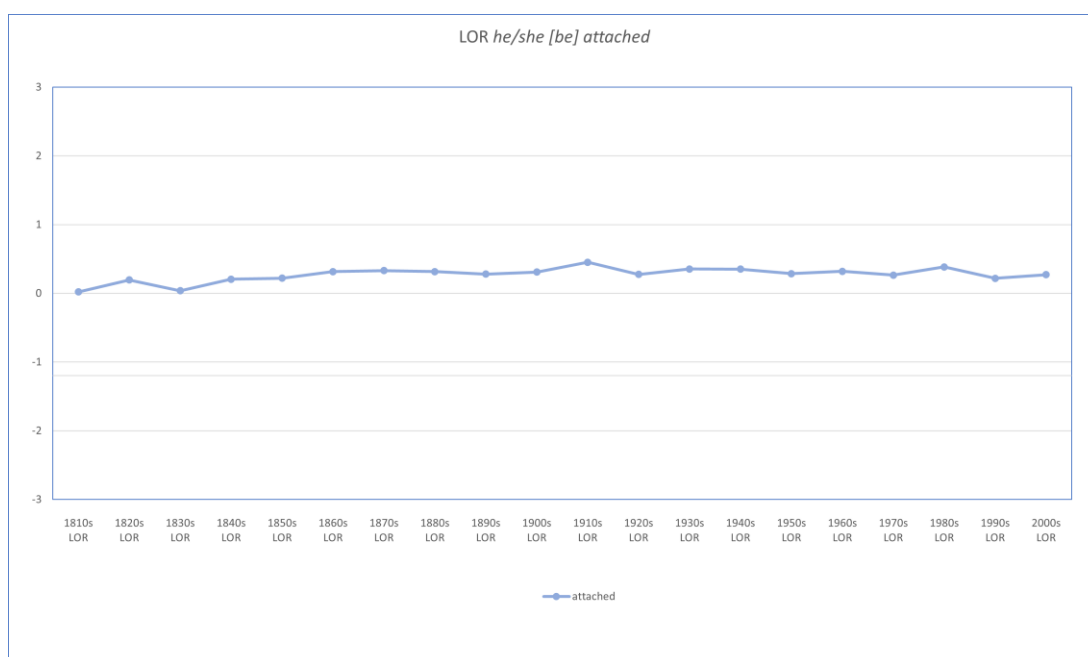


Figure 26 Log odds ratio for the American English sample of *he or she [be] attached*.

As illustrated by the graph, *attached* shows exclusively male bias. Overall, *attached* follows an increasing gender bias trend, which is contrary to the hypothesis of the thesis and the overall pattern of the adjectives. For the 1810s, the log odds ratio value is 0.02, while for the 2000s, it is 0.27. There is an increase in bias from the 1970s to the 1980s; however, from the 1980s onwards, the bias declines once again, which partly matches the expected trend.

Figure 27 portrays the log odds ratio of the construction *he/she [be] devoted*.

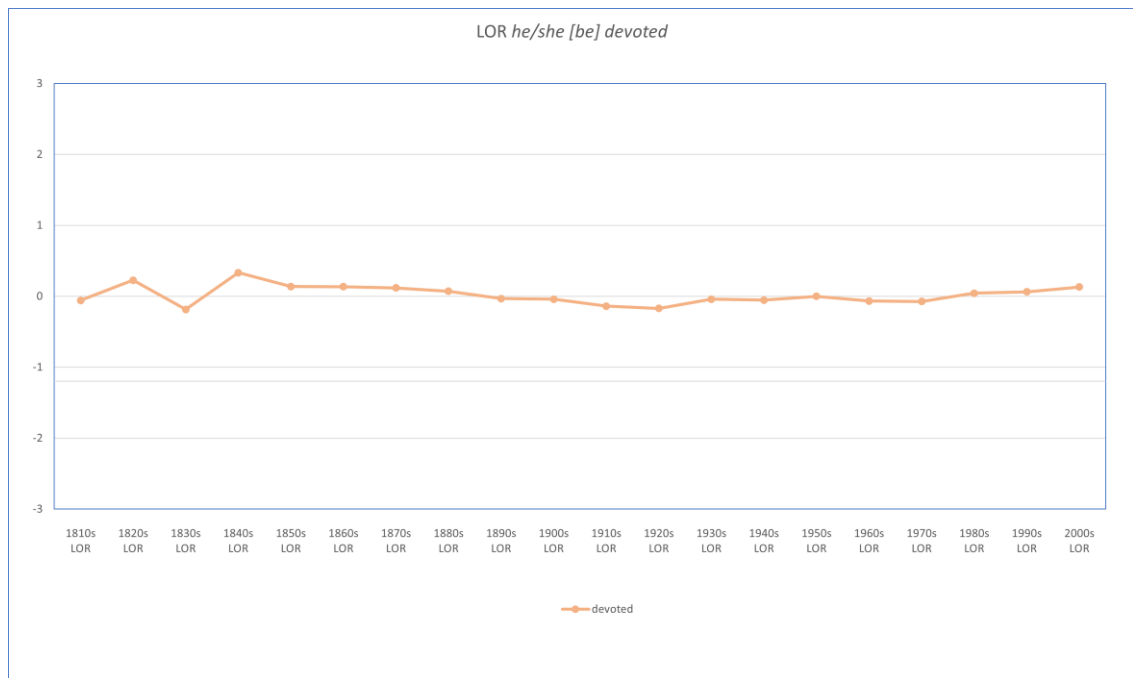


Figure 27 Log odds ratio for the American English sample of *he or she [be] devoted*.

From the graph, it is evident that *devoted* mostly shows female bias, although during the years where *devoted* shows male bias, the bias is stronger. Overall, the bias is relatively weak, excluding the 1820s and 1840s, and remains rather stable; however, by the 2000s, it slightly increases in comparison to the 1810s. For the 1810s, the log odds ratio value is -0.05 while for the 2000s it is 0.13. The case of *devoted* does not align with the overall pattern exhibited by the adjectives. Interestingly, from the 1980s onwards, *devoted* shifts from female bias to male bias.

Figure 28 maps the log odds ratio of the construction *he/she [be] intimate*.

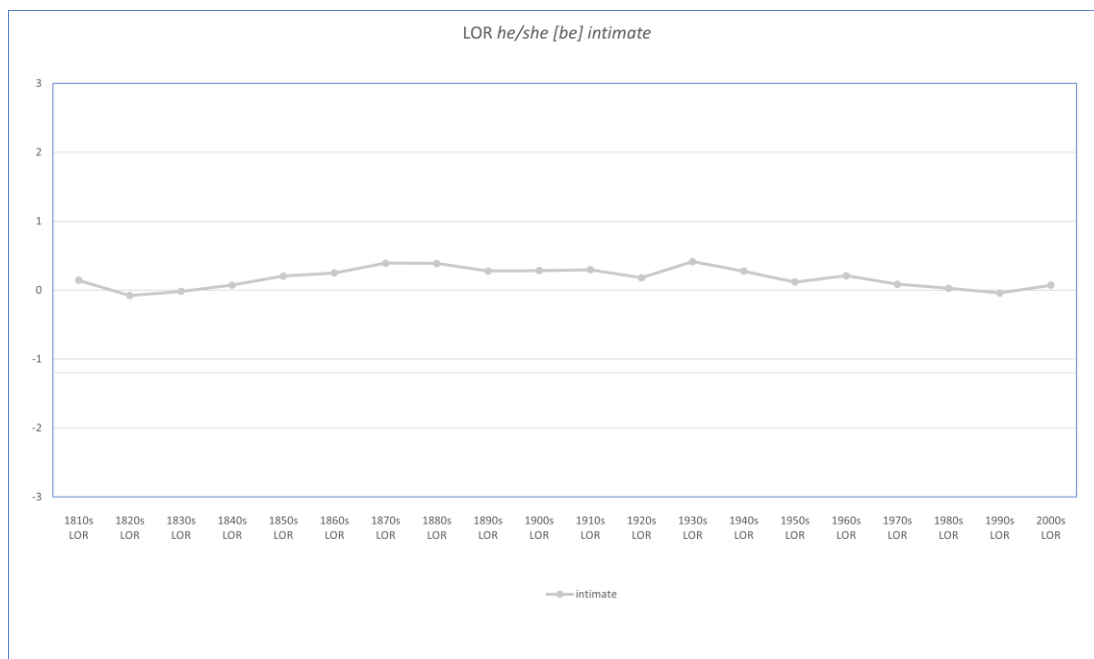


Figure 28 Log odds ratio for the American English sample of *he or she [be] intimate*.

As illustrated in the graph, *intimate* almost exclusively shows male bias. This bias shows first an increasing trend till the 1870s, followed by a plateau until the 1920s, and a decreasing trend from the 1810s to the 2000s, especially from the 1930s onwards. For the 1810s, the log odds ratio value is 0.14, while for the 2000s it is 0.07. Overall, the case of *intimate* aligns with the pattern exhibited by adjectives examined here and the hypothesis of the thesis.

Figure 29 exhibits the log odds ratio of the construction *he/she [be] resilient*.

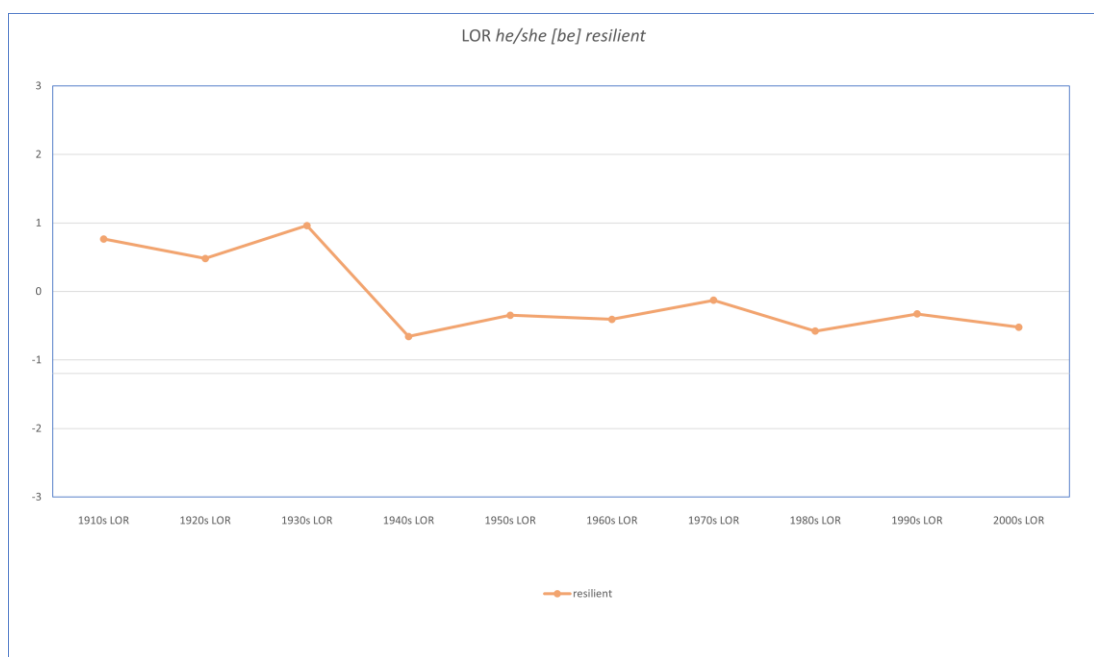


Figure 29 Log odds ratio for the American English sample of *he or she [be] resilient*.

As demonstrated by the graph, *resilient* is only relevant from the 1910s in the examined construction, as there are no occurrences of *he/she [be] resilient* before that decade. Initially, *resilient* shows a strong male bias, but from the 1940s onwards, the tide turns and *resilient* starts to show female bias. Although from the 1940s to the 1970s there is a decline in the overall bias, from the 1970s to 2000s, the female bias increases once again. For the 1910s, the log odds ratio is 0.76, while for the 2000s it is -0.52. However, it is important to note that the reason why there is such a strong male bias initially is because there were no occurrences of *she [be] resilient* until the 1940s, and 0.1 was inserted for the frequency value of the female construction to obtain data.

Figure 30 maps the log odds ratio of the construction *he/she [be] tough*.

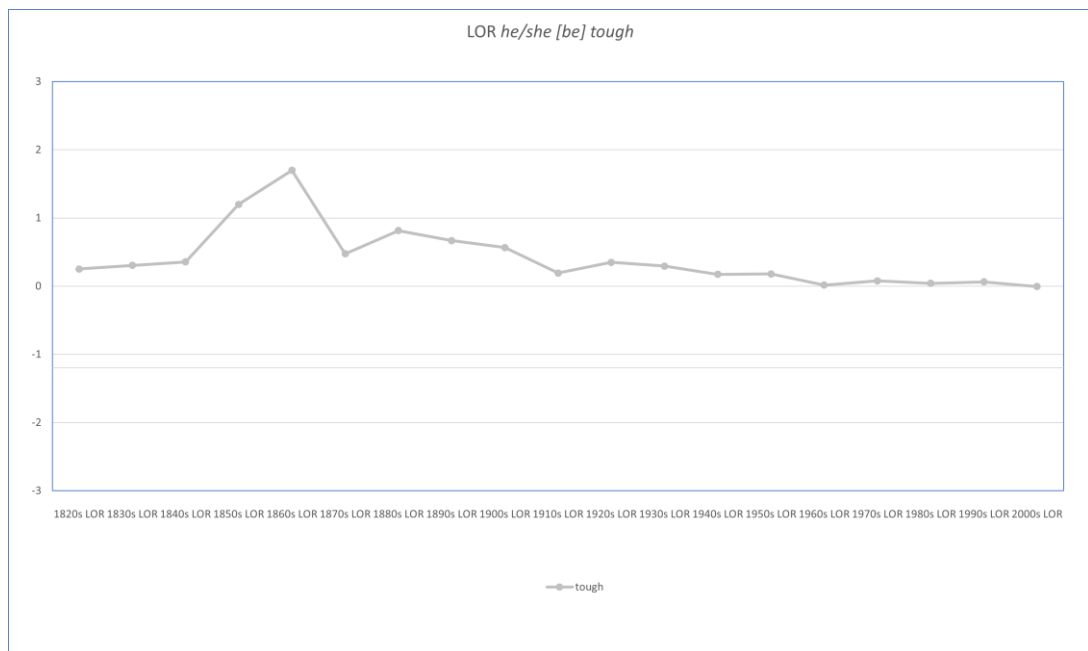


Figure 30 Log odds ratio for the American English sample of *he or she [be] tough*.

As illustrated in the graph, there is no data for the 1810s, as there were no occurrences of *he/she [be] tough*. *Tough* almost exclusively shows male bias, especially a strong bias from the 1850s to the 1870s; however, this is because there were no instances of *she [be] tough* until the 1870s, and 0.1 was inserted as the frequency for *she [be] tough*. From the 1870s onwards, male bias shows a decreasing trend, and by the 2000s, it turns into a barely noticeable female bias. For the 1820s, the log odds ratio value is 0.25, while for the 2000s it is -0.004. Overall, *tough* provides yet another proof to the hypothesis of this thesis that gender bias decreases for emotion words over time.

Figure 31 maps the log odds ratio of the construction *he/she [be] stoic*.

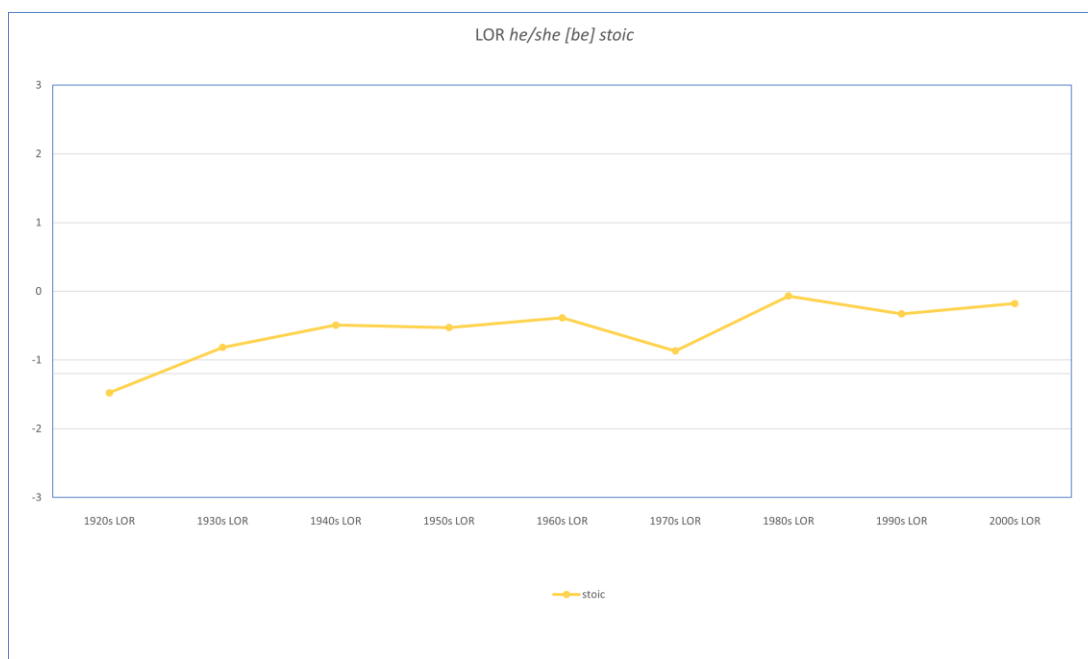


Figure 31 Log odds ratio for the American English sample of *he or she [be] stoic*.

As demonstrated by the graph, *stoic* only becomes relevant from the 1920s onwards, as there were no occurrences of *he/she [be] stoic*. There were also no occurrences of *he/she [be] stoic* in the 1940s; however, to obtain a continuous trend, 0.11 was inserted as the frequency of male construction, while 0.1 was inserted for the female construction. Only from the 1960s onwards, both male and female constructions simultaneously occur. Overall, the word *stoic* surprisingly shows female bias throughout the investigated period. From the 1970s onwards, this bias shows a decreasing trend but continues to be present by the 2000s. For the 1920s, the log odds ratio value is -1.47, while for the 2000s it is -0.17. Overall, gender bias shows a decreasing trend for *stoic*. However, these findings are of interest as my expectation would be that *stoic* would show male bias as *stoic* is a trait that is stereotypically attributed to men.

Figure 32 demonstrates the log odds ratio of the construction *he/she [be] patient*.

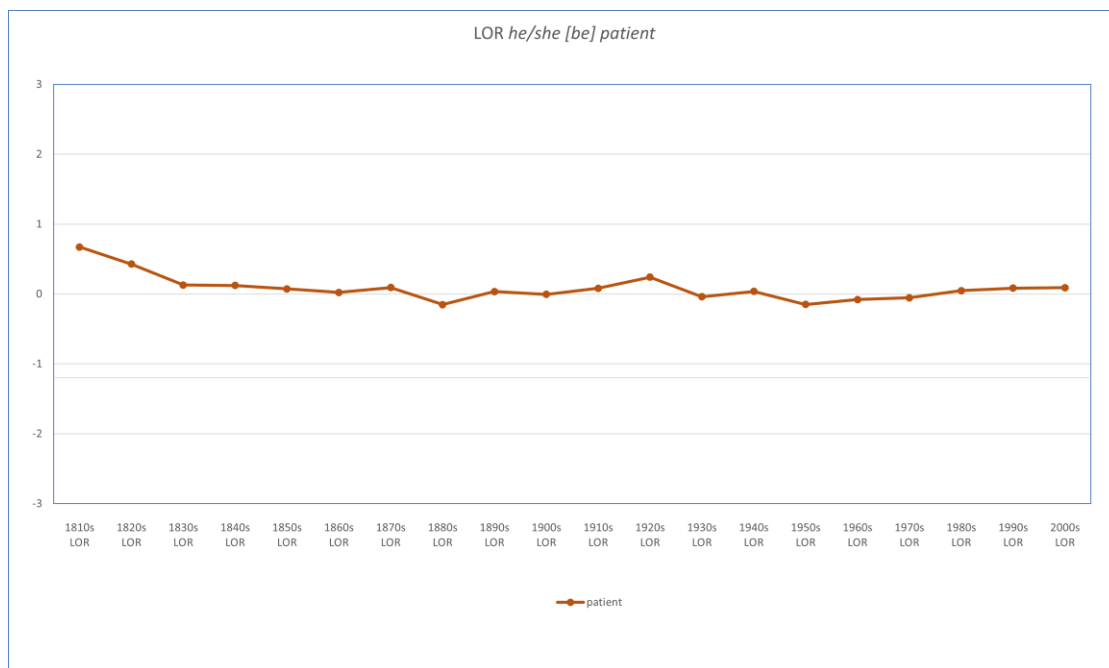


Figure 32 Log odds ratio for the American English sample of *he or she [be] patient*.

As demonstrated by the graph, *patient* shows interchangeably male and female bias throughout the investigated time. Overall, it mostly shows male bias, and gender bias exhibits a decreasing trend. For the 1810s, the log odds ratio value is 0.67, whereas it is 0.09 for the 2000s. *Patient* mostly follows a similar trend to the general one emotion adjectives exhibit; however, from the 1970s onwards, there is a slight increase in gender bias.

Figure 33 maps the log odds ratio of the construction *he/she [be] comfortable*.

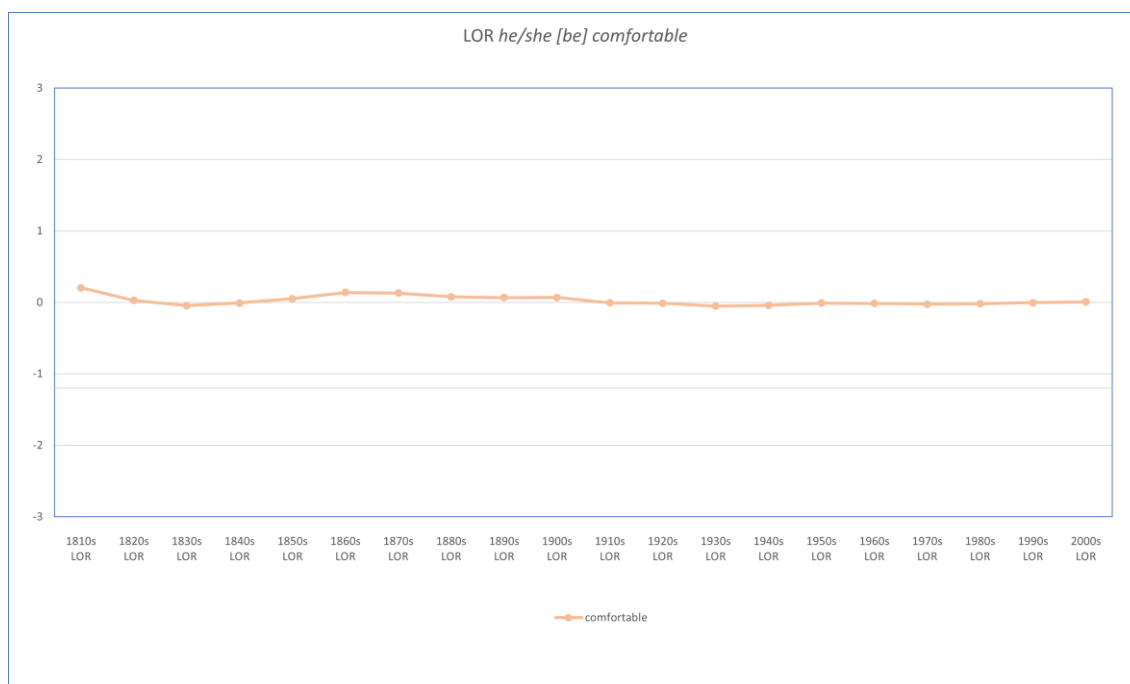


Figure 33 Log odds ratio for the American English sample of *he or she [be] comfortable*.

From the graph, it is evident that *comfortable* shows a very weak bias throughout the investigated period, excluding the 1810s, for which it shows slightly stronger male bias. *Comfortable* exhibits a balanced trend of bias between male and female bias throughout the investigated decades. Overall, *comfortable* shows a decreasing trend in terms of gender bias; however, there is a barely noticeable increase in bias from the 1970s onwards. For the 1810s, the log odds ratio is 0.20, while for the 2000s it is 0.008.

Figure 34 portrays the log odds ratio of the construction *he/she [be] eager*.

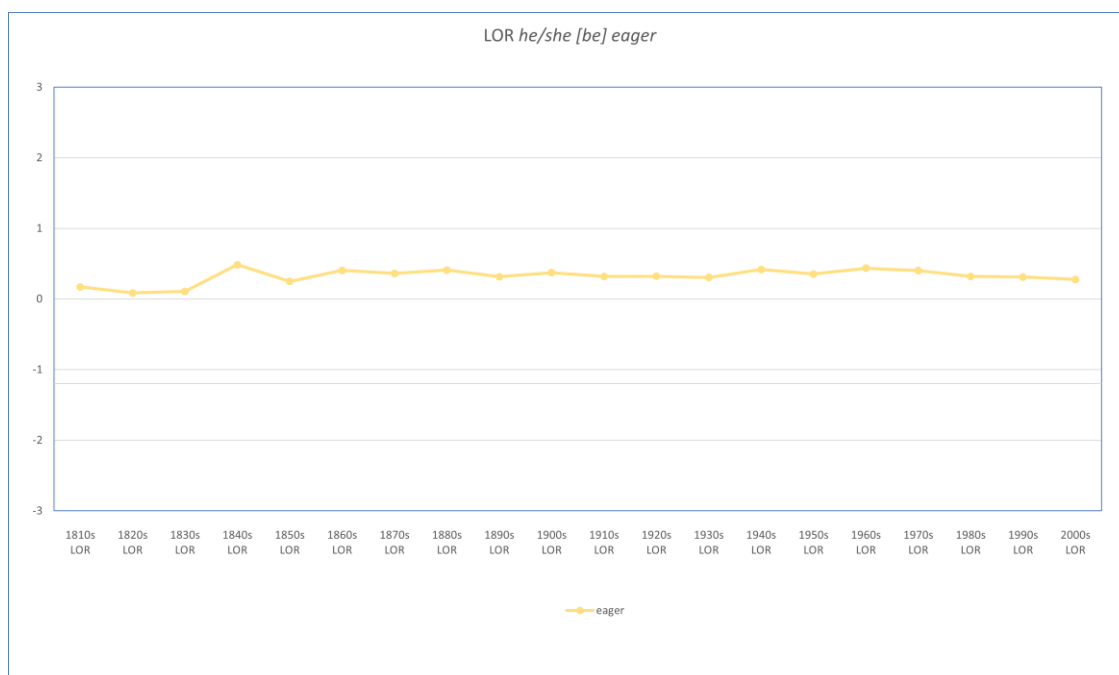


Figure 34 Log odds ratio for the American English sample of *he or she [be] eager*.

As illustrated by the graph, *eager* shows a different pattern than the majority of the positive emotion words analysed so far as it exclusively shows male bias. Overall, there is an increase in gender bias it exhibits. After an initial decrease in bias, it peaks in the 1840s and decreases again in the 1850s. From the 1860s onwards, it remains relatively unchanged overall, and from the 1970s onwards, gender bias decreases again. For the 1810s, the log odds ratio value is 0.17, while it is 0.27 for the 2000s. *Eager* does not follow the overall gender bias exhibited, except for the decreasing trend from the 1970s onwards.

Figure 35 exhibits the log odds ratio of the construction *he/she [be] eager*.

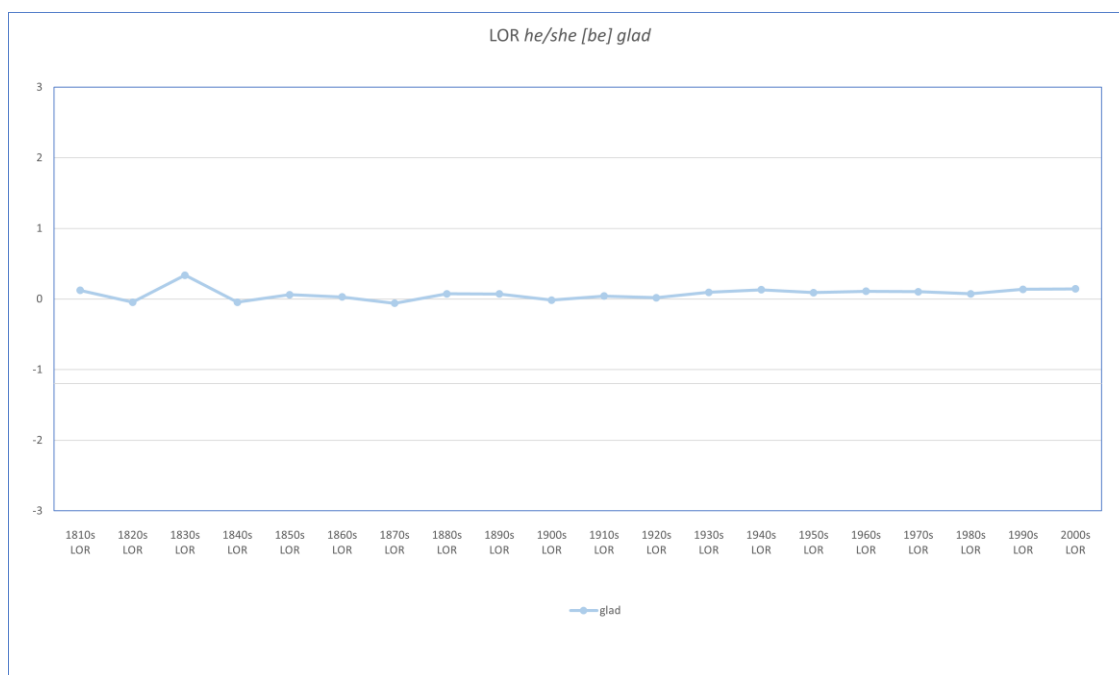


Figure 35 Log odds ratio for the American English sample of *he or she [be] glad*.

As exhibited in the graph, *glad* mostly shows male bias during the investigated period. After an initial increase early on, the bias value of *glad* remains mostly weak and stable. Overall, gender bias slightly increases from the 1810s to 2000s; however, this increase is minimal. For the 1810s, the log odds ratio is 0.12, whereas it is 0.14 for the 2000s. In general, *glad* does not follow a similar pattern to most of the positive emotion words.

Figure 36 demonstrates the log odds ratio of the construction *he/she [be] relieved*.

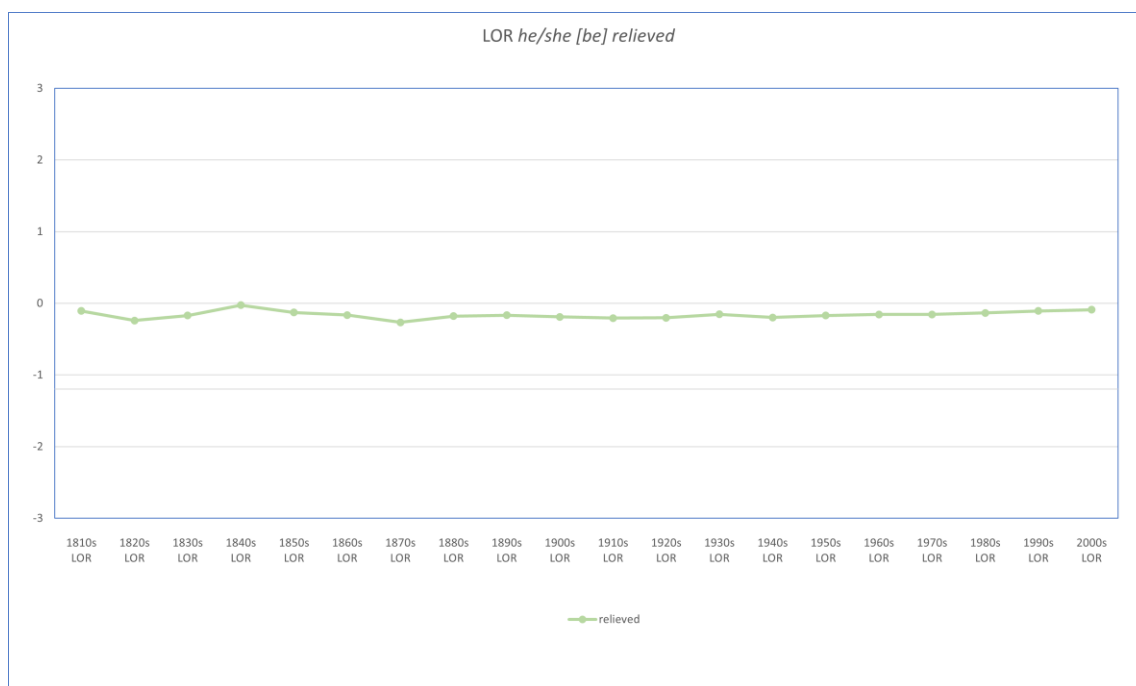


Figure 36 Log odds ratio for the American English sample of *he or she [be] relieved*.

From the graph, it is obvious that *relieved* shows exclusively female bias throughout the investigated period. Overall, it shows a fluctuating trend until the 1880s. From the 1880s onwards, it shows a consistently decreasing trend, especially from the 1950s onwards. Overall, gender bias slightly decreases from the 1810s to the 2000s. The log odds ratio value is 0.10 for the 1810s, whereas it is 0.08 for the 2000s. However, it is important to note that this bias is relatively low. Furthermore, *relieved* follows the expected trend where gender bias declines over time, especially from the 1960s onwards.

After these individual results, the common patterns observed in the diachronic development of adjectives denoting positive emotions will be discussed next. Figure 37 includes the log odds ratio values of all the words analysed so far in *he/she [be] ADJ* construction.

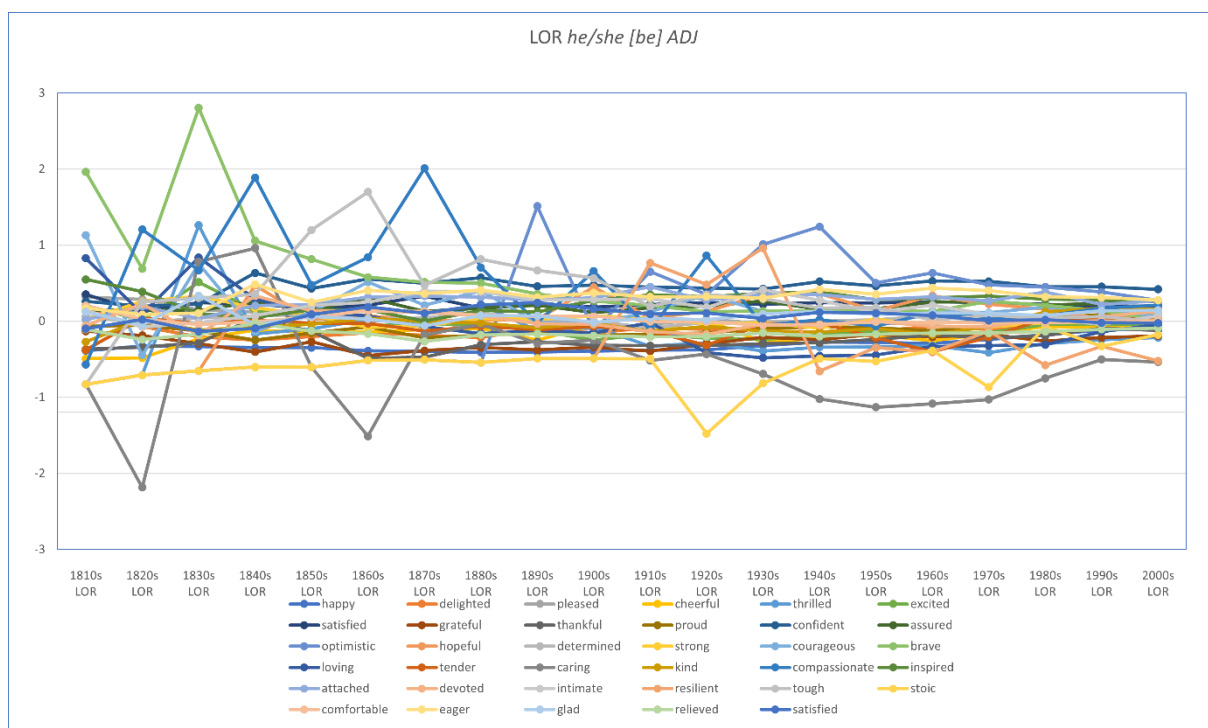


Figure 37 Log odds ratio for the American English sample of he or she [be] ADJ (denoting positive emotions).

Overall, it can be observed that despite the strong bias patterns exhibited by many words in the 19th century, over time, gender bias has decreased, especially from the 1950s onwards. The strongest male bias patterns were shown by the words *brave* and *compassionate*, while the strongest female bias patterns were exhibited by the words *caring* and *stoic*. However, most of the words show rather weak gender bias as the lines are generally very close to the 0 line. By the 2000s, even the highest log odds ratio values are nowhere near as high as it was in the early 19th century (-0.53 for *caring*, -0.52 for *resilient*, 0.41 for *confident*, 0.27 for *eager*).

Out of the 35 words analysed, 13 show mostly or exclusively male bias: *assured*, *attached*, *brave*, *compassionate*, *courageous*, *eager*, *glad*, *helpful*, *hopeful*, *inspired*, *intimate*, *optimistic*, *satisfied*, *tough*. 16 out of 35 words show female bias: *caring*, *cheerful*, *confident*, *delighted*, *excited*, *grateful*, *happy*, *kind*, *loving*, *proud*, *relieved*, *resilient*, *stoic*, *tender*, *thankful*, *thrilled*. 6 out of 35 words show both male and female bias throughout the investigated time period in a balanced fashion, or the bias patterns are barely noticeable (the log odds ratio value is very close to 0. These words are: *comfortable*, *determined*, *devoted*, *patient*, *pleased*, *strong*. The findings are interesting as some words show bias patterns in line with the general gender stereotypes (e.g., *brave* and *courageous* showing male bias while *kind*, *caring*, and *loving* showing female bias).

However, there are still surprising results, such as *stoic* and *resilient* showing female bias, whereas *compassionate* and *attached* showing male bias. The fact that *strong* exhibits a very balanced pattern is also surprising as strength is stereotypically attributed to men. Nevertheless, it is important to note that gender bias is mostly rather weak, especially from the second half of the 20th century onwards, and shows an overall decreasing trend.

4.2 Diachronic changes in the log odds ratio of the adjectives denoting neutral emotions in Google Books American English Corpus

In this subsection of the thesis, the results of the analysis conducted on the adjectives denoting neutral emotions will be presented. Out of the 105 words selected for this study, 60 have neutral connotations. First, the diachronic development of every single word will be individually illustrated and discussed; then the overall pattern exhibited by this group of words will be presented.

Figure 38 demonstrates the log odds ratio of the construction *he/she [be] apologetic*.

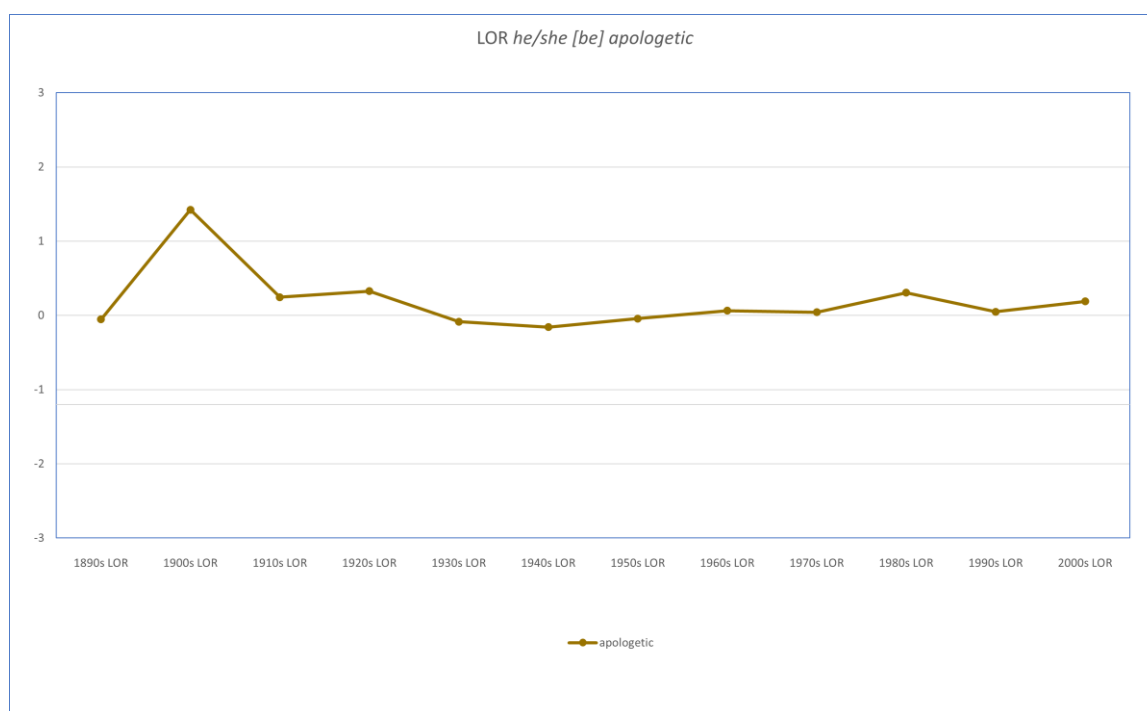


Figure 38 Log odds ratio for the American English sample of *he or she [be] apologetic*.

As can be observed from the graph, the analysis for *apologetic* only starts from the 1890s onwards, as there are no occurrences of *he/she [be] apologetic* for the decades before the 1890s. For the 1900s, the log odds ratio seems significantly

higher but it is important to note that this is because there are no occurrences of *she [be] apologetic* in the 1900s (0.1 was inserted as the frequency value for the female construction to obtain data). Overall, *apologetic* shows a varying but mostly male bias and exhibits a slightly increasing trend in terms of general bias. For the 1890s, the log odds ratio value is -0.05, while for the 2000s it is 0.18. Unlike the overall trend of the emotion adjectives, *apologetic* demonstrates a fluctuating trend from the 1960s onwards.

Figure 39 portrays the log odds ratio of the construction *he/she [be] isolated*.



Figure 39 Log odds ratio for the American English sample of *he or she [be] isolated*.

As can be observed from the graph, there is no data for the decades 1810s, 1820s, and 1830s. This is because there are no occurrences of *he/she [be] isolated* for these decades. Initially, *isolated* shows male bias, but over time, especially from the 1860s onwards, this trend changes, and it mainly shows male bias, only to show male bias again in the 2000s. Overall, it shows a decreasing gender bias trend after the initial increase in the 1860s. For the 1840s, the log odds ratio value is 0.39 while for the 2000s it is 0.03.

Figure 40 shows the log odds ratio of the construction *he/she [be] puzzled*.

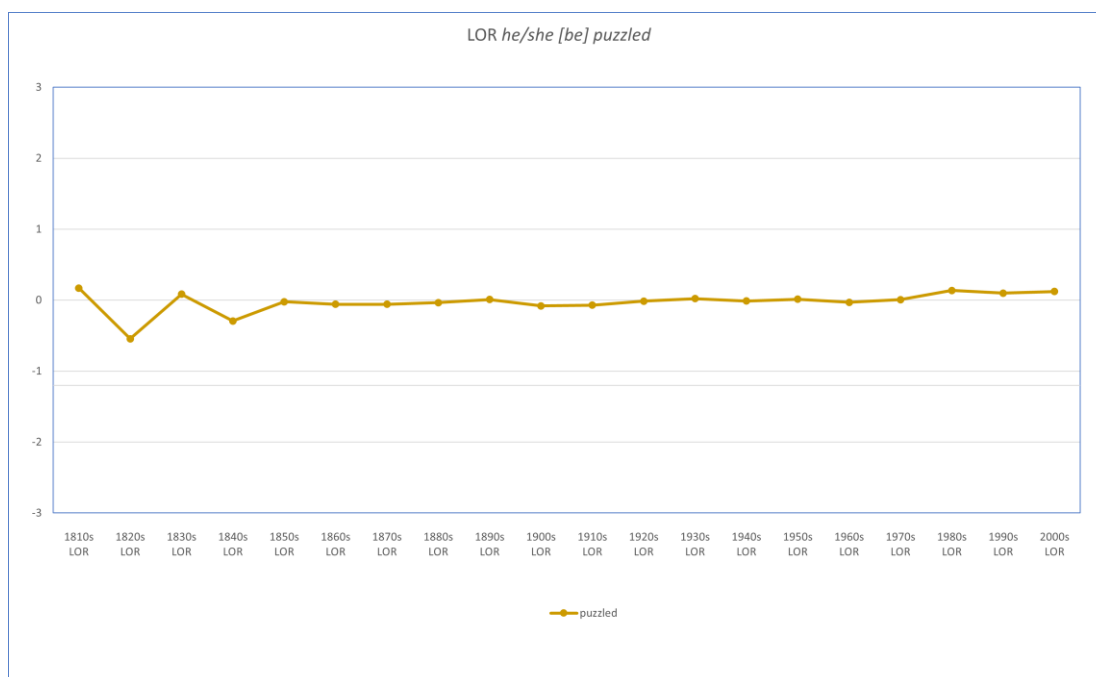


Figure 40 Log odds ratio for the American English sample of *he or she [be] puzzled*.

From the graph, it is evident that *puzzled* shows a balanced trend of gender bias, as it fluctuates between male and female bias throughout the investigated period. Initially, *puzzled* shows strong female bias in the 1820s and 1840s, but from the 1850s onwards until the 1980s, it is rather stable, and the gender bias is barely noticeable. Overall, the gender bias slightly decreases from the 1810s to the 2000s. For the 1810s, the log odds ratio is 0.16, while it is 0.12 for the 2000s. *Puzzled* does not exhibit a decreasing trend from the 1960s onwards in terms of gender bias, unlike the majority of the words analysed so far.

Figure 41 maps the log odds ratio of the construction *he/she [be] puzzled*.

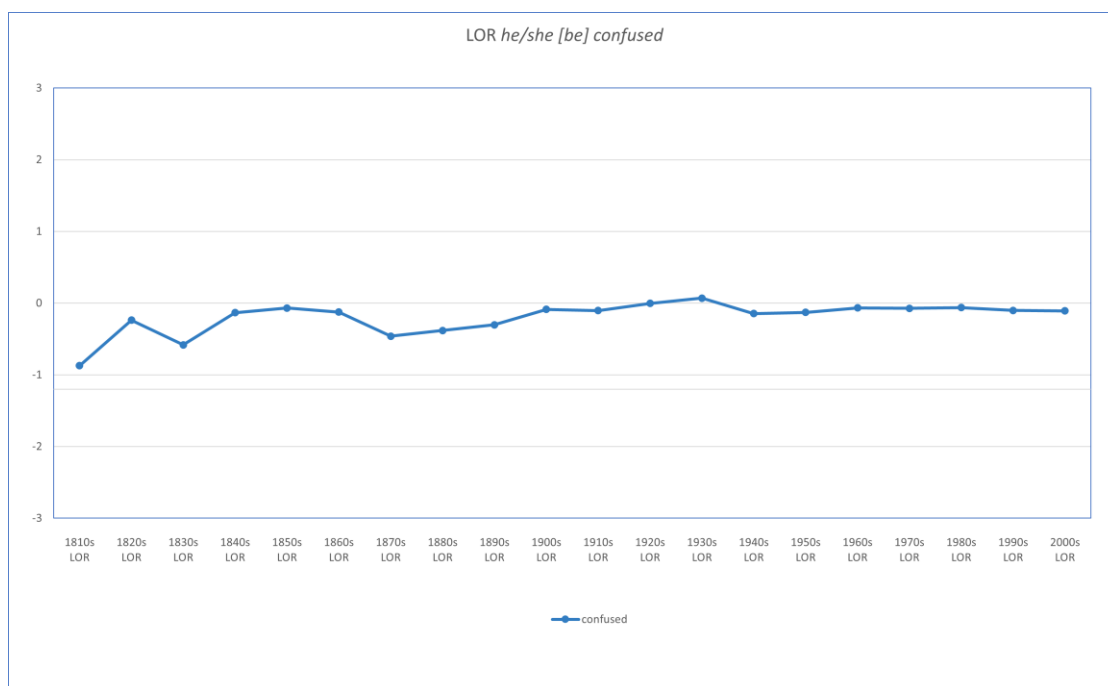


Figure 41 Log odds ratio for the American English sample of *he or she [be] confused*.

As demonstrated by the graph, *confused* mainly shows female bias throughout the investigated time period. Overall, it shows a decreasing trend from the 1810s to the 2000s in terms of gender bias. For the 1810s, the log odds ratio value is -0.87, while it is -0.10 for the 2000s. In terms of general trend, *confused* exhibits a similar trend to the majority of the words analysed for this study; however, there is a minor increase from the 1960s onwards, unlike the majority of the other words. It is still important to note that the log odds ratio is very low from the 1900s onwards; therefore, the gender bias is barely noticeable.

Figure 42 shows the log odds ratio of the construction *he/she [be] indifferent*.

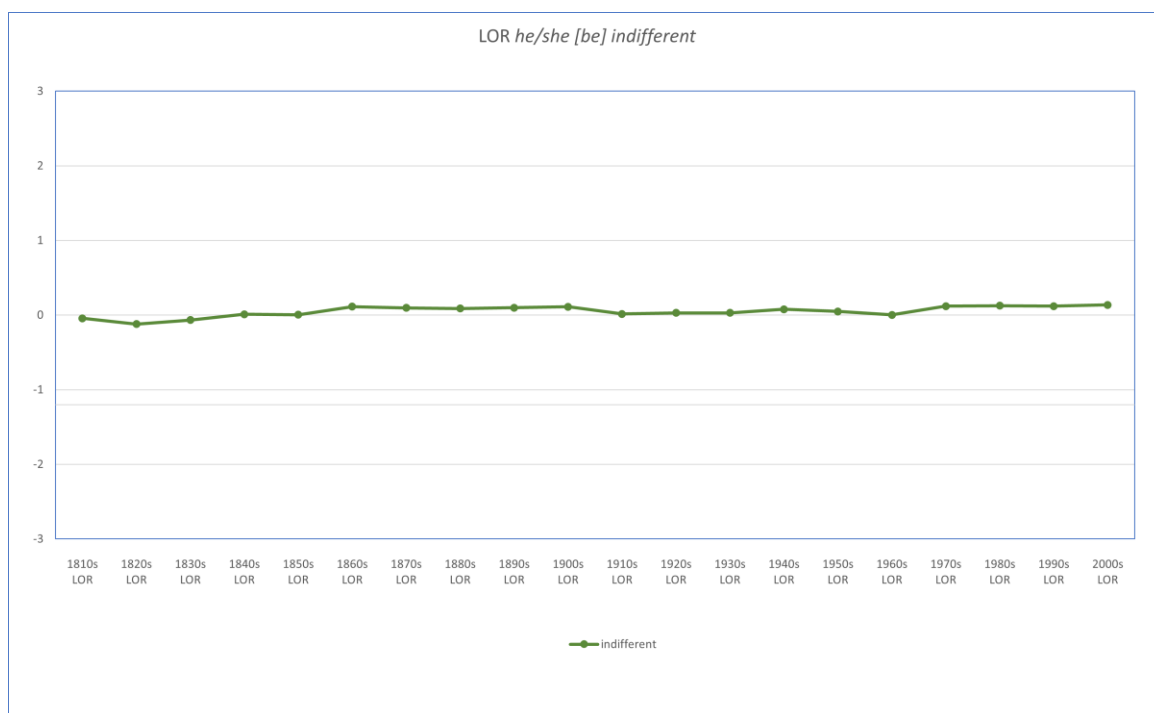


Figure 42 Log odds ratio for the American English sample of *he or she [be] indifferent*.

From the graph, it is evident that *indifferent* shows mostly male bias throughout the investigated period, although it shows female bias initially. However, it is crucial to note that gender bias is very weak for *indifferent* throughout the 19th and 20th century. Nevertheless, gender bias shows a slightly increasing trend overall. The log odds ratio value for the 1810s is -0.04, whereas it is 0.13 for the 2000s. Furthermore, gender bias increases from the 1960s onwards for *indifferent*, unlike the majority of the analysed words.

Figure 43 shows the log odds ratio of the construction *he/she [be] detached*.

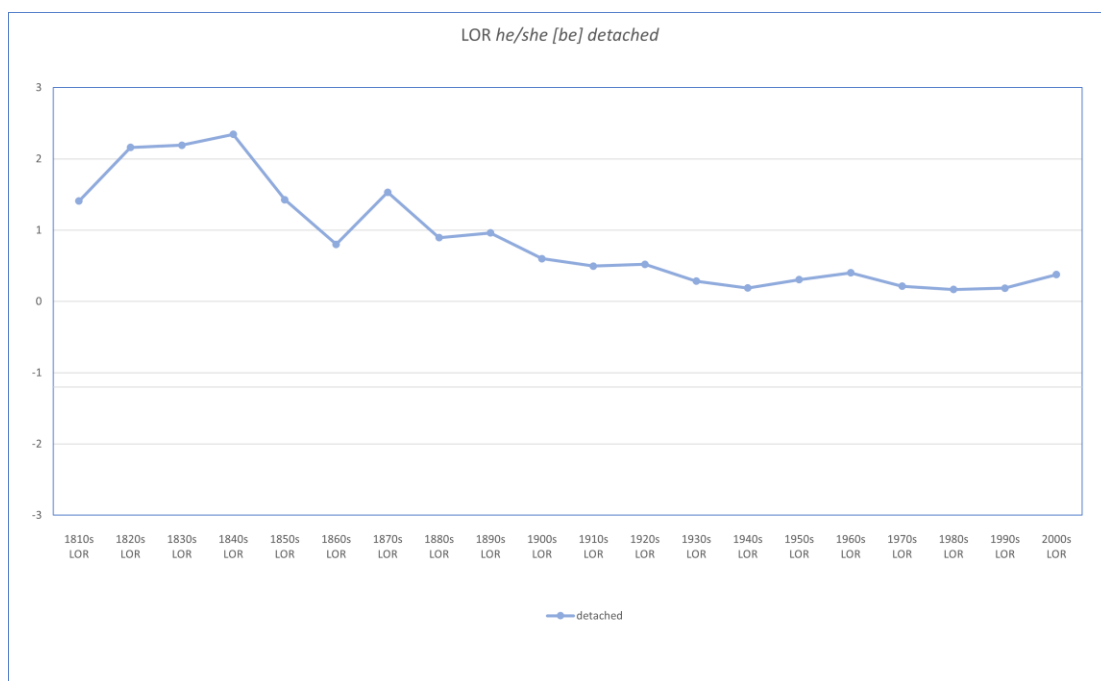


Figure 43 Log odds ratio for the American English sample of *he or she [be] detached*.

As can be observed from the graph, *detached* exclusively shows male bias. This bias is initially very strong, especially until the 1880s. This is partly because there are no occurrences of *she [be] detached* until the 1850s. However, it significantly decreases over time. For the 1810s, the log odds ratio value is 1.40, and it even reaches 2.34 by the 1840s. However, the log odds ratio value drops to 0.37 by the 2000s. The gender bias of *detached* shows a decreasing trend from the 1870s onwards, and this trend continues to exist from the 1960s onwards as well; however, from the 1990s to 2000s, it increases once again.

Figure 44 shows the log odds ratio of the construction *he/she [be] calm*.

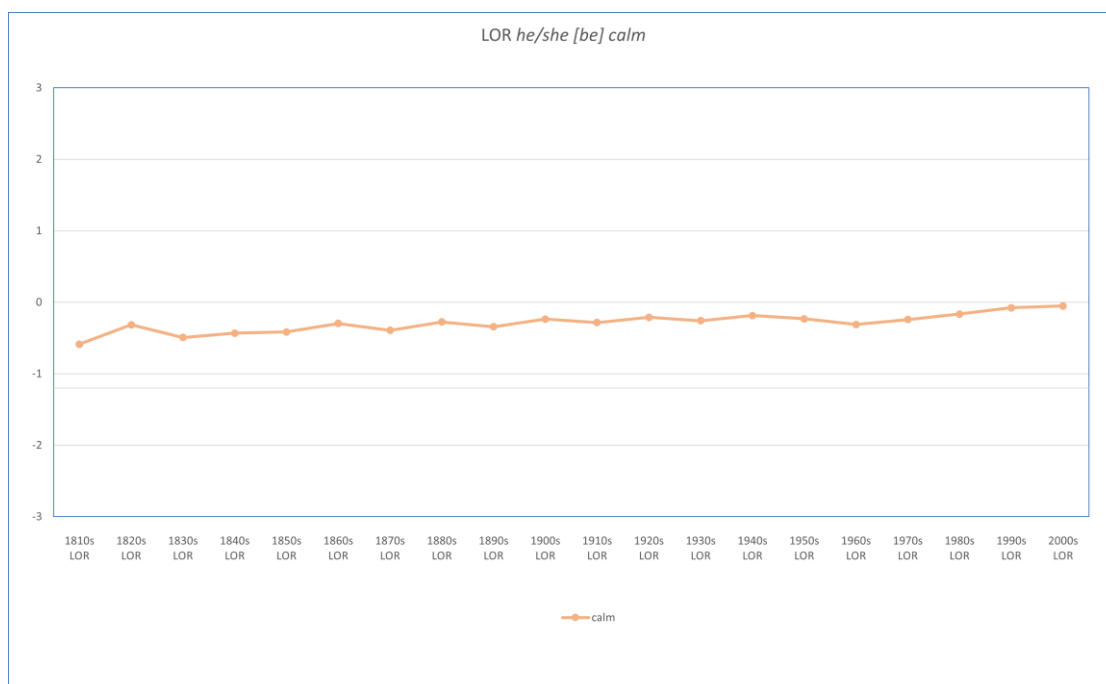


Figure 44 Log odds ratio for the American English sample of *he or she [be] calm*.

As the graph demonstrates, *calm* exclusively shows female bias throughout the investigated period. However, this bias exhibits a consistently decreasing trend over time. For the 1810s, the log odds ratio value is -0.58, while it is -0.05 for the 2000s, which shows that gender bias for *calm* almost disappeared by the 2000s. Furthermore, *calm* exhibits a similar trend to the other words and shows a decreasing trend in gender bias from the 1960s onwards.

Figure 45 maps the log odds ratio of the construction *he/she [be] steady*.

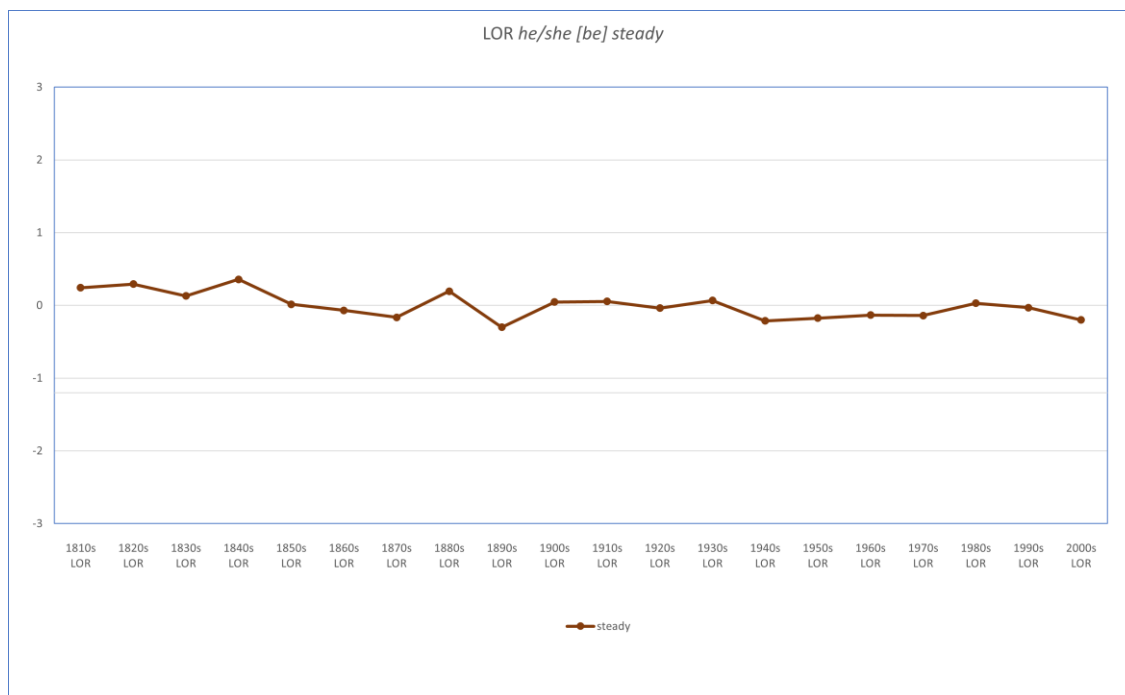


Figure 45 Log odds ratio for the American English sample of *he or she [be] steady*.

The graph demonstrates that *steady* shows a fluctuating trend and type of gender bias throughout the investigated period. Initially, it shows male bias mostly, but from the 1930s onwards, this trend changes, and it almost exclusively shows female bias. Overall, the gender bias exhibited by *steady* slightly decreases over time. For the 1810s, the log odds ratio value is 0.24, while it is -0.20 for the 2000s. However, *steady* does not fully support the hypothesis of this thesis, as gender bias increases again from the 1980s onwards, despite a decline from the 1960s to the 1980s.

Figure 46 portrays the log odds ratio of the construction *he/she be vulnerable*.

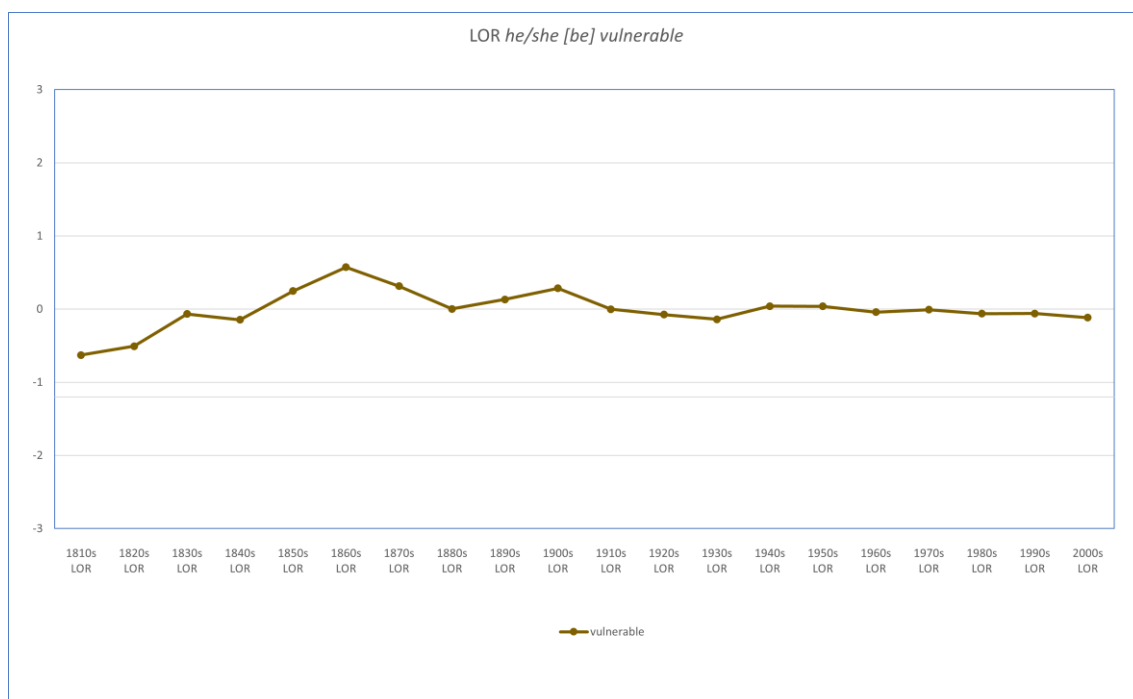


Figure 46 Log odds ratio for the American English sample of *he or she [be] steady*.

The graph shows that *vulnerable* shows a changing trend over the 19th and 20th centuries. Initially, there is a female bias until the 1850s, followed by a predominantly male bias until the 1910s, and then a return to a female bias until the end of the 2000s. Overall, it shows a decreasing trend in terms of gender bias from the 1810s to the 2000s. The log odds ratio is -0.62 for the 1810s, while it drops to -0.11 for the 2000s. *Vulnerable* does not exhibit the expected decreasing trend from the 1960s onwards, but the gender bias from the 1940s until the 2000s is barely noticeable.

Figure 47 demonstrates the log odds ratio of the construction *he/she [be] sensitive*.

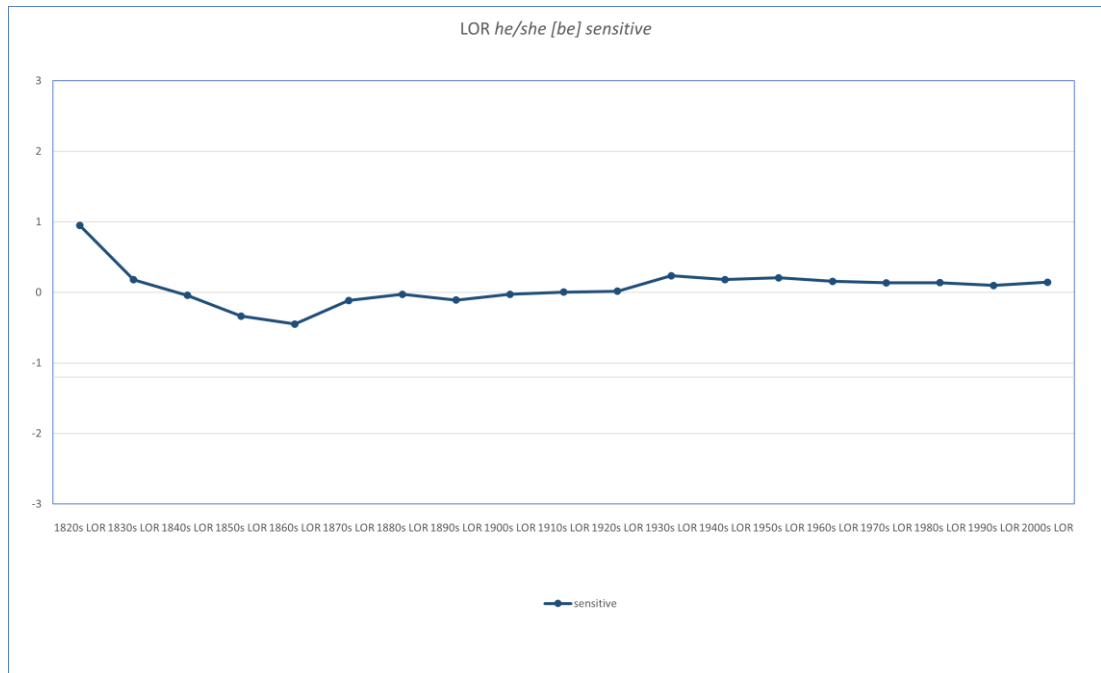


Figure 47 Log odds ratio for the American English sample of *he or she [be] sensitive*.

As illustrated by the graph, *sensitive* exhibits mostly male bias. Overall, the gender bias shown by the word *sensitive* significantly decreases over time. For the 1810s, the log odds ratio value is 0.95, whereas it is 0.14 for the 2000s. The gender bias exhibited by *vulnerable* decreases slightly from the 1960s onwards, which is parallel to the hypothesis of this thesis and the overall pattern exhibited by the adjectives examined for this thesis.

Figure 48 demonstrates the log odds ratio of the construction *he/she [be] delicate*.

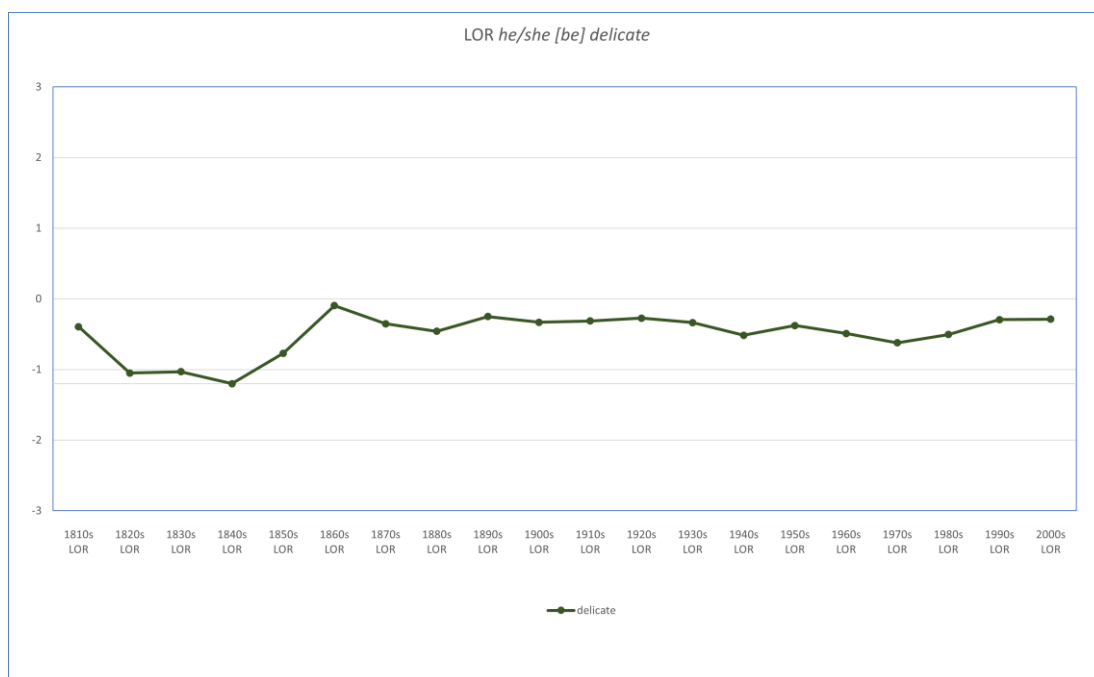


Figure 48 Log odds ratio for the American English sample of *he or she [be] delicate*.

As exhibited by the graph, *delicate* exclusively exhibits female bias throughout the investigated period. The log odds ratio drops to -0.28 in the 2000s from -0.39 in the 1810s. Overall, it follows a fluctuating trend of gender bias, but it decreases significantly from the 1970s onwards, which partly aligns with the hypothesis of this thesis.

Figure 49 portrays the log odds ratio of the construction *he/she [be] surprised*.

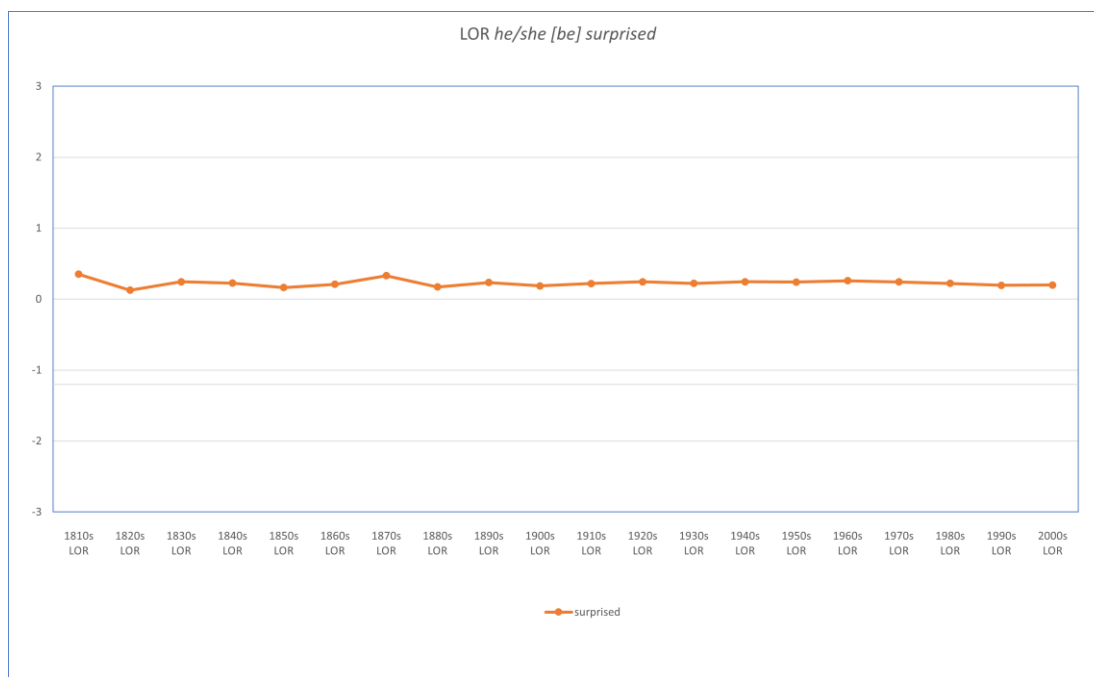


Figure 49 Log odds ratio for the American English sample of *he or she [be] surprised*.

As exhibited by the graph, *surprised* shows male bias throughout the investigated period. *Surprised* initially shows a fluctuating trend from the 1810s to 1870s. From the 1870s to the 1880s, it shows a slight decrease, and from then onwards stays relatively stable. It also shows a decreasing trend from the 1960s to 2000s, parallel to the hypothesis of this study. Overall, the gender bias *surprised* exhibits decreases. For the 1810s, the log odds ratio value is 0.35, while it is 0.19 for the 2000s.

Figure 50 portrays the log odds ratio of the construction *he/she [be] reserved*.

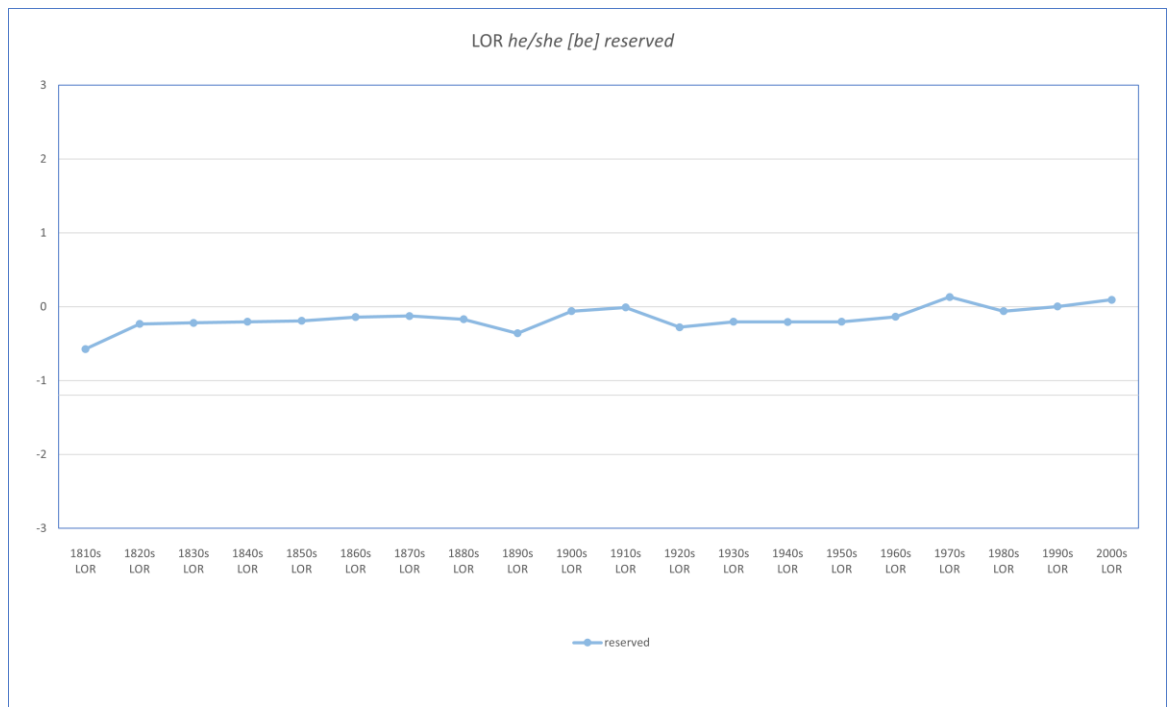


Figure 50 Log odds ratio for the American English sample of *he or she [be] reserved*.

As the graph demonstrates, *reserved* almost exclusively exhibits female bias except for the period from the 1970s onwards. Overall, it follows a significantly decreasing trend in terms of gender bias from the 1810s to the 2000s. For the 1810s, the log odds ratio value is -0.57, while it is 0.09 for the 2000s. *Reserved* does not show a consistently decreasing trend from the 1960s onwards, contrary to the hypothesis of this study.

Figure 51 maps the log odds ratio of the construction *he/she [be] exposed*.

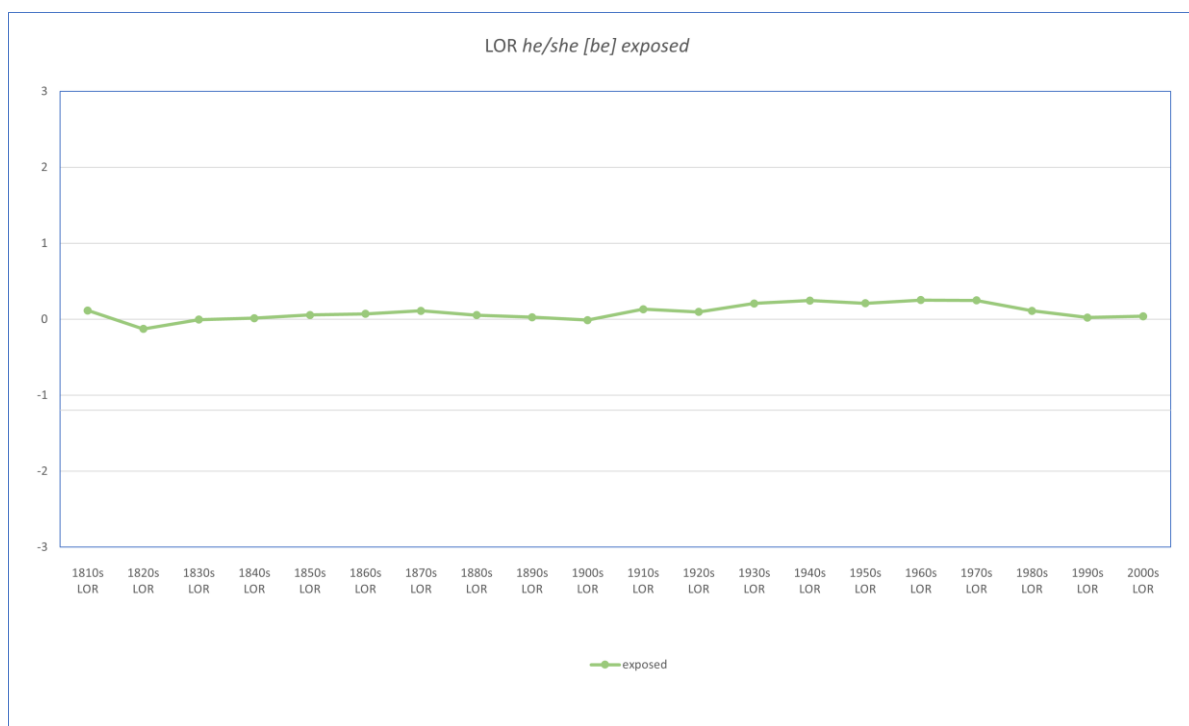


Figure 51 Log odds ratio for the American English sample of *he or she [be] exposed*.

The graph shows that *exposed* mostly shows male bias throughout the investigated period despite the initial female bias. Overall, the gender bias exhibited by *exposed* shows a slightly declining trend from the 1810s to the 2000s. For the 1810s, the log odds ratio value is 0.11, while it is 0.03 for the 2000s. Parallel to the hypothesis of this study, *exposed* shows a consistently decreasing trend from the 1960s onwards.

After the individual results for these words, a graph presenting the results for all the emotion words with neutral connotation will be presented. Figure 52 illustrates the log odds ratio values of the emotion adjectives with neutral connotation in *he/she [be] ADJ* construction.

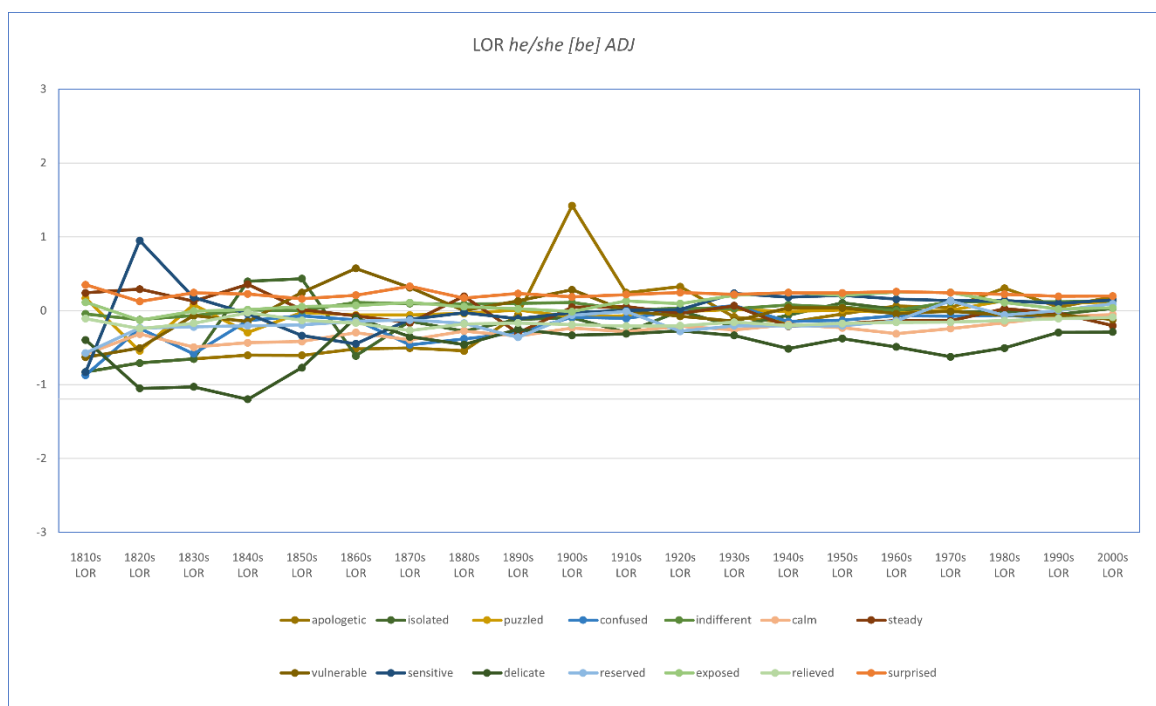


Figure 52 Log odds ratio for the American English sample of he or she [be] ADJ (denoting neutral emotions).

From the graph, it is evident that the gender bias overall for the 19th century is stronger than it is for the 20th century. Especially from the 1910s onwards, gender bias gets significantly weaker. The strongest male bias patterns were exhibited by the words *detached* and *apologetic*, while the strongest female bias patterns were shown by the words *delicate* and *calm*. Compared to positively connotated words, neutrally connotated words show overall stronger bias; however, from the 1920s onwards, nearly all lines are very close to 0, excluding *detached* and *delicate*. By the 2000s, the highest log odds ratio values are significantly lower than those of the early 19th century (2.34 to 0.53 for *vulnerable*, 1.42 to 0.18 for *apologetic*, -1.19 to -0.28 for *delicate*).

Out of the 14 words analysed, 5 show mostly or exclusively male bias: *apologetic*, *detached*, *sensitive*, *surprised*, *exposed*. On the other hand, 5 out of 14 words show mostly or exclusively female bias: *isolated*, *confused*, *calm*, *delicate*, *reserved*. 4 out of 14 words show interchangeably male and female bias, or the gender bias patterns they show are barely noticeable (the log odds ratio value is not much different than 0). These words are *puzzled*, *indifferent*, *steady*, *vulnerable*. Some of the words such as *detached* and *delicate* align with the general gender stereotypes (*detached* showing male bias while *delicate* showing female bias).

However, there are also surprising results, such as some words like *sensitive* and *apologetic*. Both of these words are stereotypically attributed to women; however, they exhibit male bias. These findings are important as they prove that although the gender stereotypes are reflected in the language use, there are still cases in which the bias patterns do not correspond with the gender stereotypes.

4.3 Diachronic changes in the log odds ratio of the adjectives denoting negative emotions in Google Books American English Corpus

In this subsection of the thesis, the results of the analysis conducted on the adjectives denoting negative emotions will be exhibited. Out of the 105 words selected for this study, 57 have neutral connotations. First, the diachronic development of every single word will be individually illustrated and discussed; then the overall pattern exhibited by this group of words will be presented.

Figure 53 portrays the log odds ratio of the construction *he/she [be] sad*.

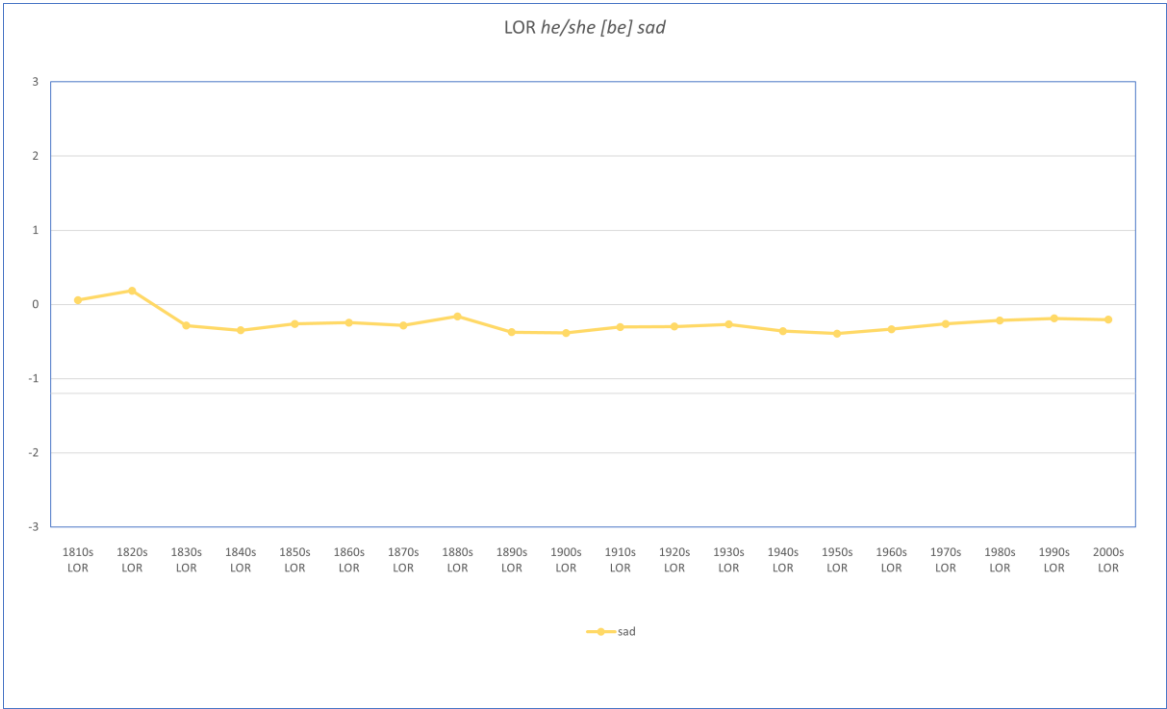


Figure 53 Log odds ratio for the American English sample of *he or she [be] sad*.

As demonstrated by the graph, the word *sad* exclusively exhibits female bias after showing male bias in the 1810s and 1820s. Overall, *sad* exhibits a slightly increasing gender bias pattern over the investigated period, especially from the 1830s to 1950s, except for the 1880s. However, as expected, the gender bias of *sad* decreases from the

1960s onwards, which is parallel to the hypothesis of this thesis. For the 1810s, the log odds ratio value is 0.05, while it is -0.20 for the 2000s.

Figure 54 maps the log odds ratio of the construction *he/she [be] unhappy*.

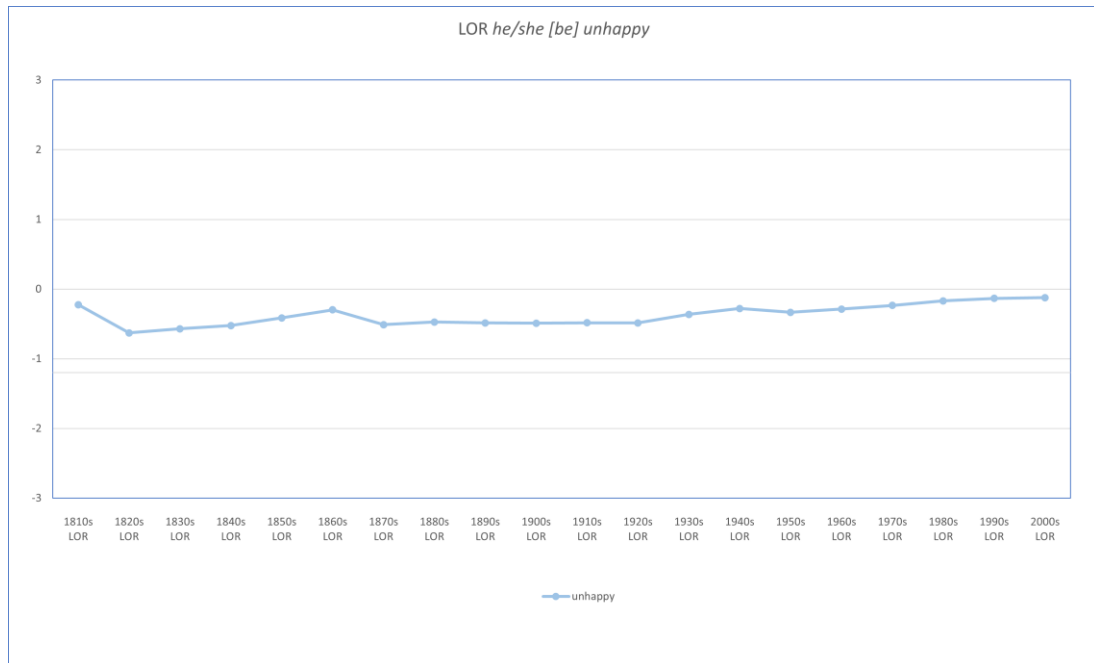


Figure 54 Log odds ratio for the American English sample of *he or she [be] unhappy*.

From the graph, it is evident that *unhappy* shows exclusively female bias throughout the investigated period. Initially, the bias increases from the 1810s to the 1820s. However, from the 1820s onwards, it consistently decreases until the 2000s, especially from the 1960s onwards. For the 1810s, the log odds ratio value is -0.22, while it is -0.12 for the 2000s. Overall, *unhappy* exhibits a similar pattern to the average of the adjectives chosen for this study.

Figure 55 portrays the log odds ratio of the construction *he/she [be] miserable*.

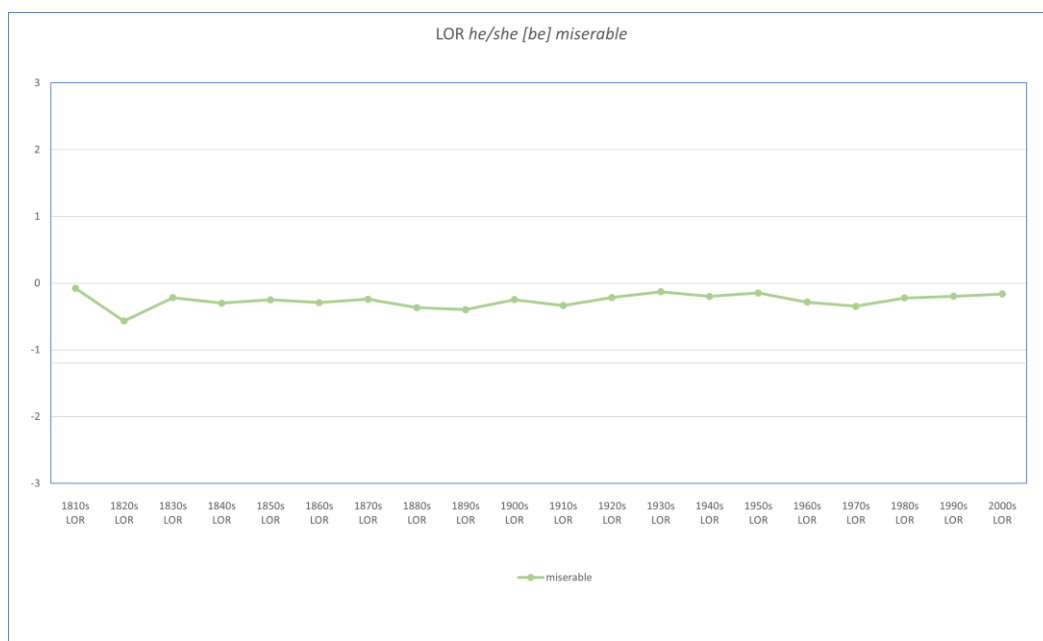


Figure 55 Log odds ratio for the American English sample of *he or she [be] miserable*.

As demonstrated by the graph, *miserable* shows a rather similar pattern to *unhappy* overall, and it exclusively shows female bias. Overall, it shows a slightly increasing gender bias pattern; however, this is because it significantly increases from the 1810s to 1820s. Following this increase, *miserable* shows a consistently decreasing gender bias pattern, especially from the 1970s onwards. For the 1810s, the log odds ratio value is -0.07, while it is -0.16 for the 2000s.

Figure 56 illustrates the log odds ratio of the construction *he/she [be] depressed*.

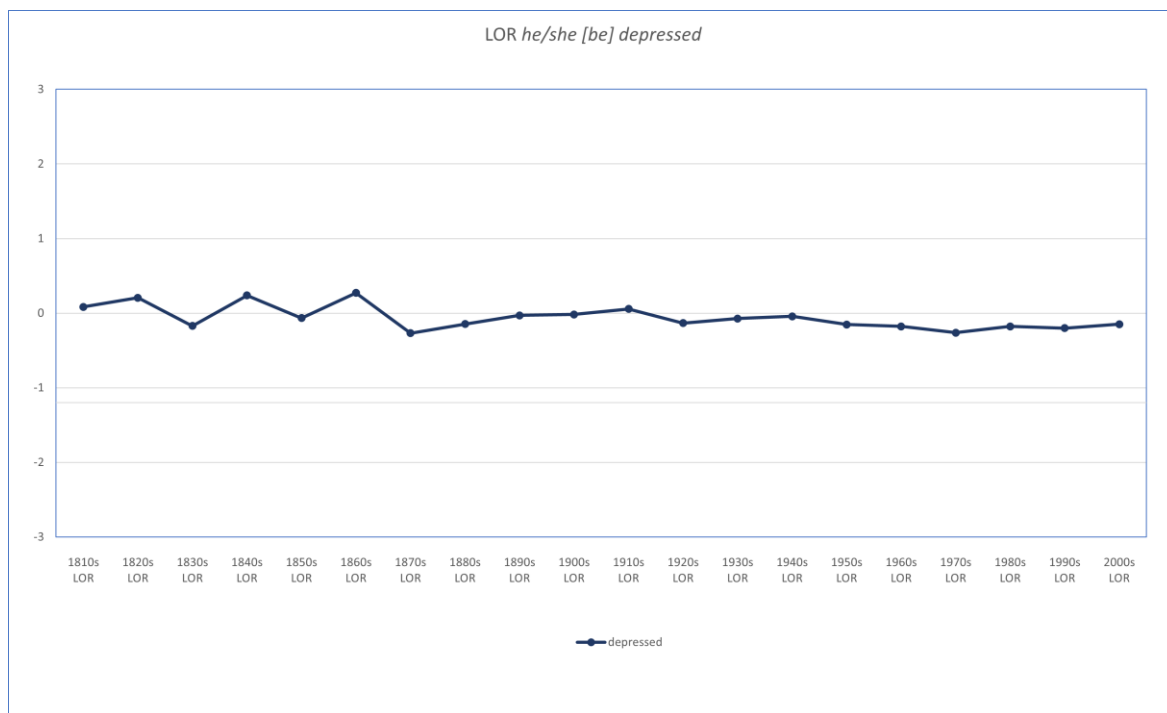


Figure 56 Log odds ratio for the American English sample of *he or she [be] depressed*.

As illustrated by the graph, although *depressed* initially shows male bias from the 1880s onwards, it almost exclusively shows female bias. Unlike the majority of the words analysed so far, *depressed* exhibits a slightly increasing trend in terms of gender bias from the 1810s to 2000s. For the 1810s, the log odds ratio value is 0.08, while it is -0.14 for the 2000s. *Depressed* does not follow the overall trend of decrease from the 1960s shown by the majority of the analysed words.

Figure 57 shows the log odds ratio of the construction *he/she [be] grieving*.

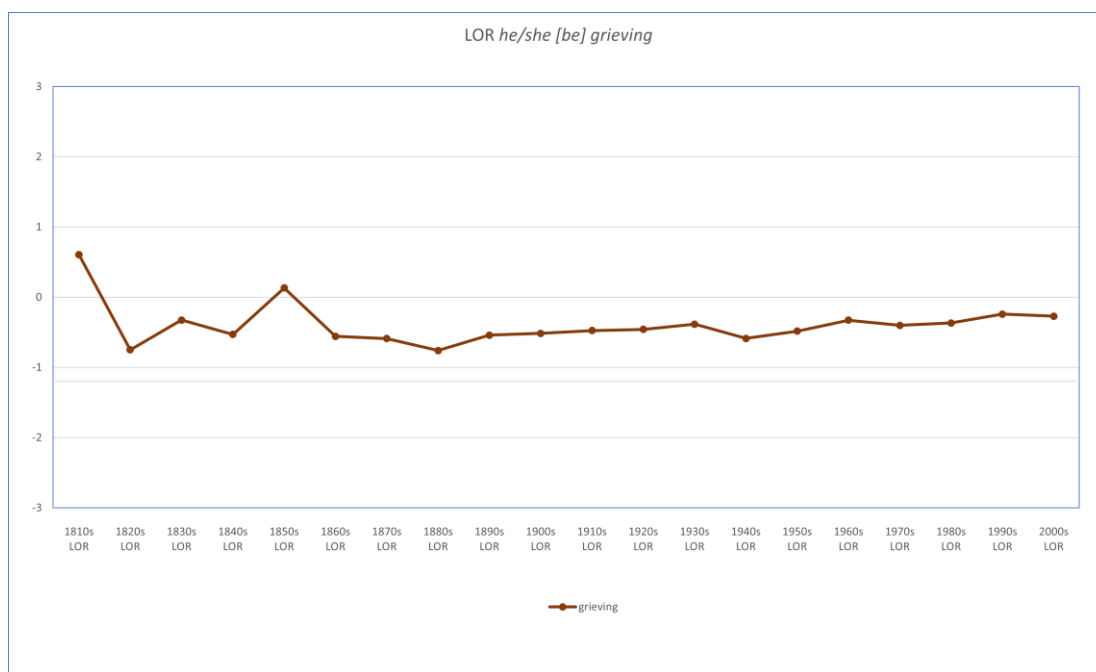


Figure 57 Log odds ratio for the American English sample of *he or she [be] grieving*.

As the graph demonstrates, although *grieving* initially exhibits male bias, this trend changes from the 1820s onwards, and from the 1860s onwards it exclusively shows female bias. One evident aspect of importance is the strong male bias *grieving* shows in the 1810s; however, this is because there were no occurrences of *she [be] grieving* in the 1810s, and 0.1 was inserted as the frequency value for the female construction for the 1810s. Overall, *grieving* exhibits a decreasing gender bias trend. For the 1810s, the log odds ratio value is 0.60, while it is -0.27 for the 2000s. Partly parallel to the hypothesis of this thesis, *grieving* exhibits a decreasing trend from the 1970s onwards.

Figure 58 portrays the log odds ratio of the construction *he/she [be] heartbroken*.

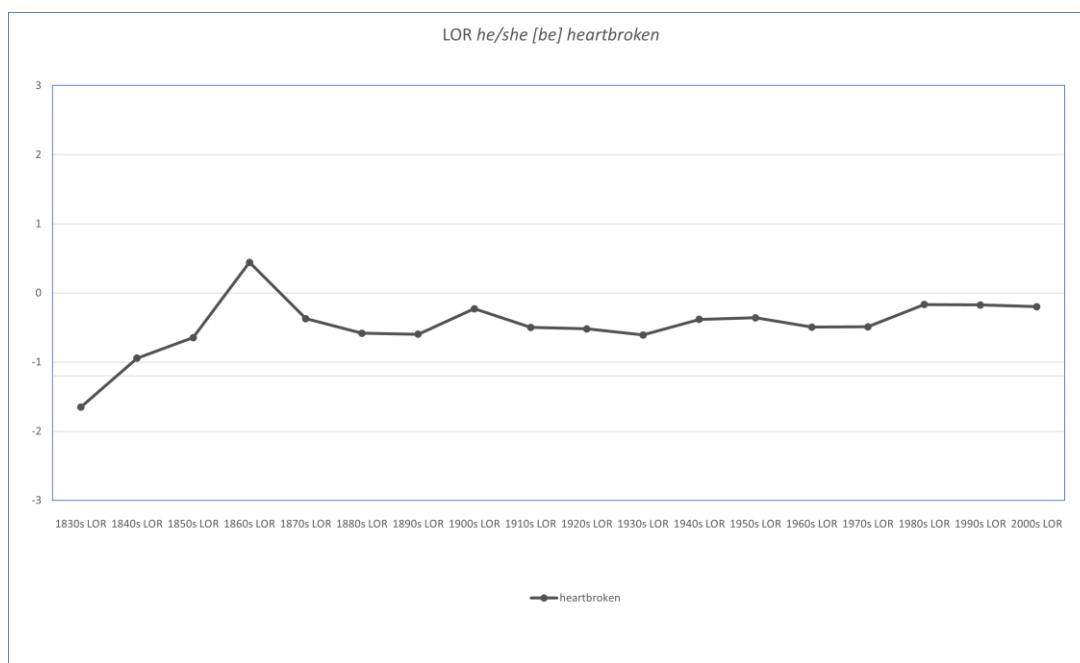


Figure 58 Log odds ratio for the American English sample of *he or she [be] heartbroken*.

As illustrated by the graph, *heartbroken* mostly exhibits female bias throughout the investigated period. As there were no occurrences of *he/she [be] heartbroken* in the 1810s and 1820s, the graph exhibits data from the 1830s to the 2000s. Strong bias patterns are observed for the 1830s and the 1860s, but this is because there are no occurrences for *he [be] heartbroken* in the 1830s and for *she [be] heartbroken* in the 1860s (0.11 was inserted for the male construction, while 0.1 was inserted for the female construction for these decades). Overall, *heartbroken* shows a decreasing gender bias pattern from the 1830s to the 2000s. For the 1830s, the log odds ratio value is -1.65, while it is -0.19 for the 2000s. From the 1970s to the 1980s, a significant decrease in gender bias can be observed.

Figure 59 maps the log odds ratio of the construction *he/she [be] hopeless*.

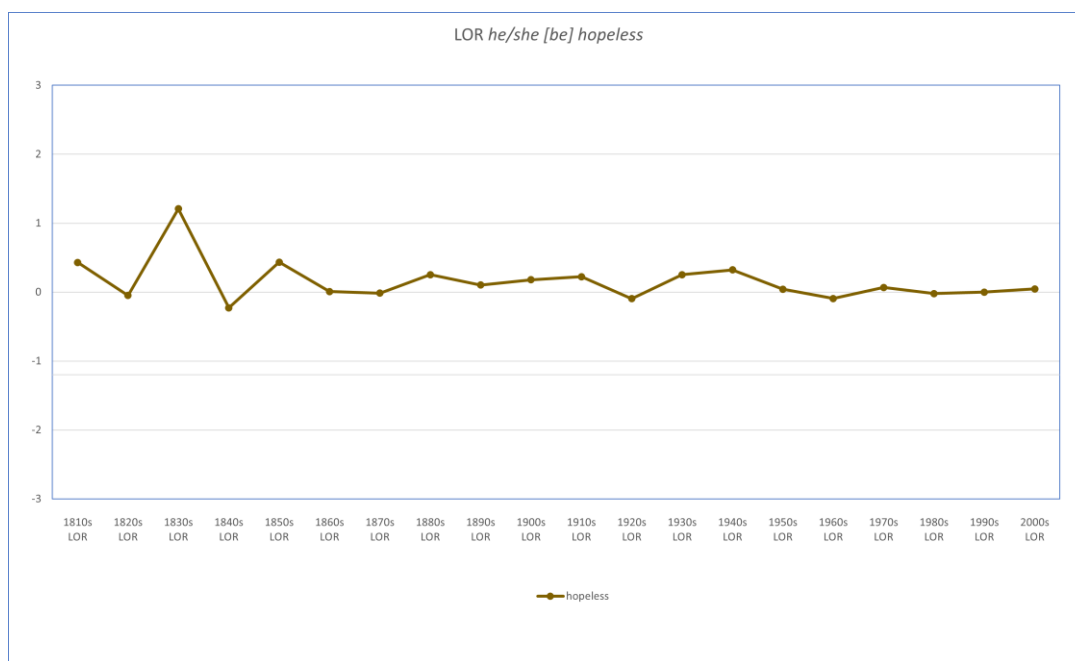


Figure 59 Log odds ratio for the American English sample of *he or she [be] hopeless*.

From the graph, it is evident that *hopeless* mostly exhibits male bias throughout the investigated period. In the 1810s and 1830s, there were no occurrences of *she [be] hopeless*; therefore, 0.1 was inserted for the female construction for these decades. Overall, gender bias decreases from the 1810s to the 2000s. For the 1810s, the log odds ratio value is 0.42, while it is 0.04 for the 2000s. It is also important to note that from the 1940s onwards, gender bias shows a consistently decreasing pattern.

Figure 60 portrays the log odds ratio of the construction *he/she [be] angry*.

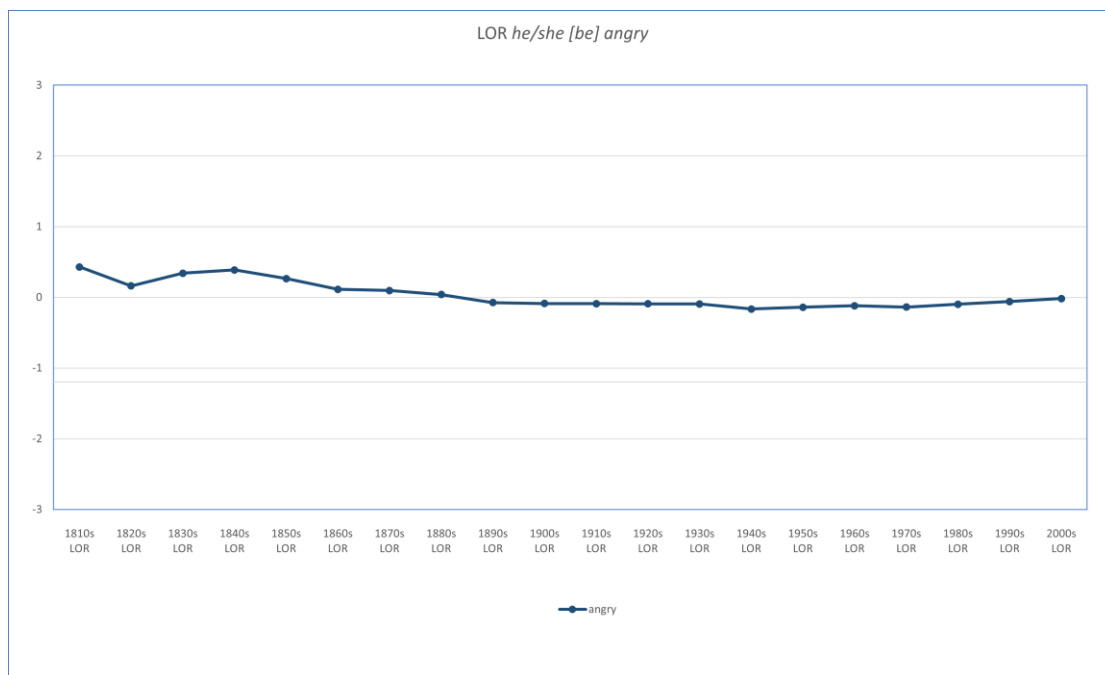


Figure 60 Log odds ratio for the American English sample of *he or she [be] hopeless*.

As demonstrated by the graph, *angry* shows both male and female bias throughout the investigated period. Initially, *angry* shows male bias, but over the course of the 19th century, this bias decreases and from the early 20th century onwards turns into female bias. However, the gender bias is barely noticeable by the 2000s after a decrease from the 1960s onwards. For the 1810s, the log odds ratio value is 0.43, while it is -0.01 for the 2000s.

Figure 61 describes the log odds ratio of the construction *he/she [be] mad*.

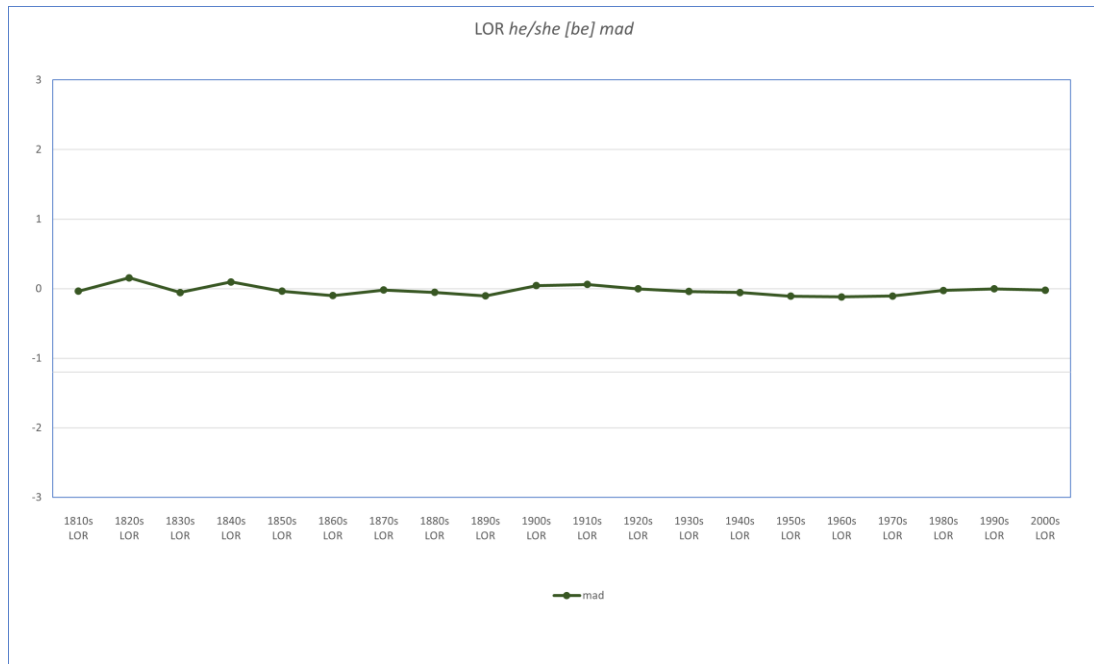


Figure 61 Log odds ratio for the American English sample of *he* or *she* [be] *mad*.

As illustrated by the graph, *mad* mostly exhibits female bias throughout the 19th and 20th centuries. However, the gender bias *mad* shows is mostly minor through this period; for the 1810s, the log odds ratio value is -0.03, while it is -0.02 for the 2000s. Overall, gender bias shows a mostly stable and slightly decreasing pattern. Gender bias for the word *mad* decreases from the 1960s onwards, corresponding with the hypothesis of this thesis.

Figure 62 portrays the log odds ratio of the construction *he/she* [be] *furious*.

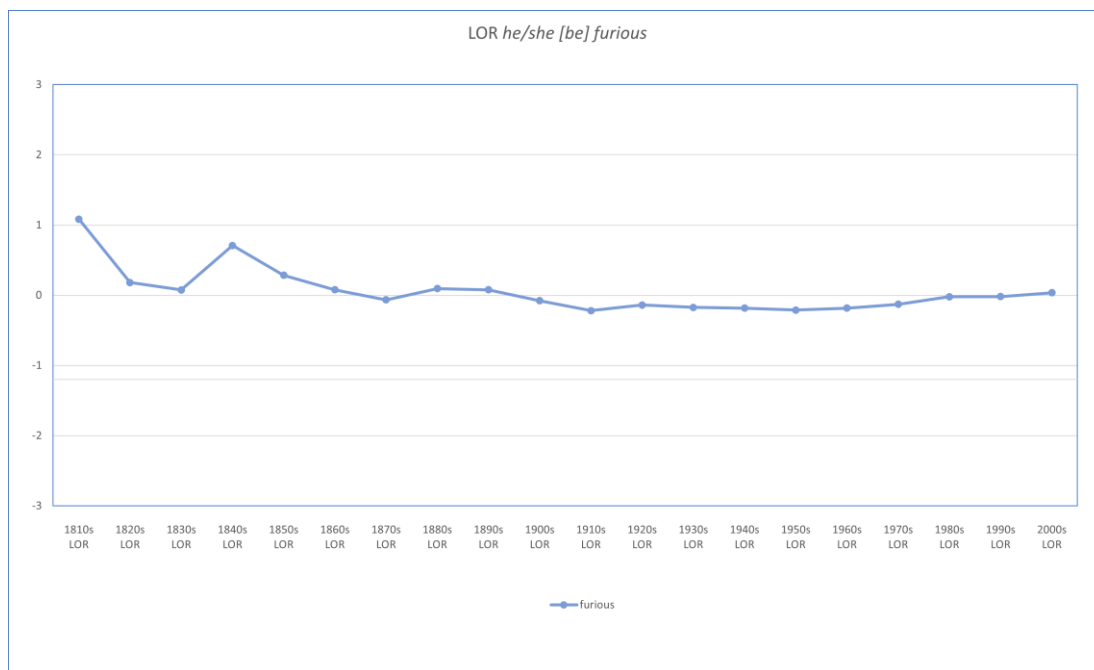


Figure 62 Log odds ratio for the American English sample of *he or she [be] furious*.

As exhibited by the graph, *furious* shows both male and female bias throughout the investigated time period. Initially, there is a strong male bias, but this is due to the low number of occurrences (9 for *he [be] furious*, 0 (0.1 was inserted) for *she [be] furious*). However, from the 1850s onwards, gender bias gradually decreases and then shifts to female bias and slightly increases. From the 1960s onwards, the gender bias starts to decrease again, and it is barely noticeable by the 2000s. For the 1810s, the log odds ratio value is 1.08, while it is 0.03 for the 2000s.

Figure 63 portrays the log odds ratio of the construction *he/she [be] irritated*.

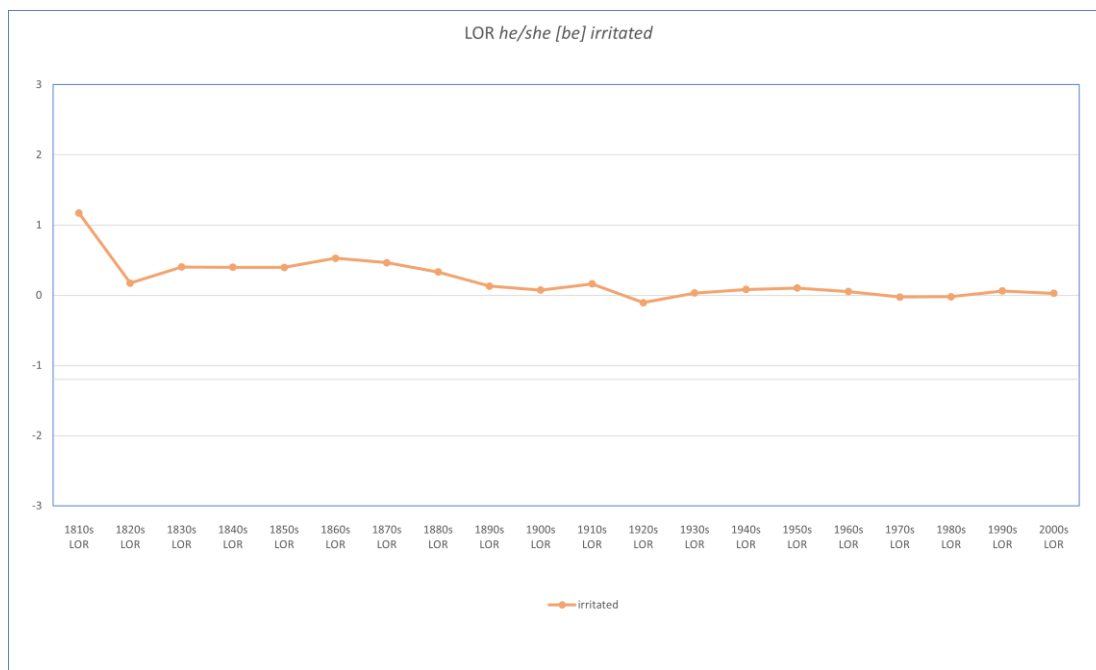


Figure 63 Log odds ratio for the American English sample of *he or she [be] irritated*.

From the graph, it is evident that *irritated* exhibits a similar trend to *furious*; but mostly exhibits male bias. Once again, there is evidence of initial strong male bias, but over time, this bias decreases and it is barely evident by the 2000s. For the 1810s, the log odds ratio value is 1.16, while it is 0.02 for the 2000s. It is important to note that from the 1960s onwards, gender bias is very low and mostly stays stable.

Figure 64 exhibits the log odds ratio of the construction *he/she [be] annoyed*.

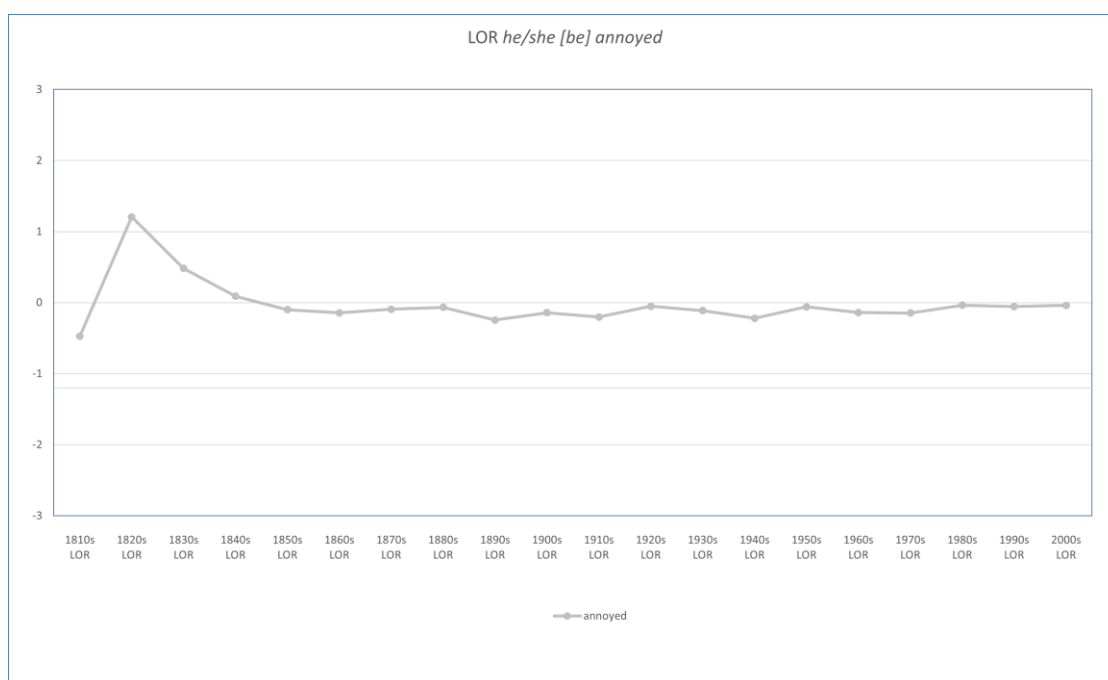


Figure 64 Log odds ratio for the American English sample of *he or she [be] annoyed*.

As the graph also demonstrates, *annoyed* mostly exhibits female bias except for the early 19th century. There is evidence of strong male bias for the 1820s; however, this is because there are no occurrences of *she [be] irritated* (0.1 was inserted as the frequency value for the female construction for this decade). Overall, it shows a decreasing trend in terms of gender bias. For the 1810s, the log odds ratio value is -0.47, while it is -0.03 for the 2000s. The gender bias for *irritated* shows a decreasing trend from the 1960s onwards, and by the 2000s, the bias is barely noticeable.

Figure 65 maps the log odds ratio of the construction *he/she [be] bitter*.

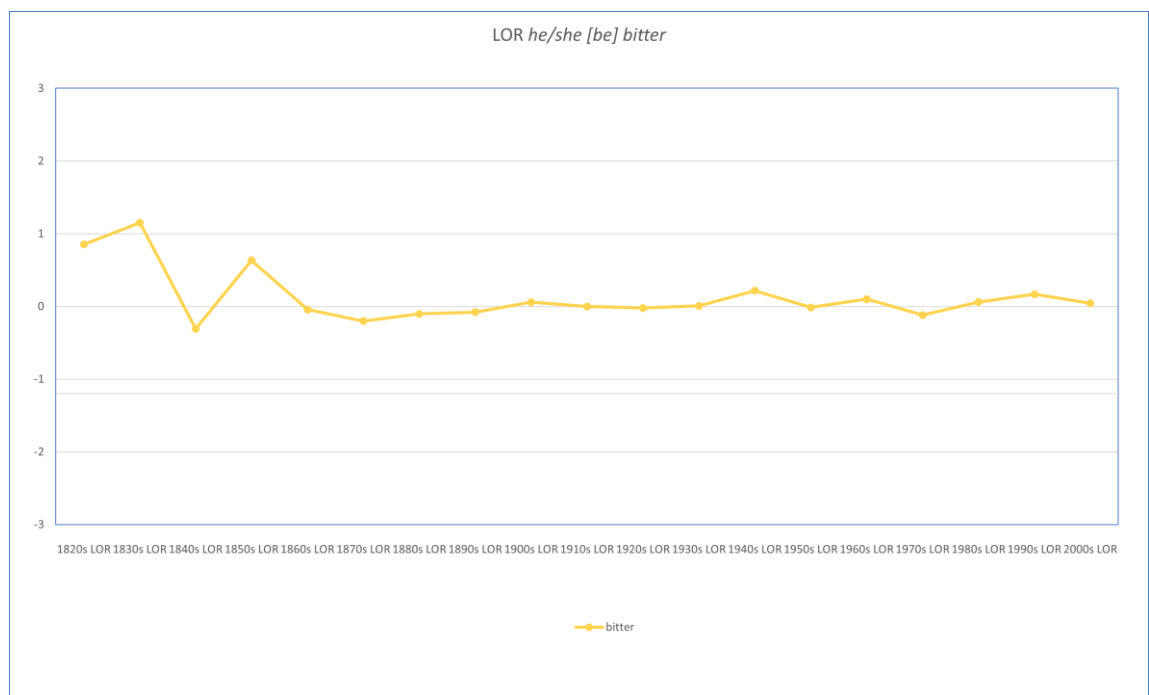


Figure 65 Log odds ratio for the American English sample of *he or she [be] bitter*.

As the graph demonstrates, *bitter* predominantly exhibits male bias. In spite of an initially strong male bias, over time the bias exhibited by *bitter* decreases especially from the 1860s onwards. There is no data for the 1810s as there are no occurrences of *he/she [be] bitter*. For the 1820s, the log odds ratio is 0.85, which then increases to 1.15 for the 1830s, while it is 0.04 for the 2000s. *Bitter* does not follow the overall pattern of decrease from the 1960s onwards exhibited by the majority of the words.

Figure 66 demonstrates the log odds ratio of the construction *he/she [be] frustrated*.

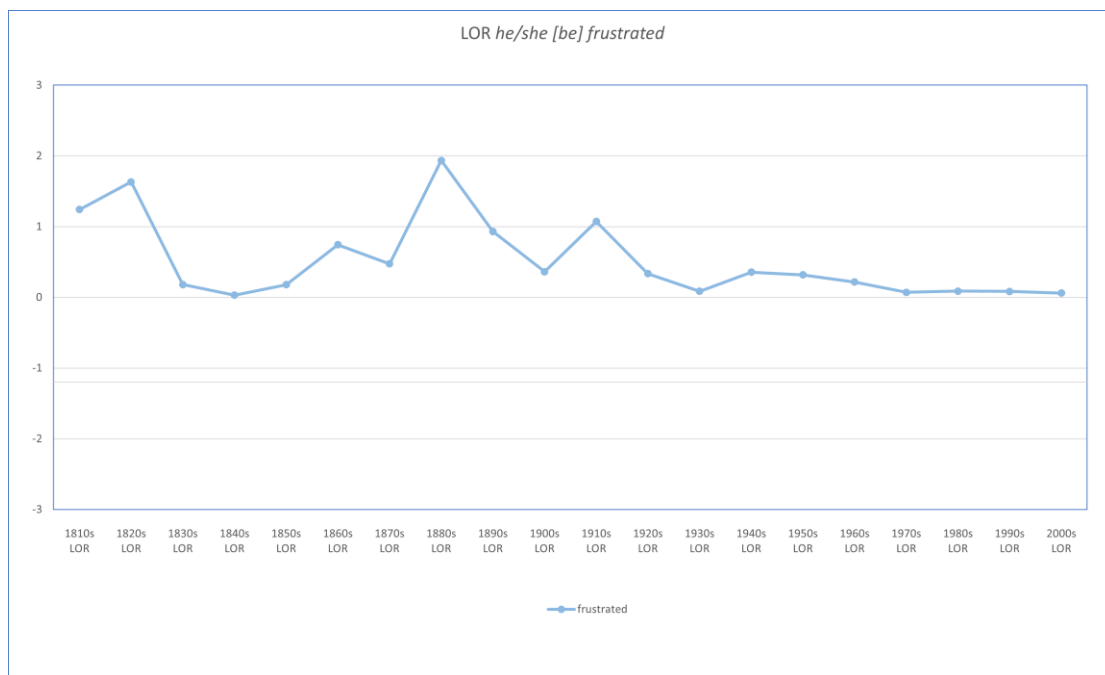


Figure 66 Log odds ratio for the American English sample of *he or she [be] frustrated*.

From the graph, it is evident that *frustrated* exclusively shows male bias throughout the investigated time. Overall, *frustrated* shows a decreasing trend from the 1810s to the 2000s. Initially, it shows a strong bias, and bias values fluctuate until the 1880s; from the 1880s onwards, it consistently shows a decreasing pattern, and by the 2000s, the bias is barely noticeable. For the 1810s, the log odds ratio value is 1.24, while it is 0.06 for the 2000s. *Frustrated* partly aligns with the hypothesis of this study and shows a decreasing trend from the 1940s onwards.

Figure 67 portrays the log odds ratio of the construction *he/she [be] hostile*.

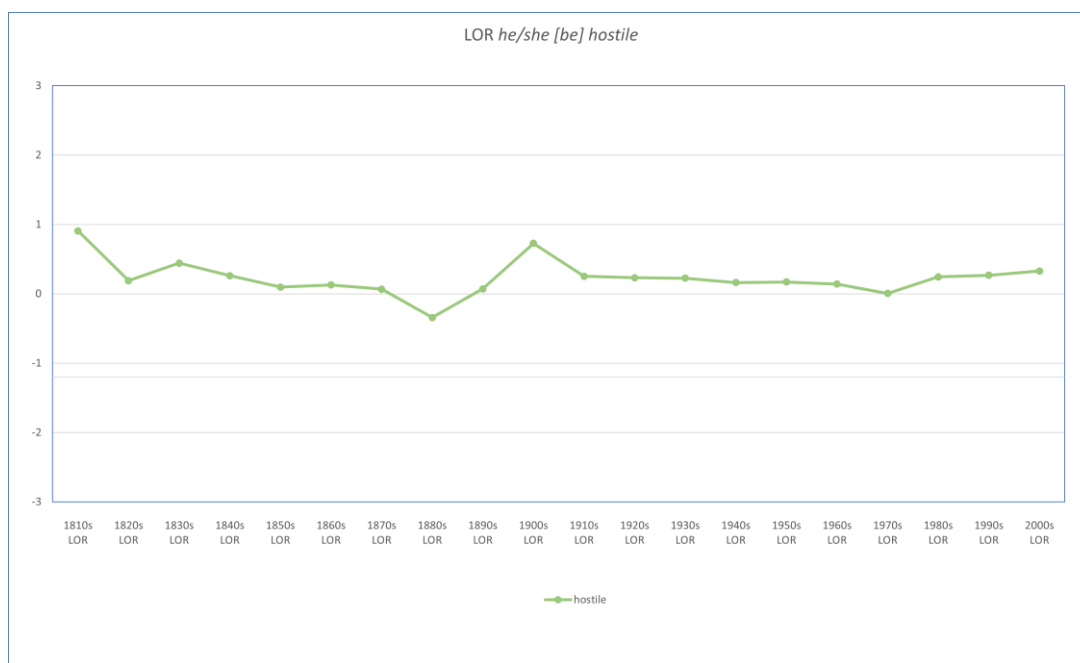


Figure 67 Log odds ratio for the American English sample of *he* or *she* [be] *hostile*.

As demonstrated by the graph, *hostile* almost exclusively shows male bias throughout the investigated period. Overall, it shows a decreasing trend in terms of gender bias, especially from the 1910s onwards. For the 1810s, the log odds ratio is 0.90, while it is 0.32 for the 2000s. *Hostile* does not share the same pattern as the majority of the analysed words in terms of the trend it shows from the 1960s onwards, as the bias increases from the 1970s to the 2000s.

Figure 68 maps the log odds ratio of the construction *he/she* [be] *aggressive*.

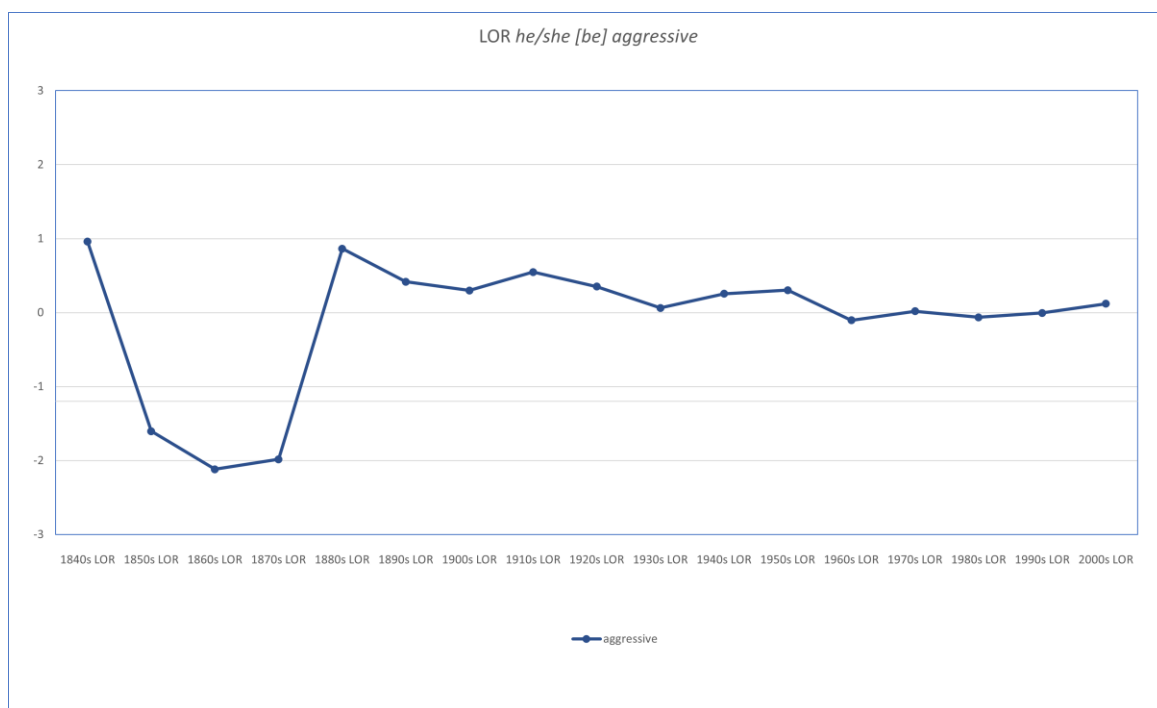


Figure 68 Log odds ratio for the American English sample of *he or she [be] aggressive*.

As the graph demonstrates, *aggressive* shows a rather strong fluctuation in terms of gender bias in the early 19th century. It is important to note that the graph only shows data from the 1840s onwards, as there are no occurrences of *he/she [be] aggressive* before that decade. The volatile pattern of gender bias in the early 19th century can be attributed to the fact that there are no occurrences of either *he* or *she [be] aggressive* until the 1880s (no occurrences of *he [be] aggressive* for the 1850s, 1860s and 1870s, and no occurrence of *she [be] aggressive* for the 1840s; 0.11 was inserted for the male construction while 0.10 was inserted for the female construction for the decades with 0 occurrences). From the 1880s onwards, *aggressive* mostly exhibits male bias, and this bias consistently decreases over time. This bias is barely noticeable by the 2000s, especially from the 1960s onwards. For the 1840s, the log odds ratio value is 0.95, and it goes up as much as -2.11 for the 1860s, while it is only 0.11 by the 2000s.

Figure 69 portrays the log odds ratio of the construction *he/she [be] outraged*.

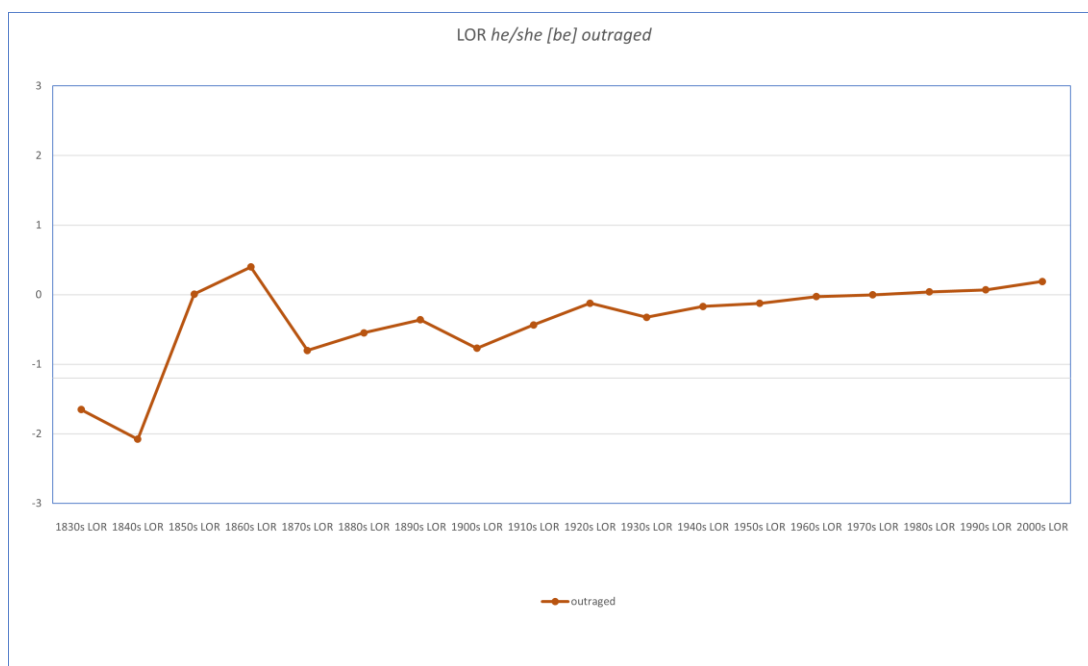


Figure 69 Log odds ratio for the American English sample of *he or she [be] outraged*.

As the graph demonstrates, *outraged* mostly exhibits female bias, but this bias switches to male bias from the 1960s onwards. The graph portrays data from the 1830s to the 2000s, as there were no occurrences of *he/she [be] outraged* in the 1810s and 1820s. There are also no occurrences of *he [be] outraged* in the 1830s and 1840s, which explains the strong female bias (0.11 was inserted for the male construction in these decades). From the 1870s onwards, gender bias decreases overall until the 1960s, when it started to exhibit a slight male bias. For the 1830s, the log odds ratio value is -1.65, while it is 0.18 for the 2000s.

Figure 70 maps the log odds ratio of the construction *he/she [be] fearful*.

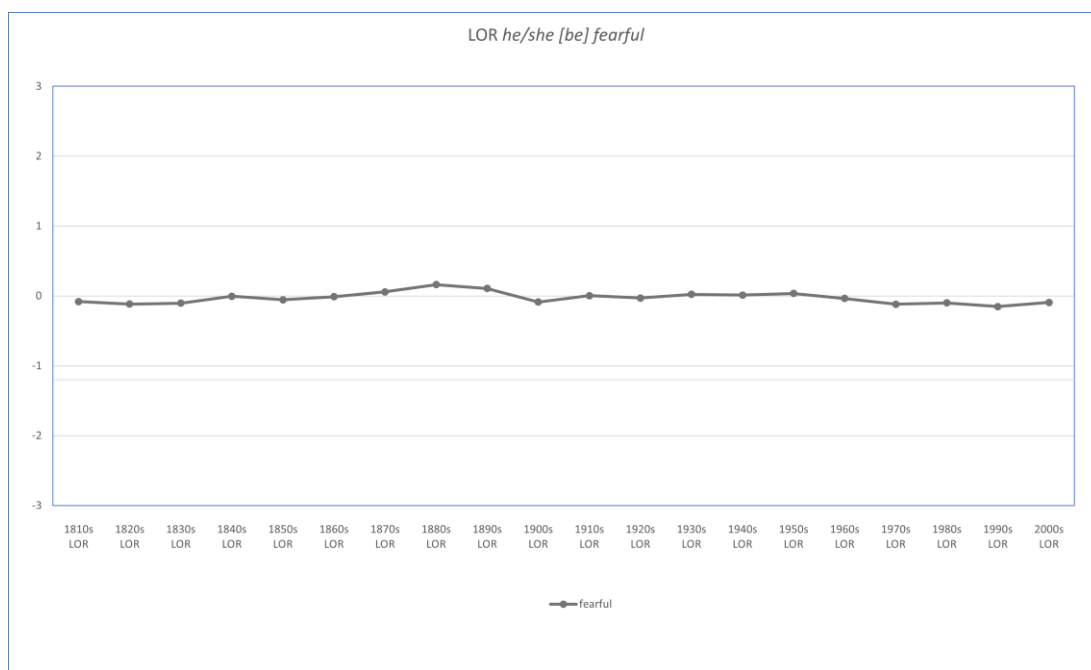


Figure 70 Log odds ratio for the American English sample of *he or she [be] fearful*.

From the graph, it is evident that *fearful* shows a balanced pattern of gender bias throughout the investigated period. Overall, gender bias is almost always minor and remains mostly unchanged. For the 1810s, the log odds ratio value is -0.08, while it is -0.09 for the 2000s. Unlike the majority of the words analysed so far, *fearful* does not exhibit a decreasing trend from the 1960s onwards. However, it is important to note that due to the overall minority of the gender bias, the slight increase *fearful* exhibits from the 1960s is not of big importance.

Figure 71 shows the log odds ratio of the construction *he/she [be] afraid*.

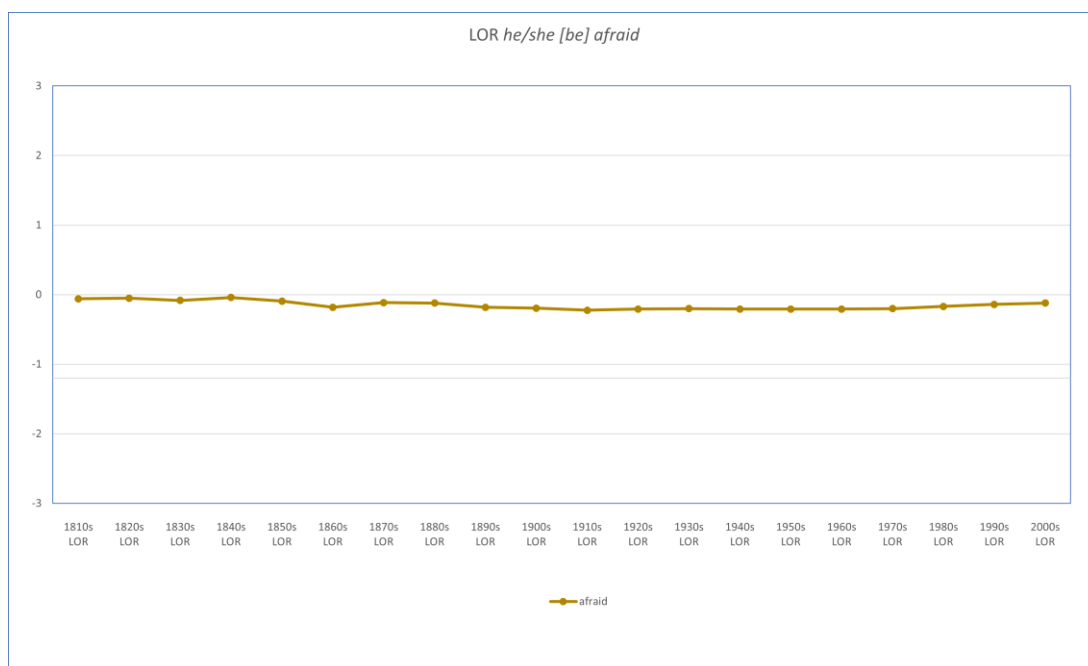


Figure 71 Log odds ratio for the American English sample of *he or she [be] fearful*.

As illustrated by the graph, *afraid* almost exclusively shows female bias throughout the investigated period. Overall, gender bias exhibited by *afraid* slightly increases but mostly stays stable especially from the 1890s to 1960s. From the 1960s onwards, it shows a slightly decreasing gender bias pattern, as hypothesized by this thesis. For the 1810s, the log odds ratio value is -0.06, while it is -0.12 for the 2000s.

Figure 72 portrays the log odds ratio of the construction *he/she [be] scared*.

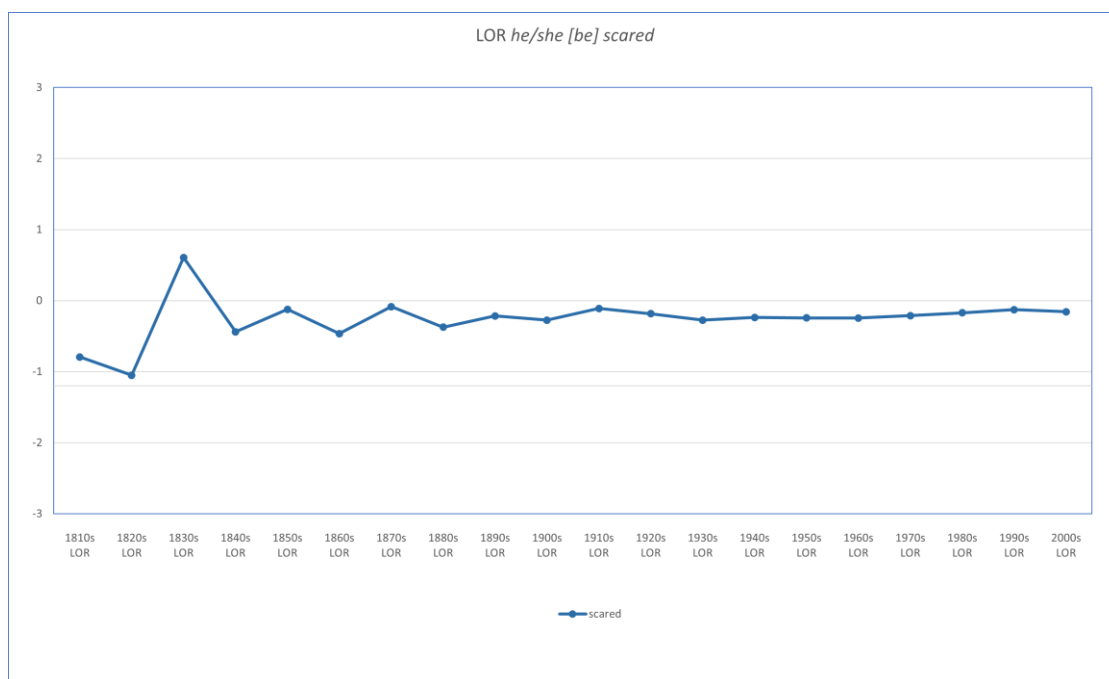


Figure 72 Log odds ratio for the American English sample of *he or she [be] scared*.

As demonstrated by the graph, *scared* exclusively shows female bias excluding the 1830s. Overall, the gender bias shown by *scared* significantly decreases from the 1810s to the 2000s. For the 1810s, the log odds ratio value is -0.79, while it is only -0.15 for the 2000s. *Scared* also shows a similar pattern to the majority of the analysed words, with its decreasing gender bias trend from the 1960s onwards.

Figure 73 maps the log odds ratio of the construction *he/she [be] terrified*.

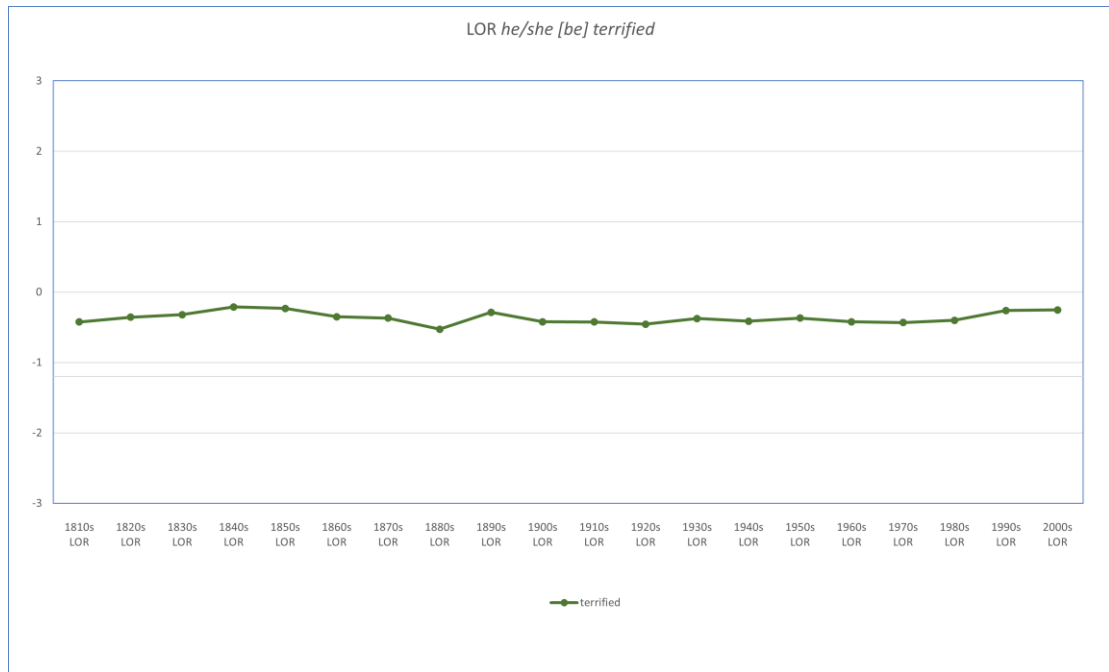


Figure 73 Log odds ratio for the American English sample of *he or she [be] terrified*.

From the graph, it can be observed that *terrified* shows a similar pattern to the other adjectives denoting fear and exhibits exclusively female bias. It is interesting that most of the adjectives denoting fear show female bias, contrasting with *brave* which shows male bias. Overall, *terrified* shows a decreasing trend in terms of gender bias. For the 1810s, the log odds ratio value is -0.42, whereas it is -0.25 for the 2000s.

Figure 74 maps the log odds ratio of the construction *he/she [be] nervous*.

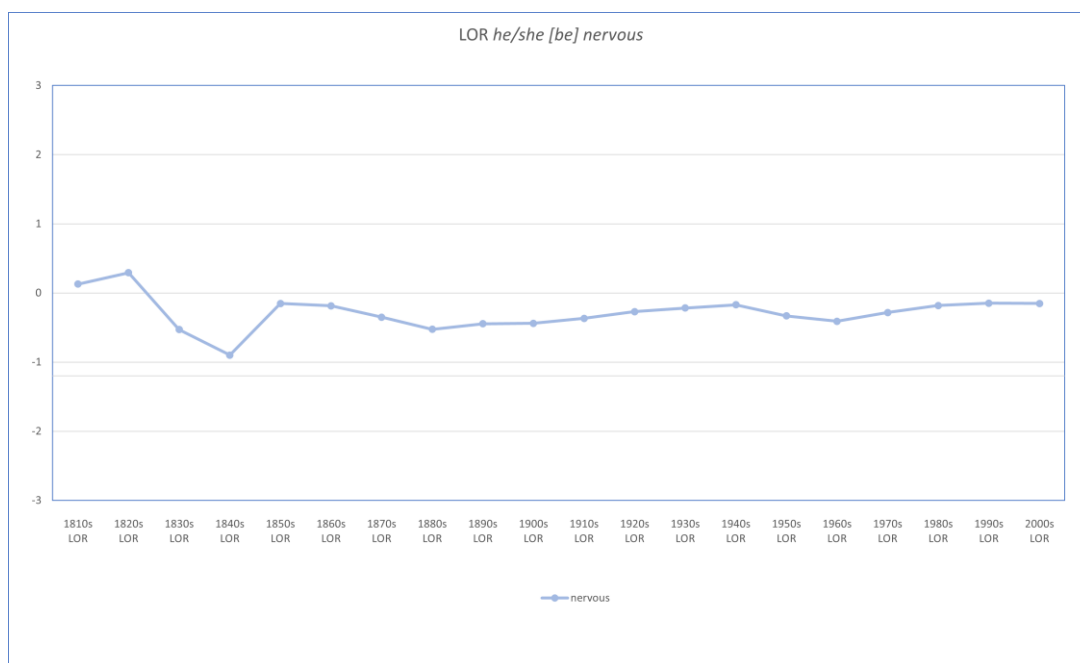


Figure 74 Log odds ratio for the American English sample of *he or she [be] nervous*.

As evidenced by the graph, *nervous* mostly exhibits female bias in spite of an initial male bias trend. Overall, the gender bias slightly increases from the 1810s to the 2000s; however, this slight increase is due to a significant rise from the 1820s to 1840s, as from the 1880s onwards, gender bias mostly shows a decreasing trend. For the 1810s, the log odds ratio value is 0.12, while it is -0.15 for the 2000s. Just as expected, gender bias for *nervous* exhibits a decreasing trend from the 1970s onwards.

Figure 75 demonstrates the log odds ratio of the construction *he/she [be] anxious*.

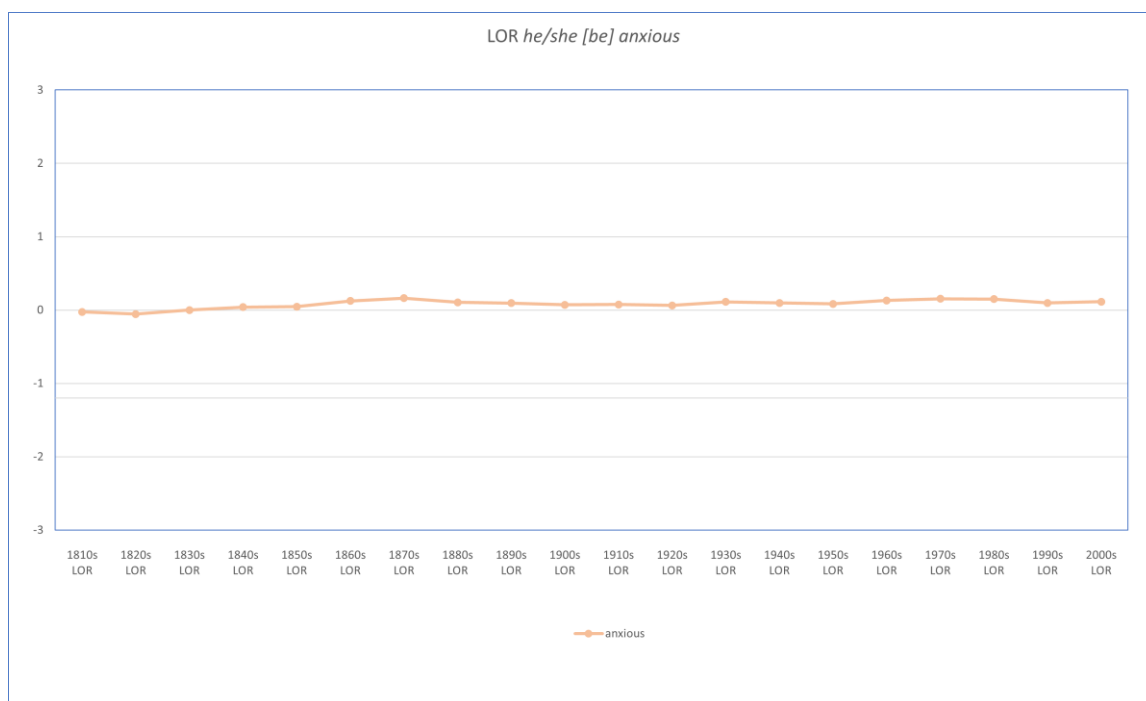


Figure 75 Log odds ratio for the American English sample of *he or she [be] anxious*.

As illustrated in the graph, *anxious* mostly exhibits male bias throughout the investigated period; however, this bias is exclusively minor. Over time, there is a very slight increase in gender bias for *anxious*. For the 1810s, gender bias is -0.02, while it is 0.11 for the 2000s. From the 1970s onwards, gender bias exhibits a slightly decreasing trend. *Anxious* has a particularly interesting case as it is one of the few words for which the gender bias is barely noticeable throughout the investigated period. Furthermore, it exhibits a decreasing pattern in gender bias from the 1970s as predicted.

Figure 76 maps the log odds ratio of the construction *he/she [be] worried*.

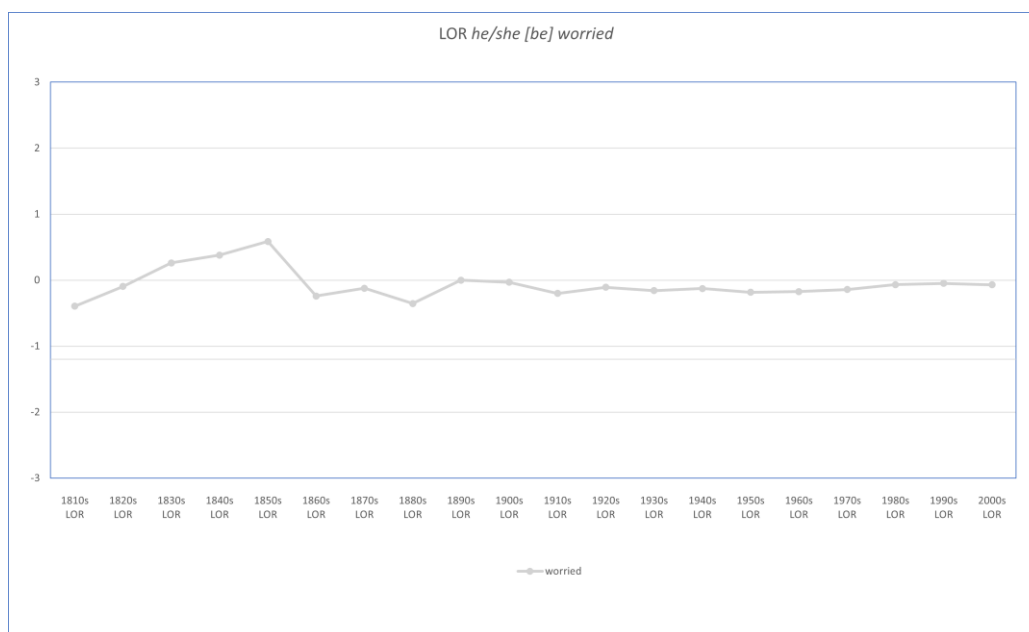


Figure 76 Log odds ratio for the American English sample of *he or she [be] worried*.

As demonstrated by the graph, unlike *anxious*, *worried* has a more fluctuating pattern. Initially, it shows female bias, which then turns into male bias from the 1830s to 1850s. However, from the 1860s onwards *worried* almost exclusively exhibits female bias, albeit a predominantly minor bias. Overall, the gender bias for *worried* shows a decreasing trend from the 1810s to the 2000s. For the 1810s, the log odds ratio value is -0.39, while it is only -0.07 for the 2000s. Just as hypothesised, *worried* shows a decreasing pattern in terms of gender bias from the 1970s onwards.

Figure 77 shows the log odds ratio of the construction *he/she [be] concerned*.

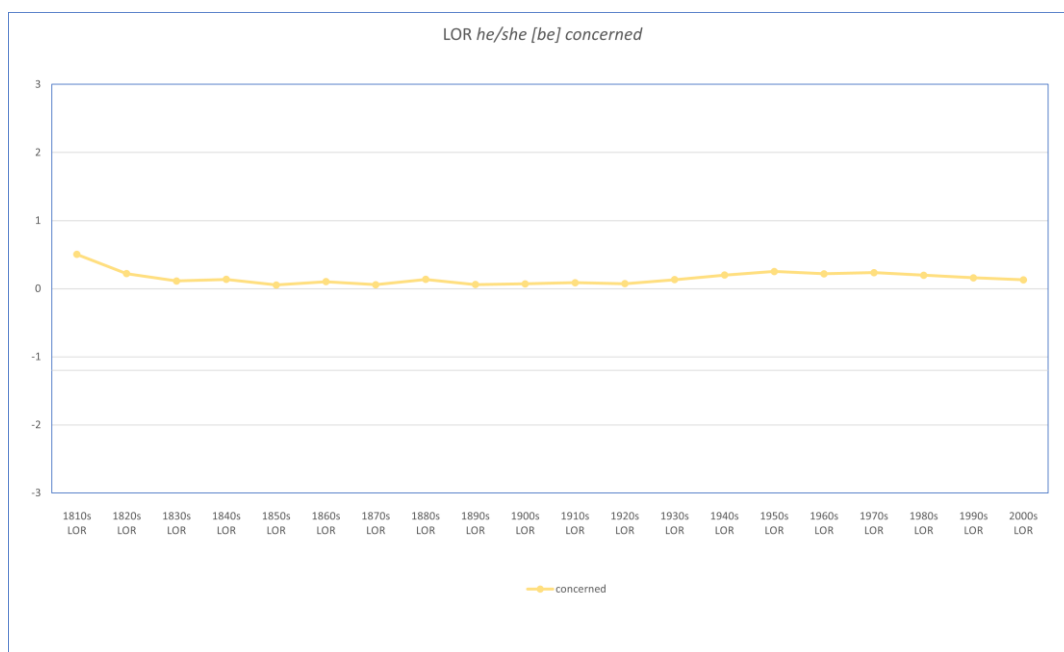


Figure 77 Log odds ratio for the American English sample of *he or she [be] concerned*.

As demonstrated by the graph, *concerned* exclusively exhibits male bias. Overall, it follows a decreasing pattern in terms of gender bias. For the 1810s, the log odds ratio value is 0.50, while it is 0.13 for the 2000s. *Concerned* also exhibits a similar pattern to the majority of the words in terms of gender bias change during the second half of the 20th century as it exhibits a decreasing trend, especially from the 1970s onwards.

Figure 78 demonstrates the log odds ratio of the construction *he/she [be] uneasy*.

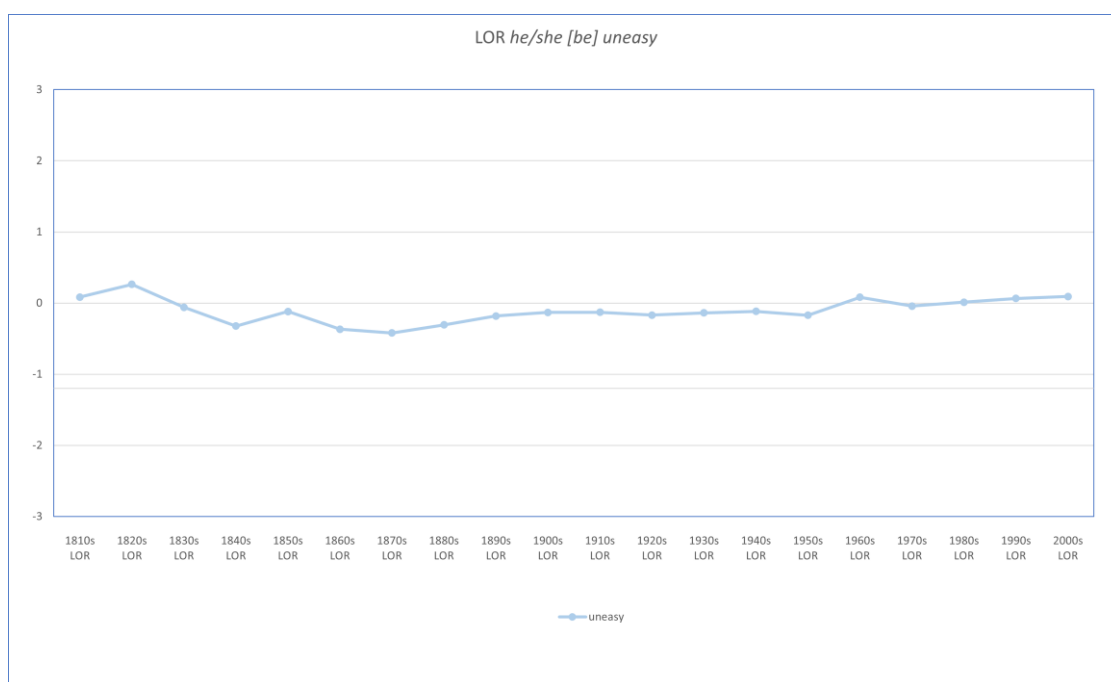


Figure 78 Log odds ratio for the American English sample of *he or she [be] uneasy*.

As can be observed from the graph, *uneasy* mostly exhibits female bias; however, in the early 19th and late 20th century, it exhibits a minor male bias. Overall, the gender bias fluctuates but does not change much from the 1810s to the 2000s. For the 1810s, the log odds ratio value is 0.08, while it is 0.09 for the 2000s. *Uneasy* does not exhibit a decreasing trend from the 1960s onwards as expected. Nevertheless, it is important to note that gender bias is barely noticeable in this period; therefore, a significant decrease is not expected.

Figure 79 maps the log odds ratio of the construction *he/she [be] alarmed*.

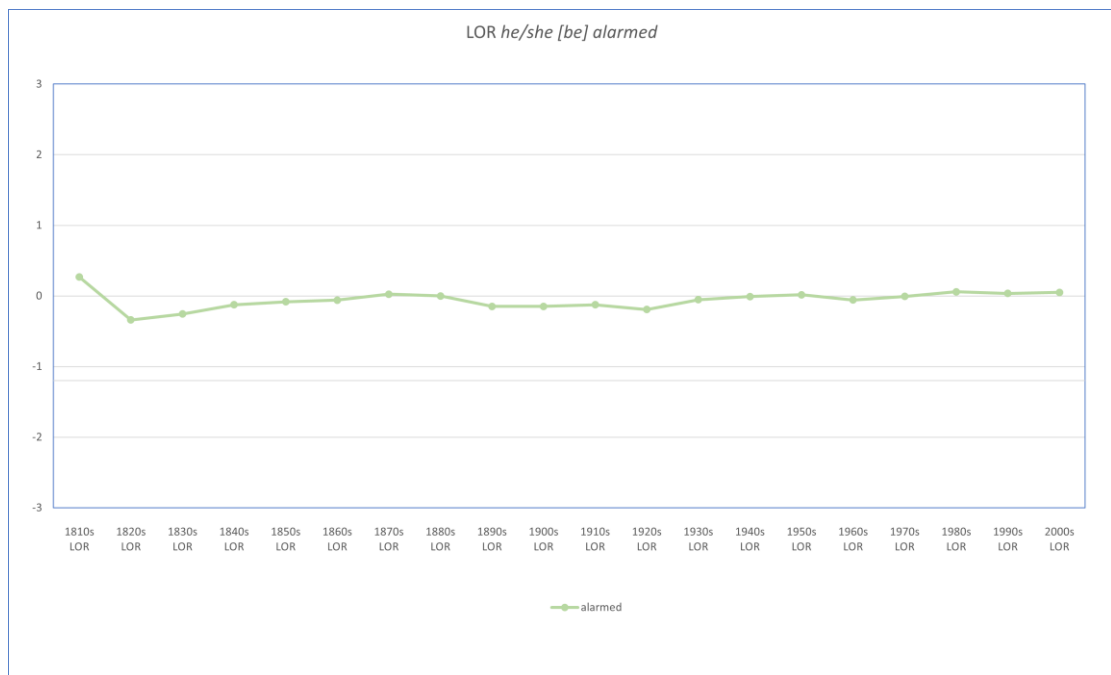


Figure 79 Log odds ratio for the American English sample of *he or she [be] alarmed*.

From the graph, it is evident that *alarmed* shows both male and female bias in a balanced fashion. *Alarmed* mostly shows a minor gender bias, especially from the 1930s onwards. Overall, the gender bias for *alarmed* shows a decreasing trend from the 1810s to the 2000s. For the 1810s, the log odds ratio value is 0.26, while it is 0.05 for the 2000s. Gender bias of *alarmed* does not change much from the 1960s onwards, unlike the majority of the analysed words.

Figure 80 demonstrates the log odds ratio of the construction *he/she [be] distressed*.

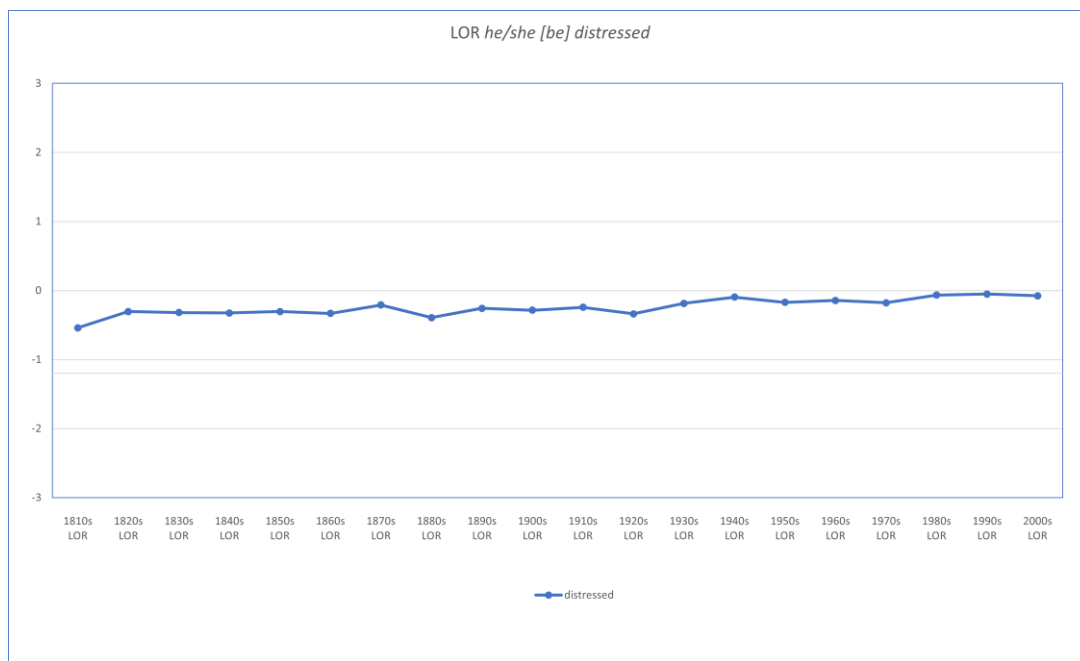


Figure 80 Log odds ratio for the American English sample of *he or she [be] alarmed*.

As demonstrated by the graph, *distressed* exclusively shows female bias throughout the investigated period. Overall, *distressed* exhibits a decreasing gender bias pattern from the 1810s to the 2000s. For the 1810s, the log odds ratio value is -0.54, while it is -0.07 for the 2000s. *Distressed* shows a decreasing pattern in terms of gender bias in the 1980s, a little bit later than expected.

Figure 81 maps the log odds ratio of the construction *he/she [be] overwhelmed*.

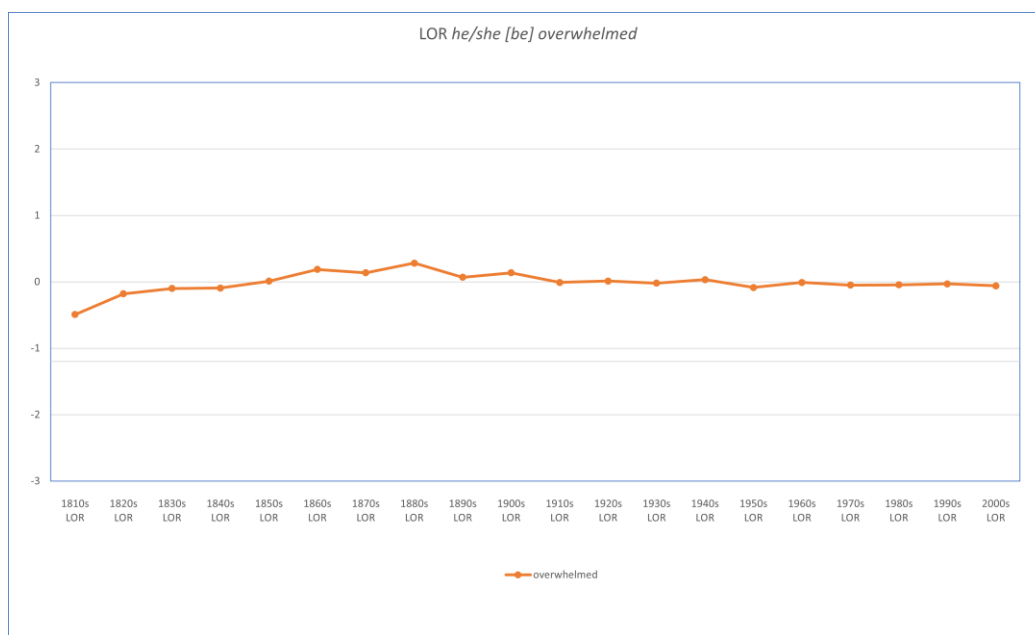


Figure 81 Log odds ratio for the American English sample of *he or she [be] overwhelmed*.

As illustrated by the graph, *overwhelmed* shows both male and female bias throughout the investigated period, albeit female bias slightly more often. Overall, the gender bias exhibited by *overwhelmed* decreases over time and is barely noticeable from the 1910s onwards. For the 1810s, the log odds ratio value is -0.49, while it is -0.05 for the 2000s. Gender bias does not decrease for *overwhelmed* from the 1960s, however, it is not surprising as the overall bias for this period is nearly non-existent.

Figure 82 portrays the log odds ratio of the construction *he/she [be] startled*.

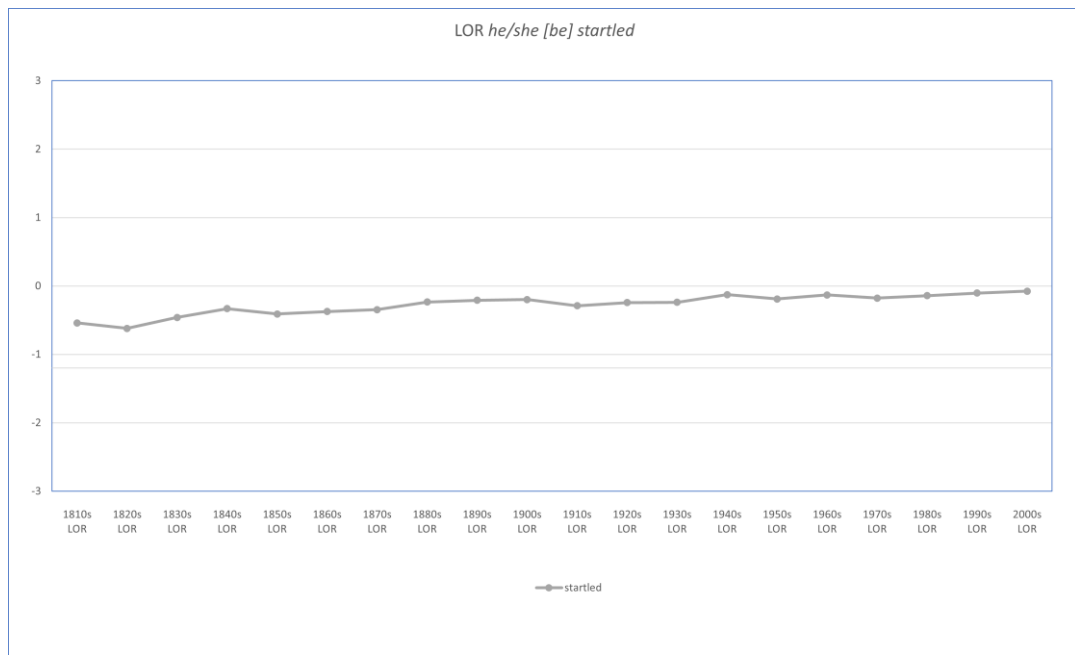


Figure 82 Log odds ratio for the American English sample of *he or she [be] startled*.

As demonstrated by the graph, *startled* exclusively shows female bias throughout the investigated period. The gender bias exhibited by *startled* decreases over time and it is barely noticeable by the 2000s. For the 1810s, the log odds ratio value is -0.54, while it is -0.07 for the 2000s. Partly parallel to the hypothesis of this study, gender bias decreases from the 1970s onwards for *startled*.

Figure 83 shows the log odds ratio of the construction *he/she [be] ashamed*.

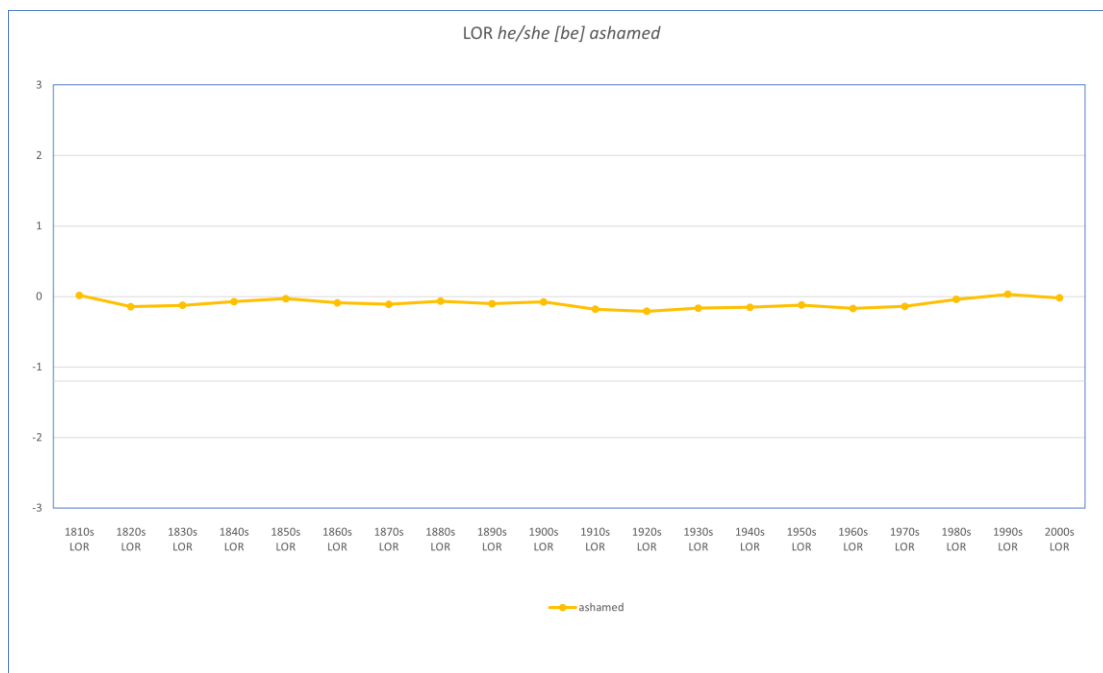


Figure 83 Log odds ratio for the American English sample of *he or she [be] ashamed*.

From the graph, it is evident that *ashamed* mostly exhibits female bias from the early 19th century to the early 21st century; however, this is mostly minor. Overall, the gender bias for *ashamed* remains mostly unchanged. For the 1810s, the log odds ratio value is 0.01, while it is -0.01 for the 2000s. As expected, *ashamed* follows a decreasing gender bias pattern from the 1960s onwards.

Figure 84 maps the log odds ratio of the construction *he/she [be] reluctant*.

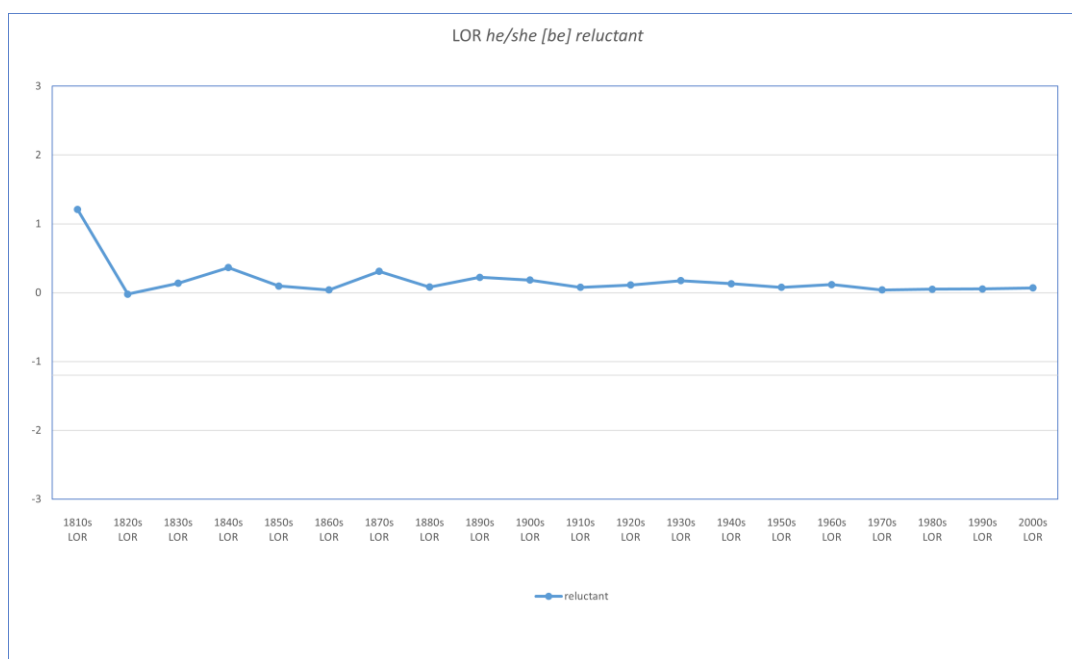


Figure 84 Log odds ratio for the American English sample of *he or she [be] reluctant*.

As illustrated by the graph, *reluctant* almost exclusively exhibits male bias throughout the investigated period. Overall, it shows a decreasing gender bias pattern from the 1810s to the 2000s. Although it seems as if there is a strong male bias in the 1810s, it is important to note that this is because there are no instances of she [be] *reluctant* in the 1810s (0.1 was inserted as the frequency value for the female construction for this decade). For the 1810s, the log odds ratio value is 1.20, while it is 0.06 for the 2000s.

Figure 85 portrays the log odds ratio of the construction *he/she [be] embarrassed*.

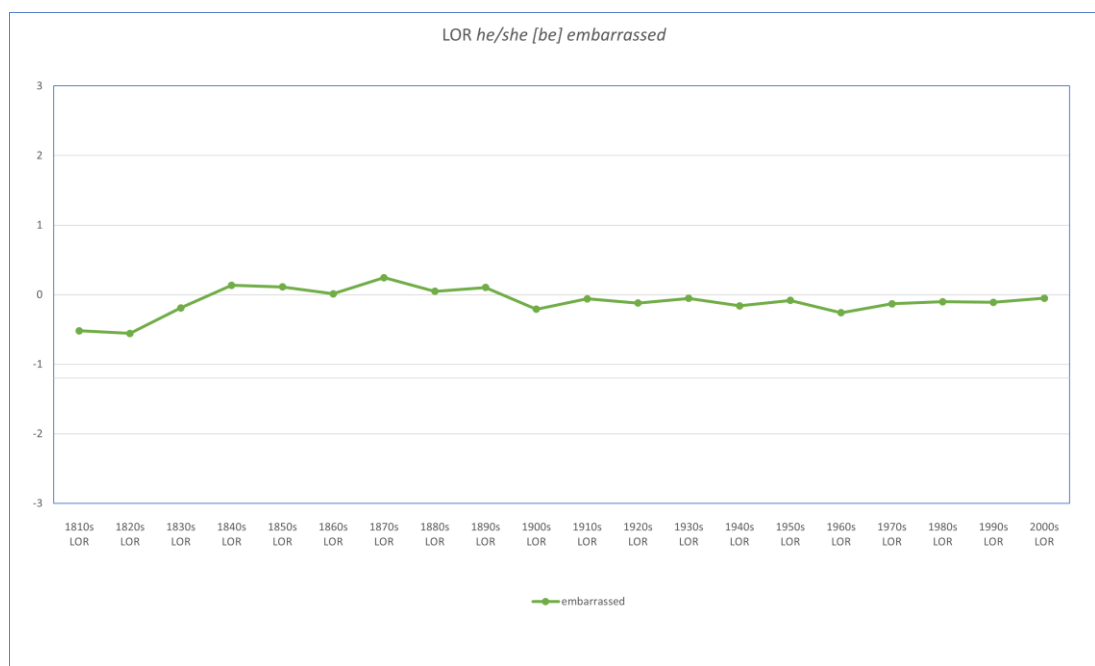


Figure 85 Log odds ratio for the American English sample of he or she [be] *embarrassed*.

As can be observed from the graph, *embarrassed* predominantly exhibits female bias throughout the investigated period. Overall, the gender bias shows a significantly decreasing trend. For the 1810s, the log odds ratio is -0.51, while it is -0.05 for the 2000s. Just as hypothesized, *embarrassed* shows a decreasing trend in terms of gender bias from the 1960s onwards.

Figure 86 shows the log odds ratio of the construction *he/she [be] humiliated*.

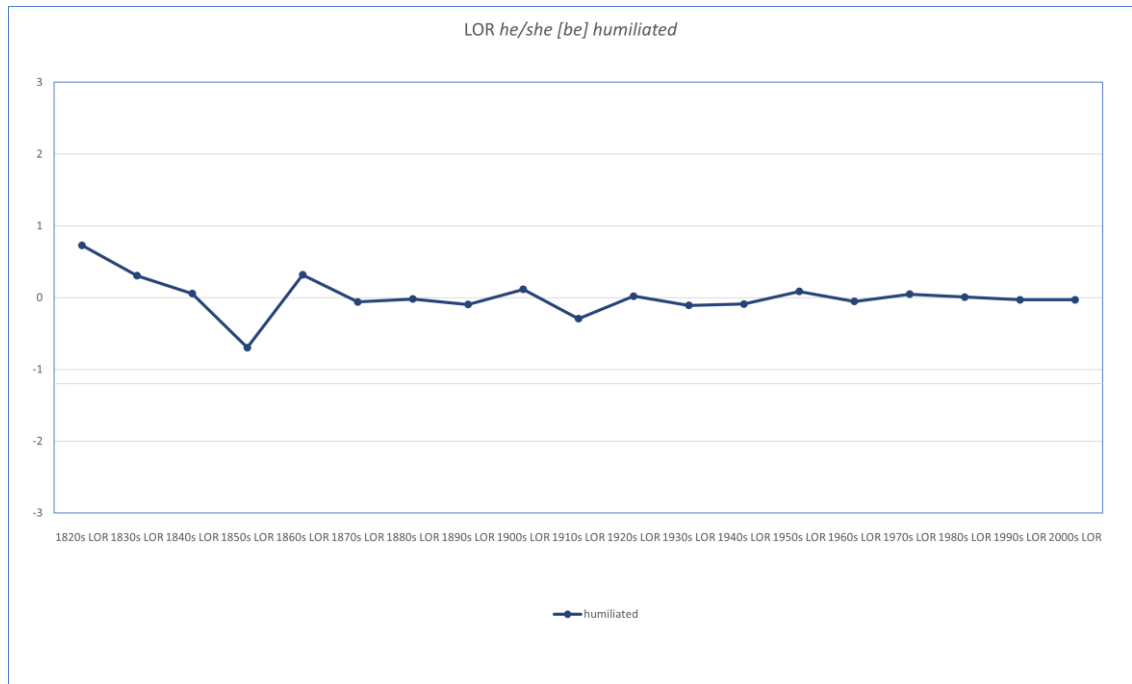


Figure 86 Log odds ratio for the American English sample of *he or she [be] humiliated*.

As illustrated by the graph, *humiliated* exhibits both male and female bias in a balanced fashion. It is important to note that there is no data for the 1810s, as there are no occurrences of *he/she [be] humiliated*. Overall, it shows a significantly declining trend in terms of gender bias from the 1820s to the 2000s. For the 1820s, the log odds ratio value is 0.72, while it is -0.02 for the 2000s. Just as predicted, the gender bias exhibited by *humiliated* decreases from the 1960s onwards.

Figure 87 illustrates the log odds ratio of the construction *he/she [be] upset*.

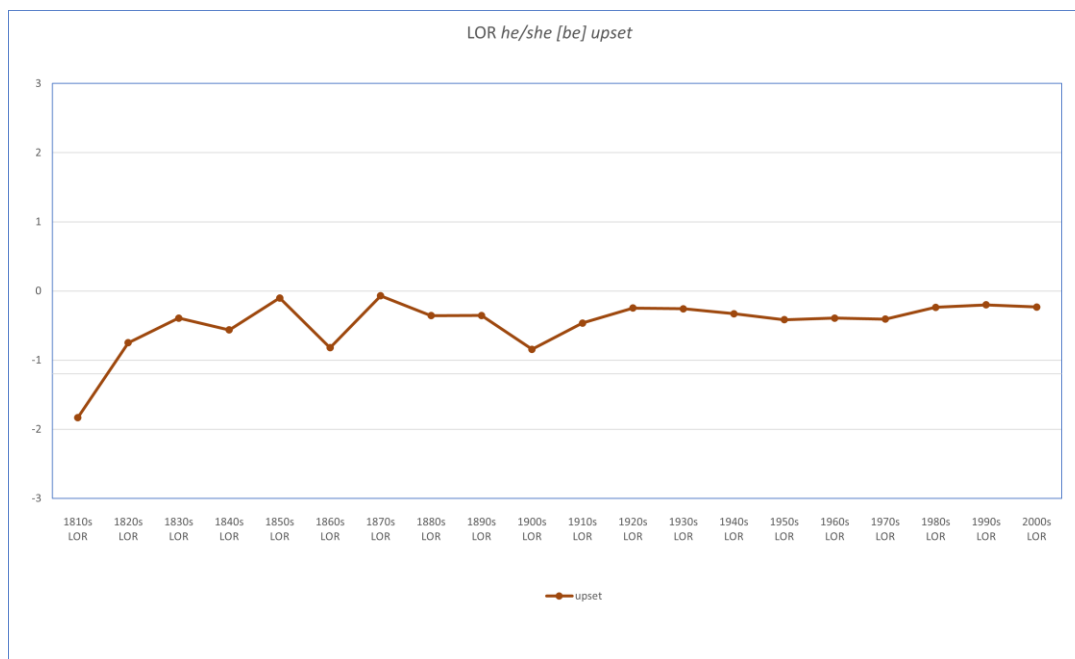


Figure 87 Log odds ratio for the American English sample of *he or she [be] upset*.

As demonstrated by the graph, *upset* exclusively exhibits female bias throughout the investigated period. Initially, there is a strong female bias, especially for the 1810s, but this is partly because there are no occurrences of *he [be] upset* in the 1810s. Overall, the gender bias exhibited by *upset* shows a significant drop from the 1810s to the 2000s. For the 1810s, the log odds ratio value is -1.83, while it is -0.23 for the 2000s. *Upset* shows a decreasing trend in terms of gender bias from the 1980s onwards, partly aligning with the hypothesis of this study.

Figure 88 maps the log odds ratio of the construction *he/she [be] disgraced*.

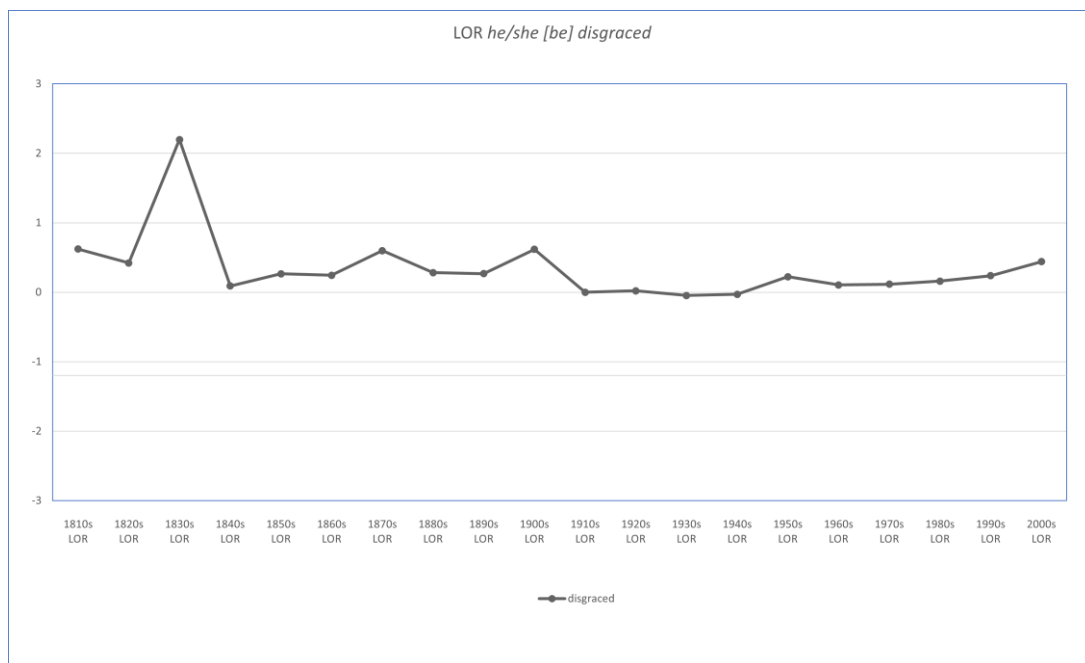


Figure 88 Log odds ratio for the American English sample of *he or she [be] disgraced*.

As illustrated in the graph, *disgraced* mostly shows male bias from the 1810s to the 2000s. The bias is very strong early on, especially in the 1830s, with a log odds ratio value of 2.19; however, this is because there are no occurrences of *she [be] disgraced* in the 1830s. Overall, the gender bias exhibited by *disgraced* decreases over the investigated time period, even though there is an increase in gender bias from the 1970s onwards contrary to the hypothesis of this study. For the 1810s, the log odds ratio value is 0.62, while it is 0.44 for the 2000s.

Figure 89 describes the log odds ratio of the construction *he/she [be] apologetic*.

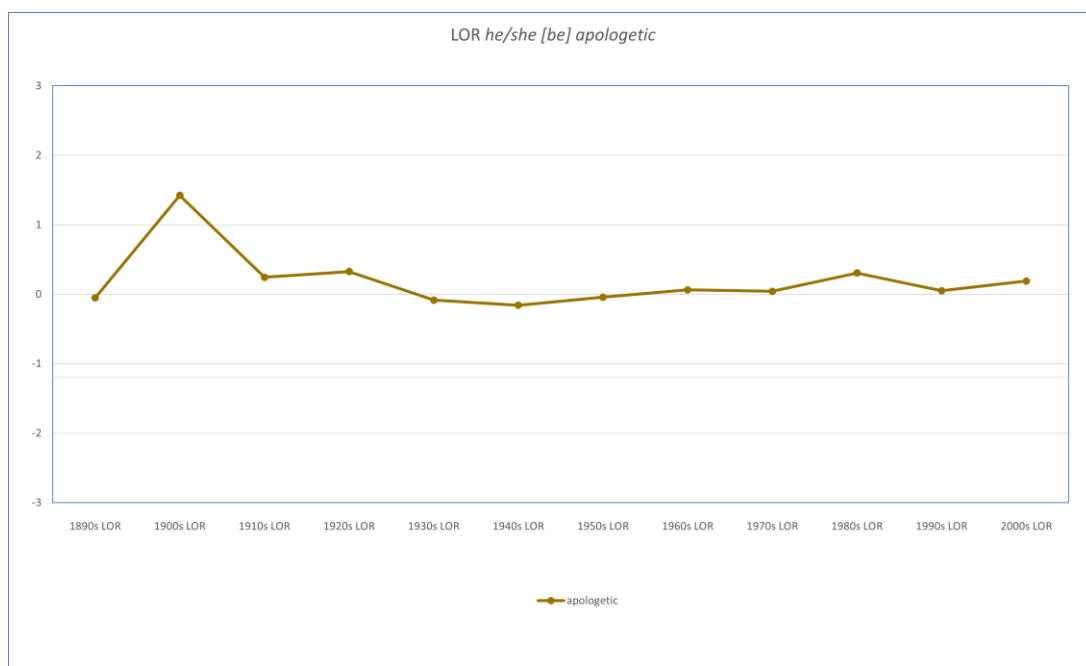


Figure 89 Log odds ratio for the American English sample of *he or she [be] apologetic*.

From the graph, it is evident that *apologetic* mostly exhibits male bias throughout the investigated period. As there were no occurrences of *he/she [be] apologetic* before the 1890s, the graph only shows data from the 1890s onwards. Overall, there is a slight increase in gender bias from the 1890s to the 2000s. The male bias seems very strong for the 1900s, but this is because there are no occurrences of *she [be] apologetic* (0.1 was inserted as the frequency value for the female construction for this decade). For the 1890s, the log odds ratio is -0.05, while it is 0.18 for the 2000s.

Figure 90 shows the log odds ratio of the construction *he/she [be] lonely*.

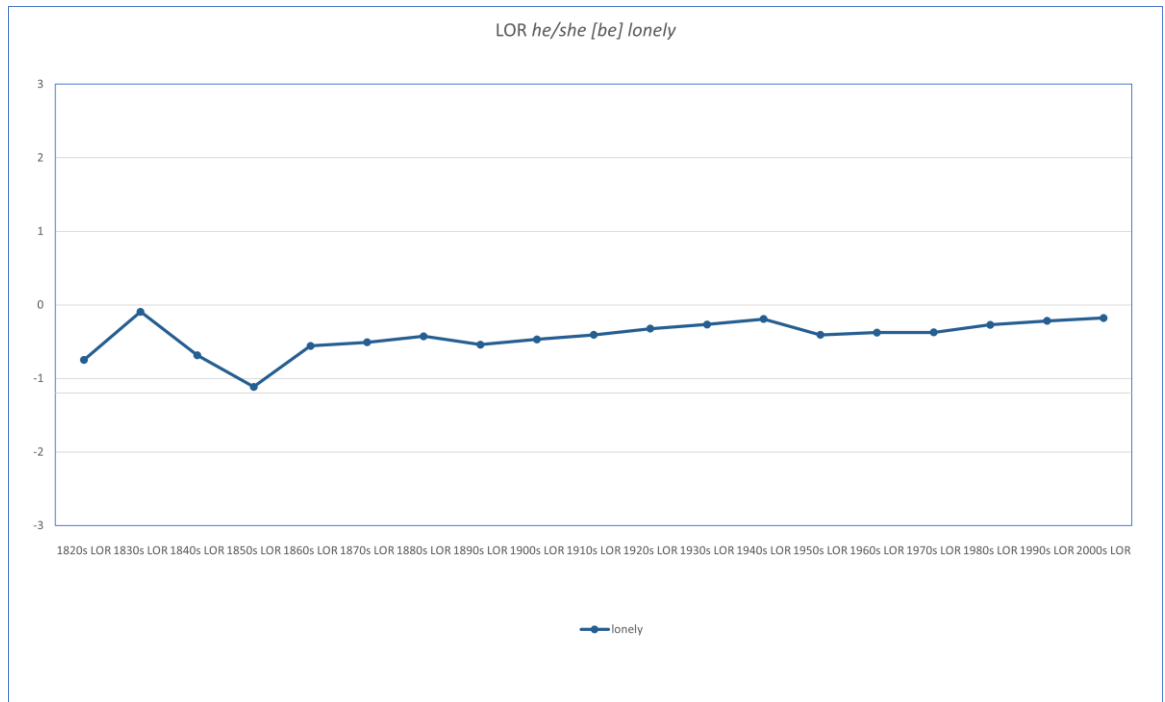


Figure 90 Log odds ratio for the American English sample of *he or she [be] lonely*.

As demonstrated by the graph, *lonely* exclusively exhibits female bias. Overall, the gender bias exhibited by *lonely* majorly decreases from the 1810s to the 2000s. There is no data for the 1810s as there are no occurrences of *he/she [be] lonely*. For the 1820s, the log odds ratio value is -0.74, while it is -0.17 for the 2000s. *Lonely* shows a decreasing trend in terms of gender bias from the 1950s, as partially expected.

Figure 91 demonstrates the log odds ratio of the construction *he/she [be] isolated*.

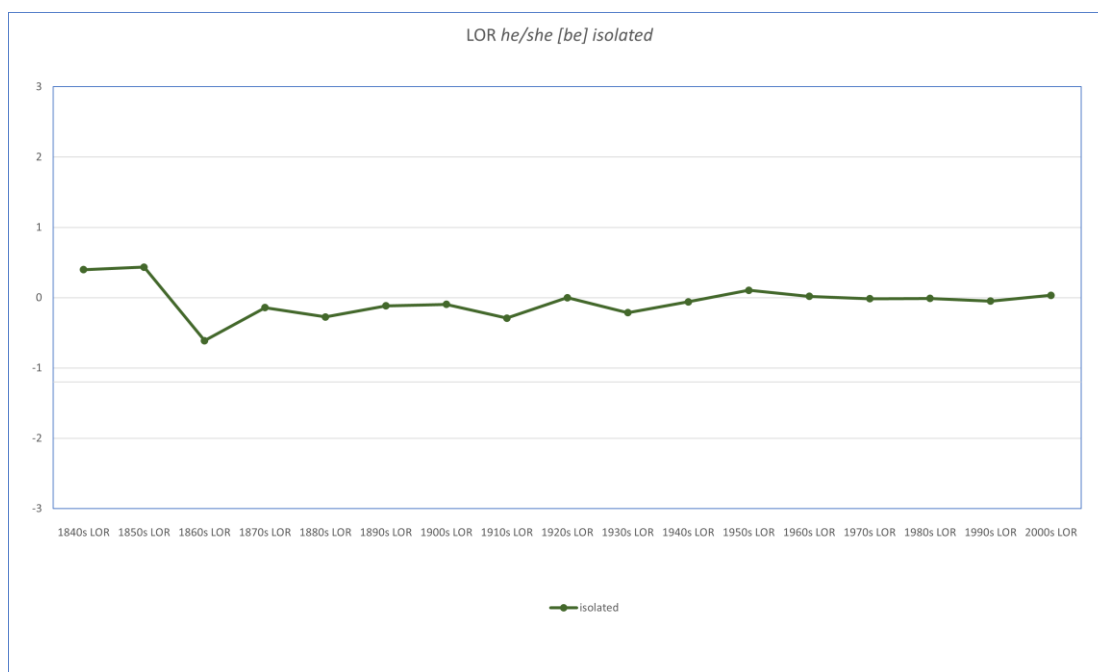


Figure 91 Log odds ratio for the American English sample of *he or she [be] isolated*.

The graph illustrates that *isolated* mostly exhibits female bias during the investigated decades. Initially, there is a strong male bias, but the bias shows a declining trend over time. One noticeable aspect of the graph is the lack of data before the 1840s; this is because there are no occurrences of *he/she [be] isolated* until the 1840s. For the 1840s, the log odds ratio value is 0.39, while it is 0.03 for the 2000s. Although it seems like *isolated* shows a decreasing trend from the 1950s onwards, it exhibits a rising trend from the 1990s onwards once again. However, it is important to note that the gender bias is barely noticeable from the 1960s onwards, therefore the trends exhibited here are not of central importance.

Figure 92 portrays the log odds ratio of the construction *he/she [be] alienated*.

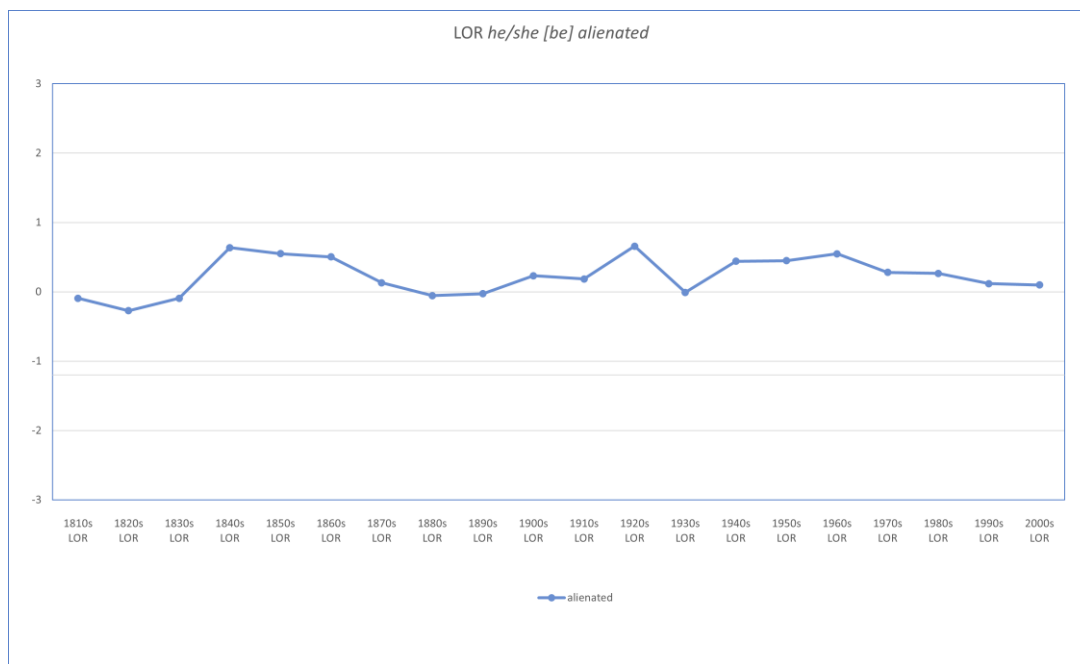


Figure 92 Log odds ratio for the American English sample of *he or she [be] alienated*.

As the graph demonstrates, *alienated* mostly exhibits male bias, especially from the 1840s onwards. The gender bias fluctuates but ends up remaining the same in the 2000s in comparison to the 1810s. For the 1810s, the log odds ratio value is -0.09, while it is 0.09 for the 2000s. Parallel to the hypothesis of this thesis, *alienated* shows a decreasing trend from the 1960s onwards.

Figure 93 maps the log odds ratio of the construction *he/she [be] abandoned*.

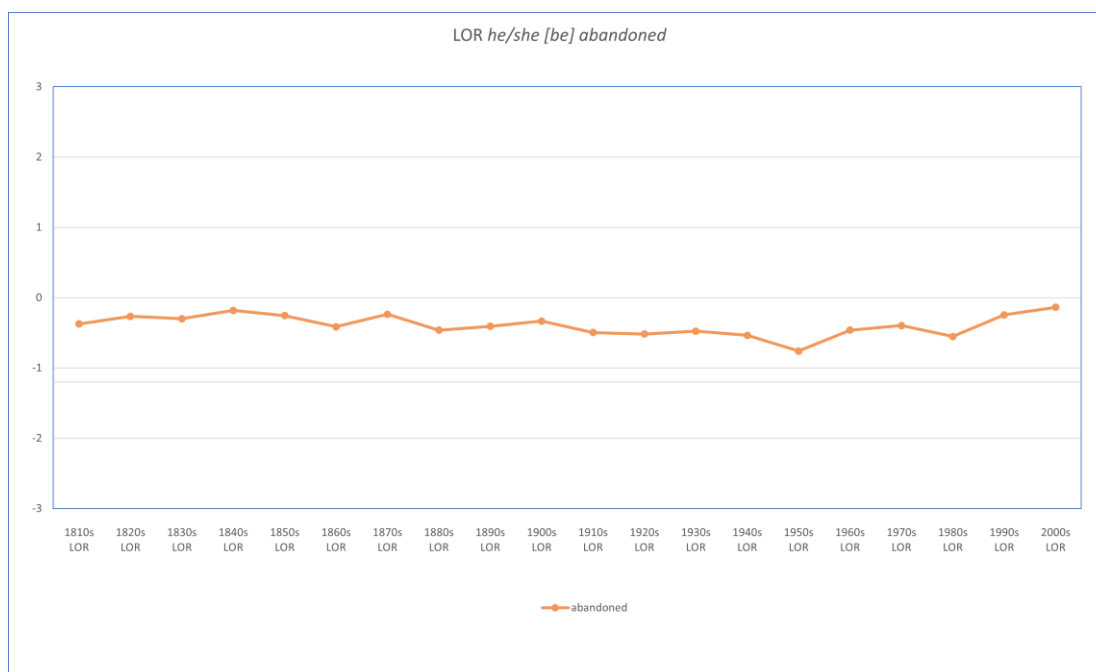


Figure 93 Log odds ratio for the American English sample of *he or she [be] abandoned*.

As the graph portrays, *abandoned* exclusively exhibits female bias from the early 19th century to the early 21st century. Overall, it shows a declining trend in terms of gender bias. For the 1810s, the log odds ratio value is -0.37, while it is -0.13 for the 2000s. *Abandoned* mostly aligns with the hypothesis of this study and shows a decrease in gender bias from the 1950s onwards, but there is an increase from the 1970s to the 1980s.

Figure 94 maps the log odds ratio of the construction *he/she [be] neglected*.

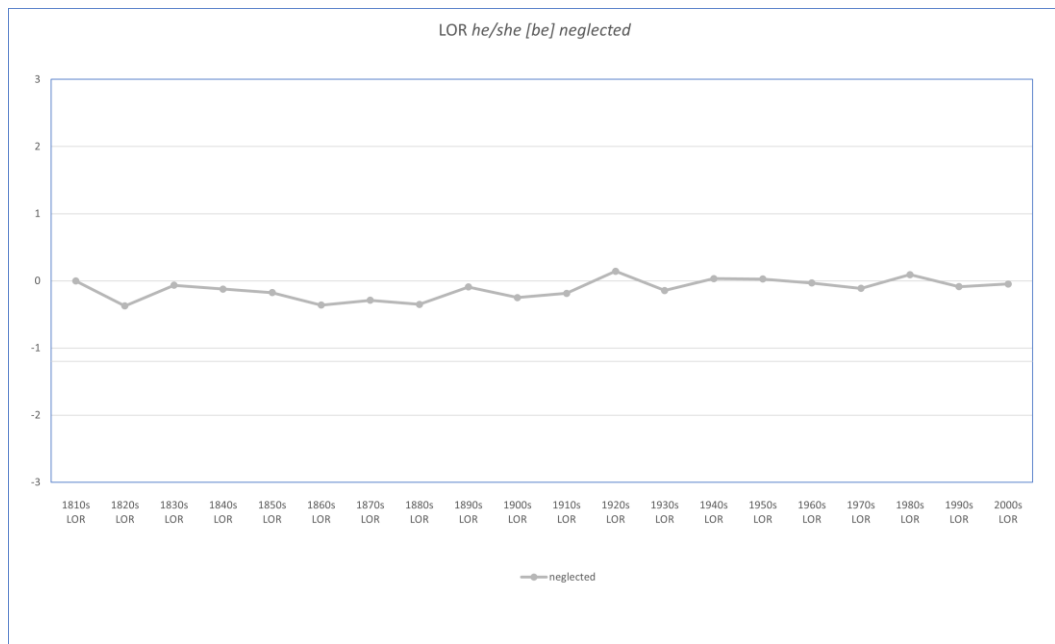


Figure 94 Log odds ratio for the American English sample of *he or she [be] neglected*.

As illustrated by the graph, *neglected* mostly exhibits female bias throughout the investigated period. Overall, the gender bias exhibited by *neglected* follows a fluctuating trend but remains mostly unchanged by the 2000s in comparison to the 1810s. For the 1810s, the log odds ratio value is -0.002, while it is -0.04 for the 2000s. Overall, *neglected* does not exhibit a consistently decreasing pattern from the 1960s onwards as hypothesized.

Figure 95 maps the log odds ratio of the construction *he/she [be] alone*.

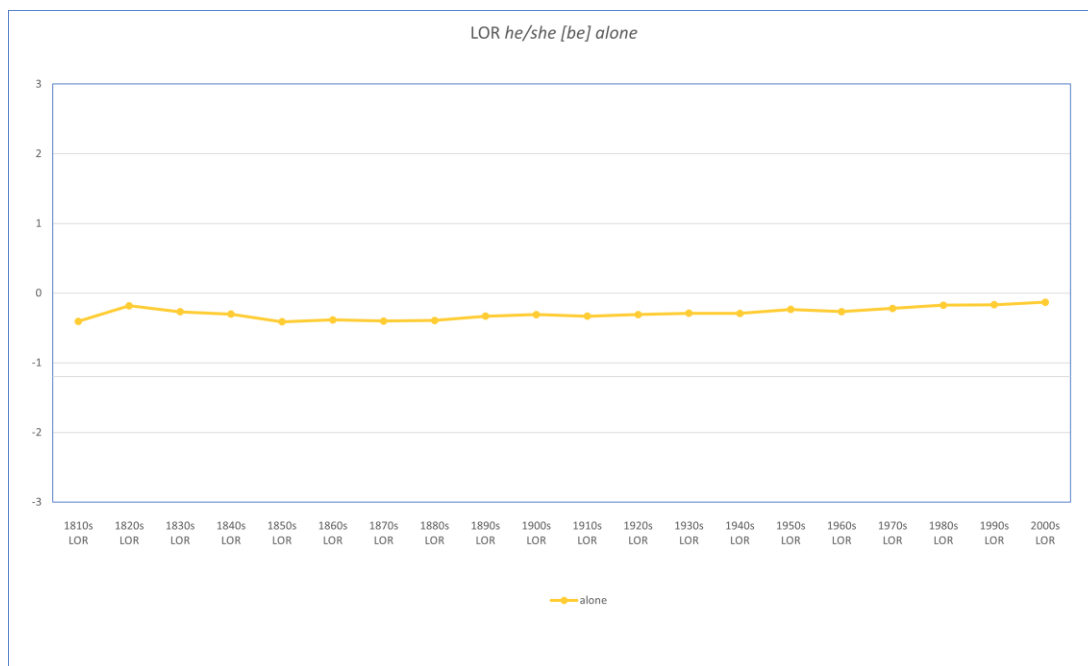


Figure 95 Log odds ratio for the American English sample of *he or she [be] alone*.

As the graph also portrays, *alone* exclusively shows female bias from the early 19th century to the 21st century. Overall, it shows a consistently declining gender bias trend, especially from the 1860s onwards. For the 1810s, the log odds ratio value is -0.40, while it is -0.13 for the 2000s. *Alone* also shows a decreasing trend in terms of gender bias from the 1960s onwards, as expected.

Figure 96 maps the log odds ratio of the construction *he/she [be] jealous*.

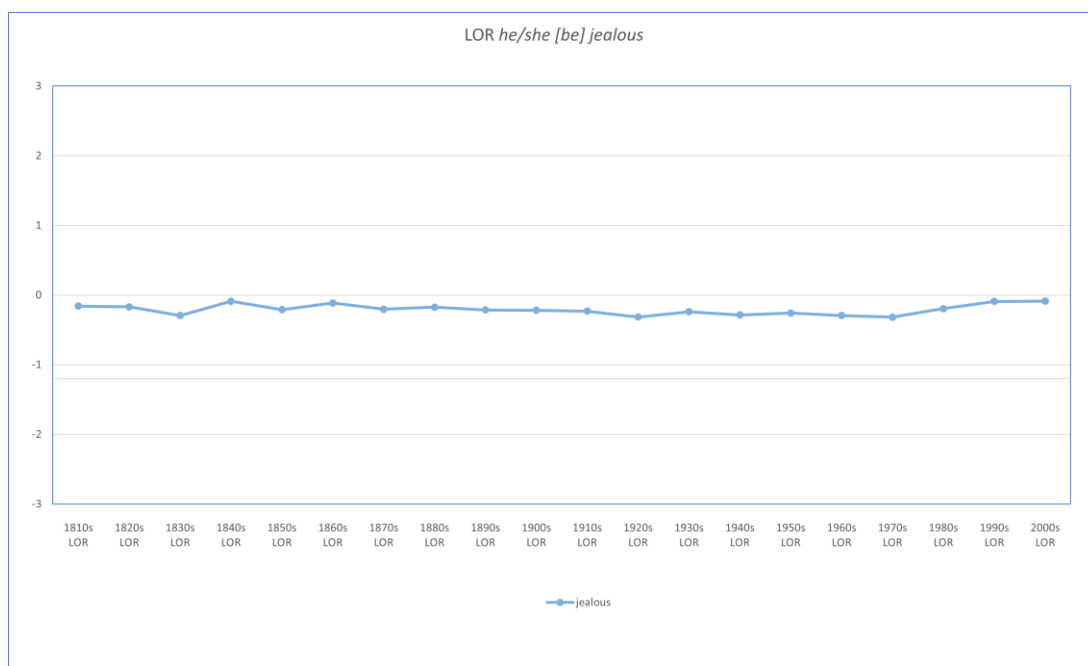


Figure 96 Log odds ratio for the American English sample of *he or she [be] jealous*.

From the graph, it is evident that *jealous* exhibits female bias from the early 19th century to the early 21st century. It follows a decreasing pattern from the 1810s to the 2000s. For the 1810s, the log odds ratio value is -0.15, while it is -0.08 for the 2000s. Partly aligning with the hypothesis of this study, *jealous* shows a decreasing pattern in terms of gender bias from the 1970s onwards.

Figure 97 shows the log odds ratio of the construction *he/she [be] resentful*.

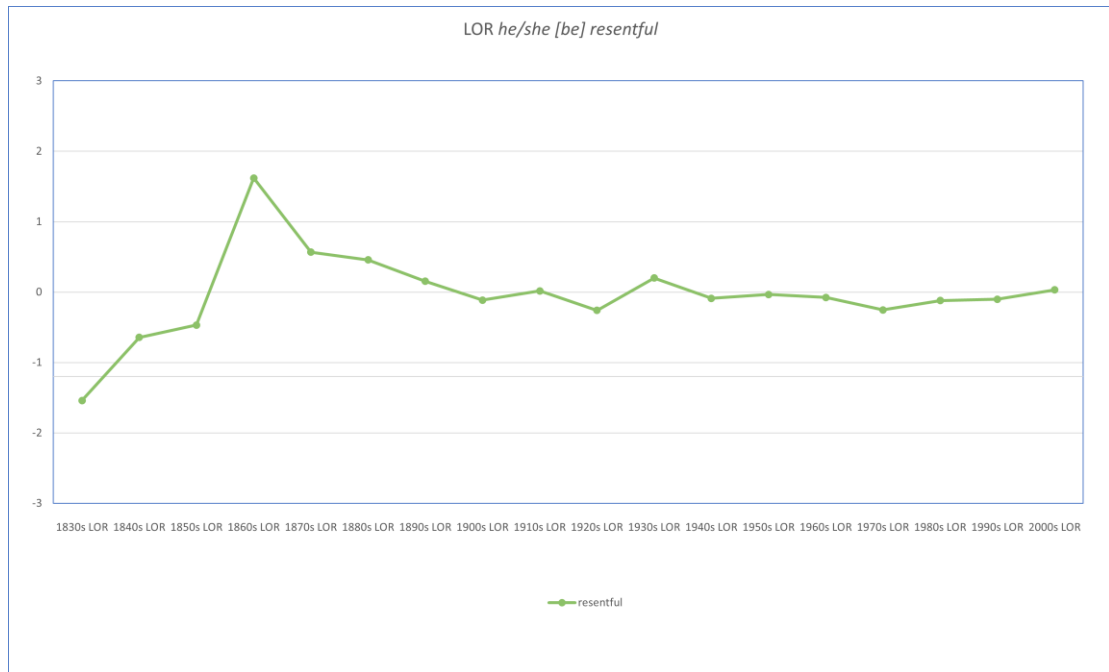


Figure 97 Log odds ratio for the American English sample of *he or she [be] resentful*.

As demonstrated by the graph, *resentful* shows both male and female bias in a balanced fashion. Initially, there is evidence of strong female bias which turns into strong male bias by the 1860s; however after this decade the gender bias significantly decreases over time. For the 1810s, the log odds ratio value is -1.53, while it is 0.03 for the 2000s. In line with the hypothesis of this study, *resentful* shows a decreasing trend of gender bias from the 1970s onwards.

Figure 98 portrays the log odds ratio of the construction *he/she [be] discontented*.

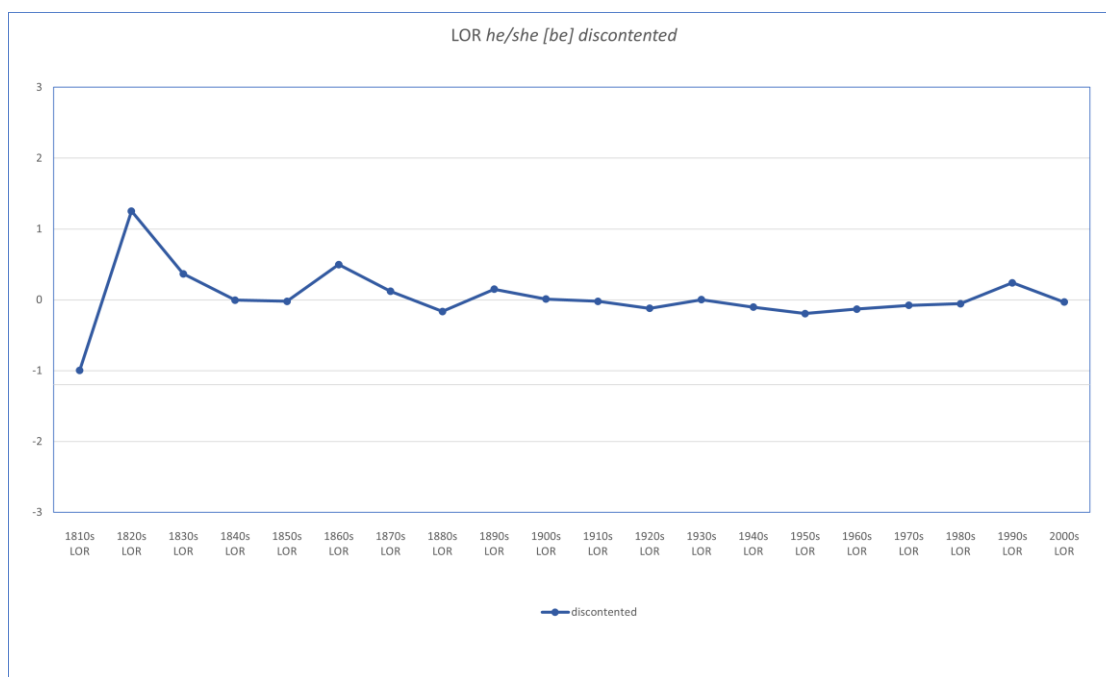


Figure 98 Log odds ratio for the American English sample of *he or she [be] discontented*.

The graph demonstrates that *discontented* mostly shows female bias from the early 19th century to the 21st century. Initially, there is strong female bias which swiftly turns into male bias. Over time, the gender bias *discontented* exhibits significantly decreases and switch to female bias especially from the 1900s onwards. For the 1810s, the log odds ratio value is -0.99, while it is -0.03 for the 2000s. *Discontent* exhibits a decreasing gender bias pattern from the 1960s onwards, which aligns with the hypothesis of the thesis, but this pattern is not consistent, as there is an increase in bias from the 1980s to the 1990s.

Figure 99 maps the log odds ratio of the construction *he/she [be] insecure*.

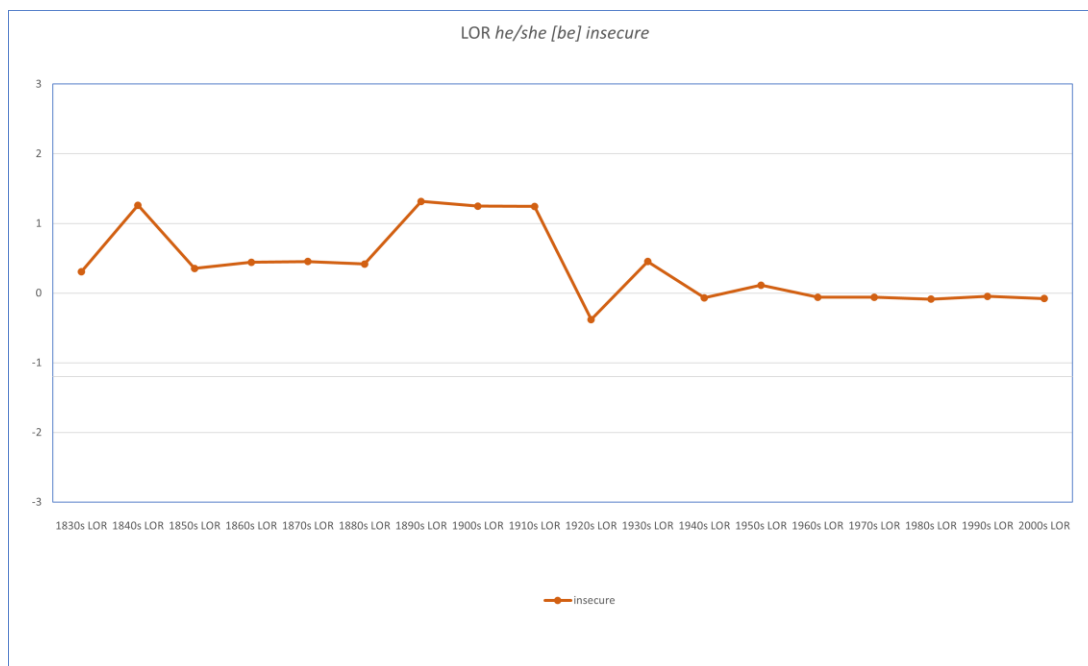


Figure 99 Log odds ratio for the American English sample of *he or she [be] discontented*.

From the graph, it is evident that *insecure* mostly shows male bias, especially a strong bias in the 19th century. This strength in bias is due to the lack of occurrences of female construction until the 1910s. This bias significantly decreases over time, and it is barely noticeable from the 1960s onwards. Another noticeable aspect of the graph is the lack of data for the 1810s and 1820s, as there are no occurrences of *he/she [be] insecure*. For the 1830s, the log odds ratio value is 0.30, while it is -0.07 for the 2000s.

Figure 100 portrays the log odds ratio of the construction *he/she [be] uncertain*.

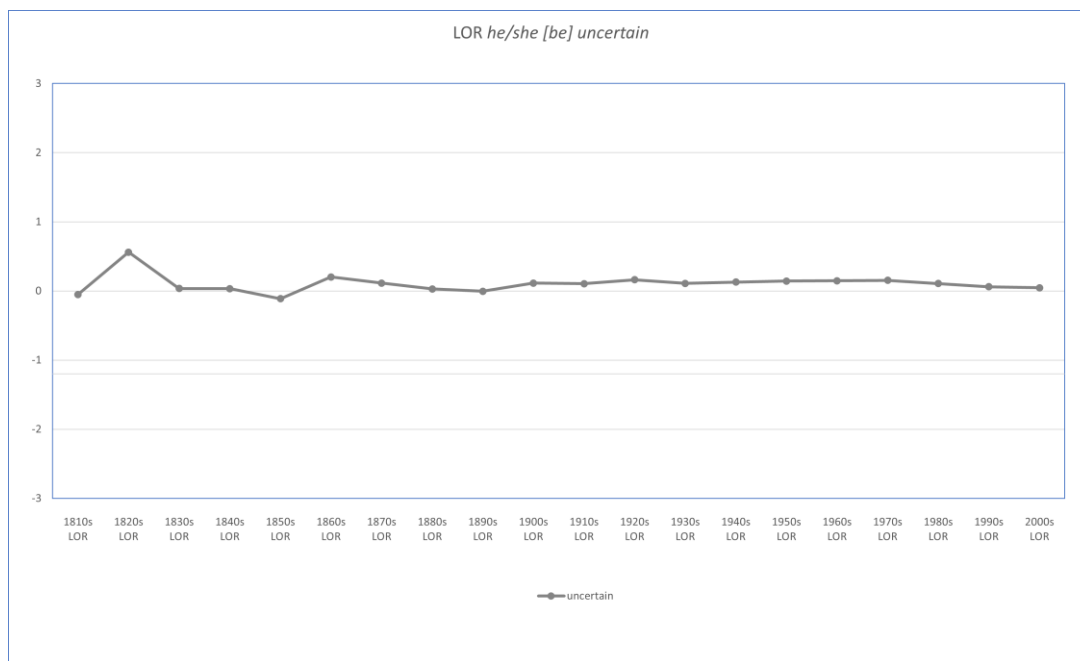


Figure 100 Log odds ratio for the American English sample of *he or she [be] uncertain*.

The graph shows that *uncertain* predominantly exhibits male bias from the early 19th century to the early 21st century. Overall, the gender bias it shows remains mostly unchanged and is barely noticeable throughout the investigated period, except for the early 19th century. For the 1810s, the log odds ratio value is -0.05, while it is 0.04 for the 2000s.

Figure 101 demonstrates the log odds ratio of the construction *he/she [be] restless*.

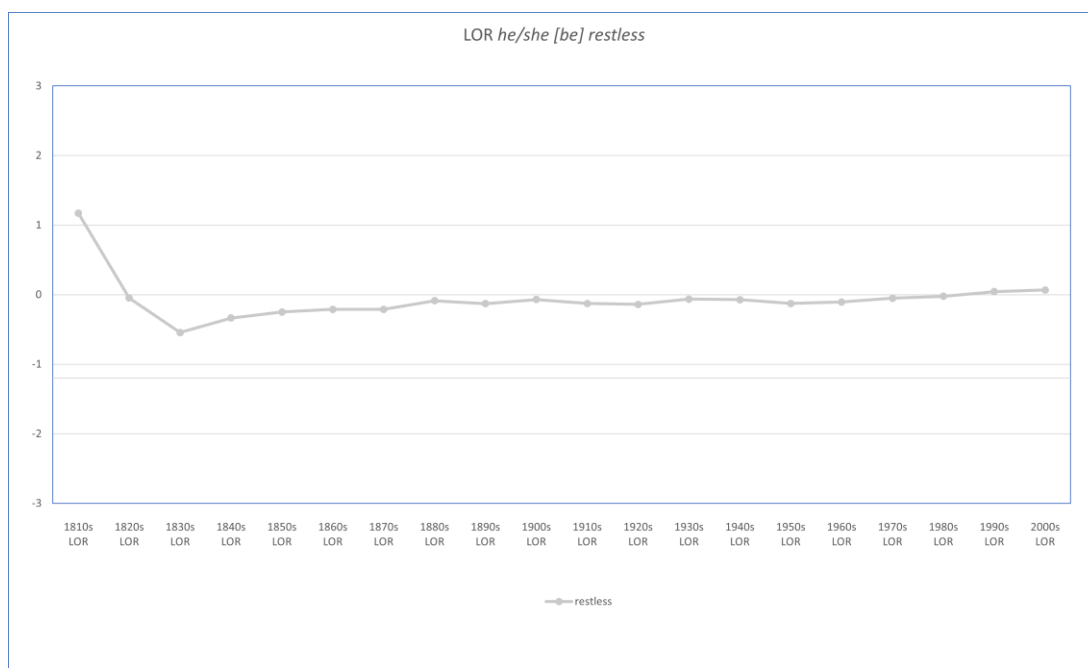


Figure 101 Log odds ratio for the American English sample of *he or she [be] restless*.

As it can be observed from the graph, *restless* predominantly exhibits female bias from the 1830s to the 2000s in spite of an initial strong male bias. This strong bias is due to the lack of occurrence of female construction in the 1810s. Overall, *restless* follows a significantly decreasing trend in terms of gender bias over the investigated period. For the 1810s, the log odds ratio value is 1.16, while it is 0.06 for the 2000s. *Restless* does not follow a consistently decreasing trend from the 1960s onwards as hypothesized.

Figure 102 shows the log odds ratio of the construction *he/she [be] disappointed*.

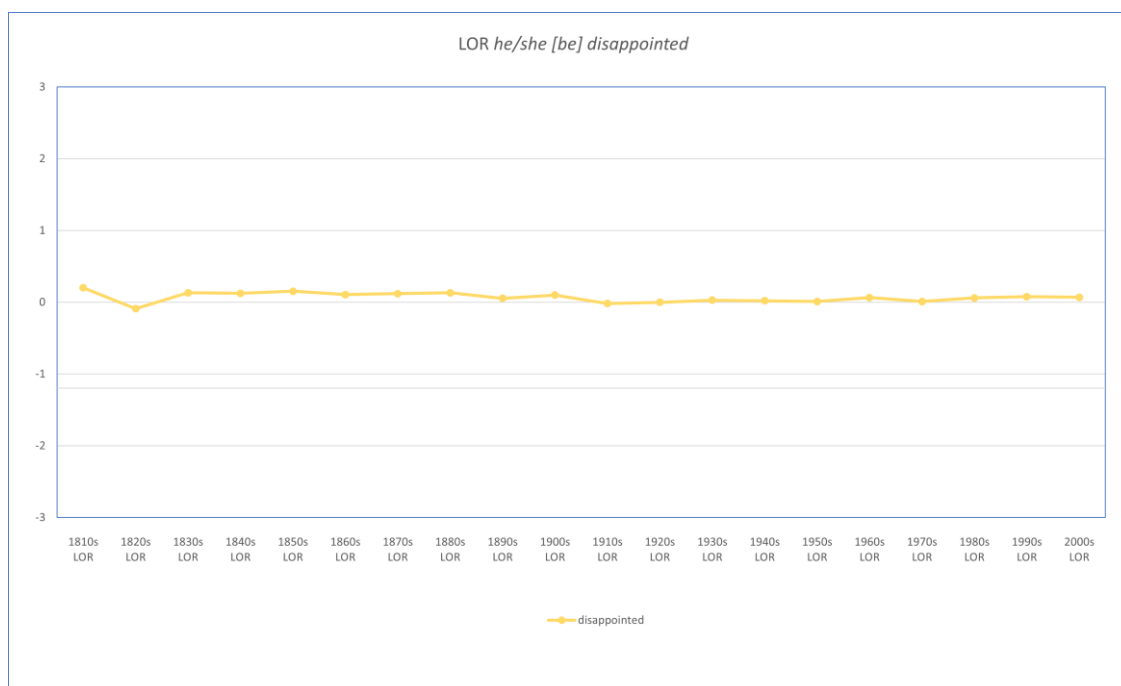


Figure 102 Log odds ratio for the American English sample of *he or she [be] disappointed*.

As illustrated in the graph, *disappointed* mostly shows male bias throughout the investigated period, however this bias is very low, even barely noticeable from the beginning of the 20th century. Overall, it follows a slightly decreasing trend in terms of gender bias from the 1810s to the 2000s. For the 1810s, the log odds ratio value is 0.20, while it is 0.06 for the 2000s. *Disappointed* does not exhibit a consistently decreasing trend from the 1960s onwards, contrary to the expectations; however, this could be attributed to the fact that the gender bias it shows is very minor.

Figure 103 demonstrates the log odds ratio of the construction *he/she [be] discouraged*.

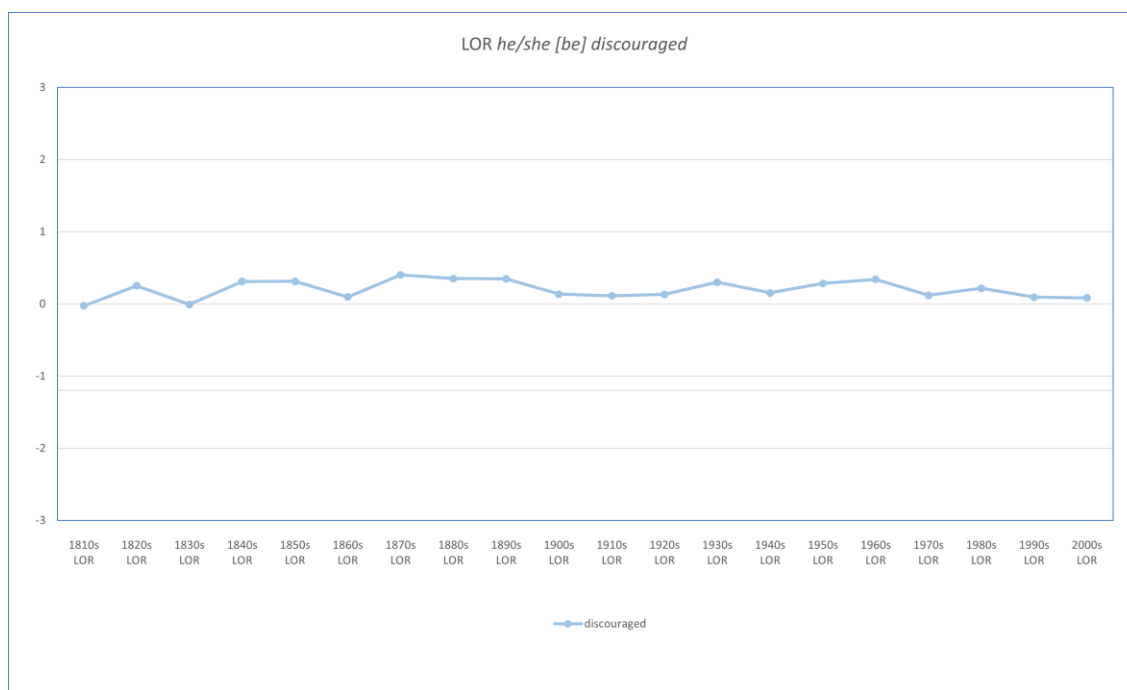


Figure 103 Log odds ratio for the American English sample of *he or she [be] discouraged*.

As it can be deduced from the graph, *discouraged* predominantly exhibits male bias during the investigated decades. It follows a fluctuating trend in terms of gender bias, but overall, there is a slight increase in gender bias from the 1810s to the 2000s. For the 1810s, the log odds ratio value is -0.02, while it is 0.08 for the 2000s. *Discouraged* shows a decreasing trend from the 1960s onwards as hypothesized.

Figure 104 maps the log odds ratio of the construction *he/she [be] disturbed*.

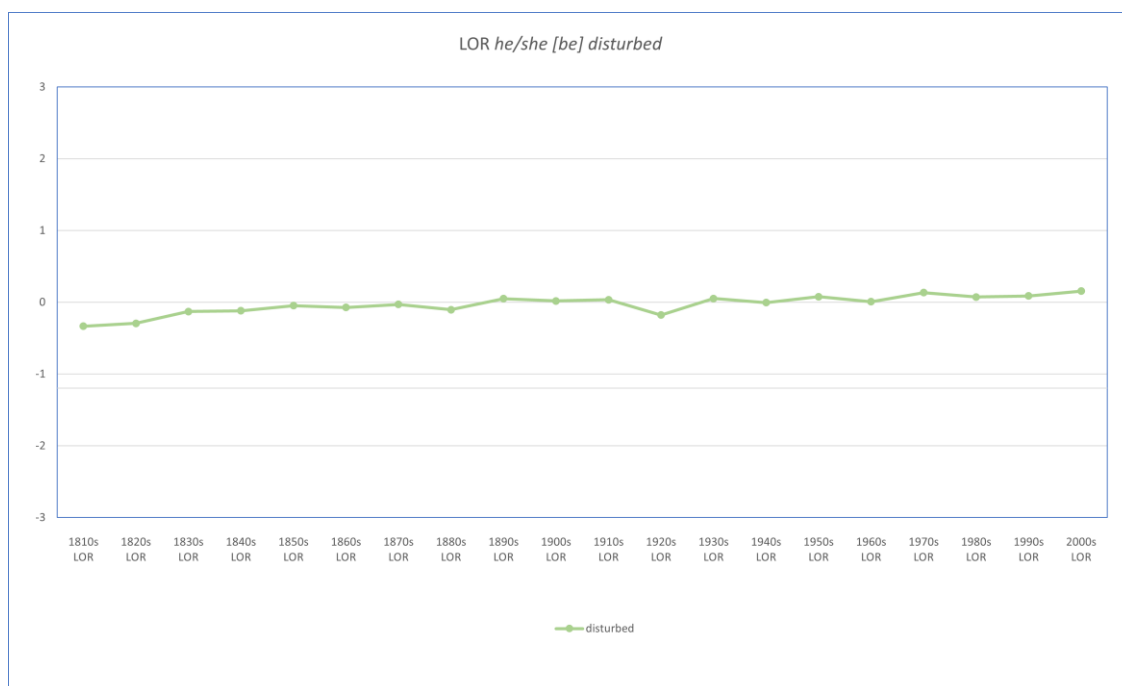


Figure 104 Log odds ratio for the American English sample of *he or she [be] disturbed*.

From the graph, it is evident that *disturbed* exhibits both male and female bias in a balanced fashion. During the 19th century, *disturbed* mostly shows female bias, but from the beginning of the 20th century onwards, it starts to predominantly show male bias. Overall, *disturbed* follows a slightly decreasing trend in terms of gender bias throughout the investigated period. For the 1810s, the log odds ratio value is -0.33, while it is 0.15 for the 2000s. *Disturbed* does not show a consistent decrease in gender bias from the 1960s, contrary to the hypothesis of this study.

Figure 105 demonstrates the log odds ratio of the construction *he/she [be] exhausted*.

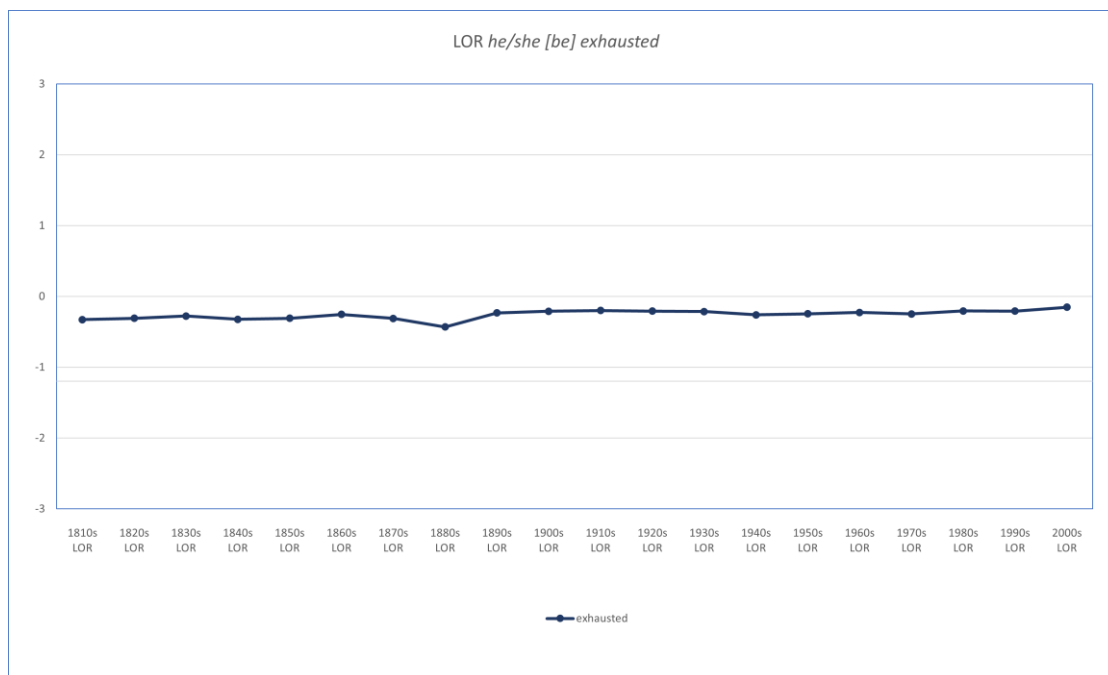


Figure 105 Log odds ratio for the American English sample of *he or she [be] exhausted*.

As the graph illustrates, *exhausted* exclusively exhibits female bias throughout the investigated period. Overall, it follows a declining trend in terms of gender bias from the 1810s to the 2000s. For the 1810s, the log odds ratio value is -0.32, while it is -0.15 for the 2000s. *Exhausted* also shows a decrease in gender bias from the 1970s onwards, partly aligning with the hypothesis of this study.

Figure 106 maps the log odds ratio of the construction *he/she [be] volatile*.

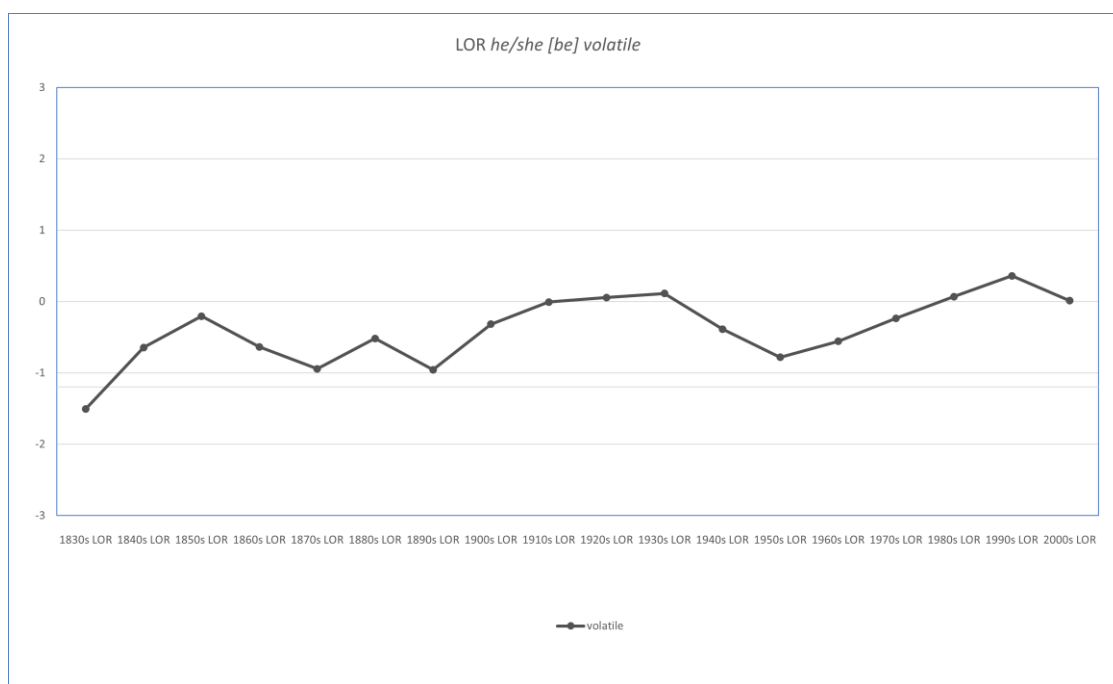


Figure 106 Log odds ratio for the American English sample of *he or she [be] volatile*.

The graph features data from the 1830s onwards, as there were no occurrences of *he/she [be] volatile* before the 1830s. From the graph, it is evident that *volatile* almost exclusively exhibits female bias from the early 19th to the early 21st century. Over time, the gender bias shown by *volatile* follows a significantly decreasing trend. For the 1830s, the log odds ratio value is -1.50, while it is 0.01 for the 2000s. *Volatile* seemingly shows a decreasing trend in gender bias from the 1950s onwards, but this decrease is not consistent, as there is an increase in gender bias from the 1980s to the 1990s.

Figure 107 shows the log odds ratio of the construction *he/she [be] fragile*.

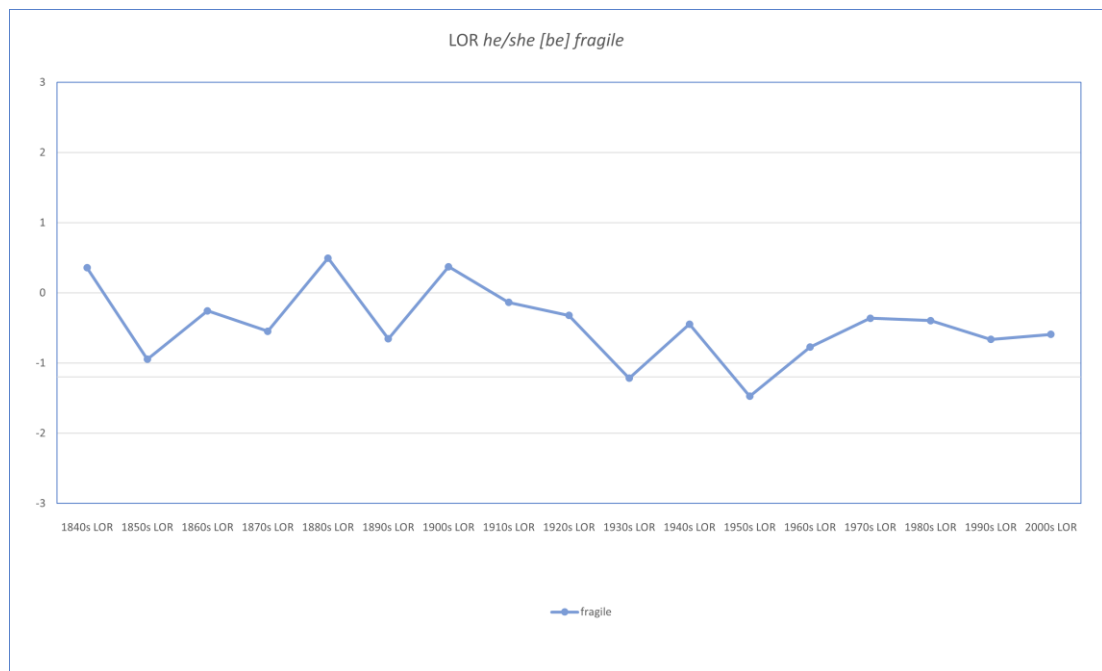


Figure 107 Log odds ratio for the American English sample of *he or she [be] fragile*.

As demonstrated by the graph, *fragile* predominantly exhibits female bias from the 1840s to the 2000s. However, it shows a very fluctuating trend of gender bias, unlike the majority of the analysed words. Overall, the gender bias of *fragile* shows an increasing trend from the 1840s to the 2000s. For the 1840s, the log odds ratio value is 0.35, while it is -0.59 for the 2000s. The gender bias exhibited by *fragile* significantly decreases from the 1950s onwards, but contrary to the hypothesis of this study, there is an increase in bias from the 1980s to the 1990s.

Figure 108 portrays the log odds ratio of the construction *he/she [be] withdrawn*.

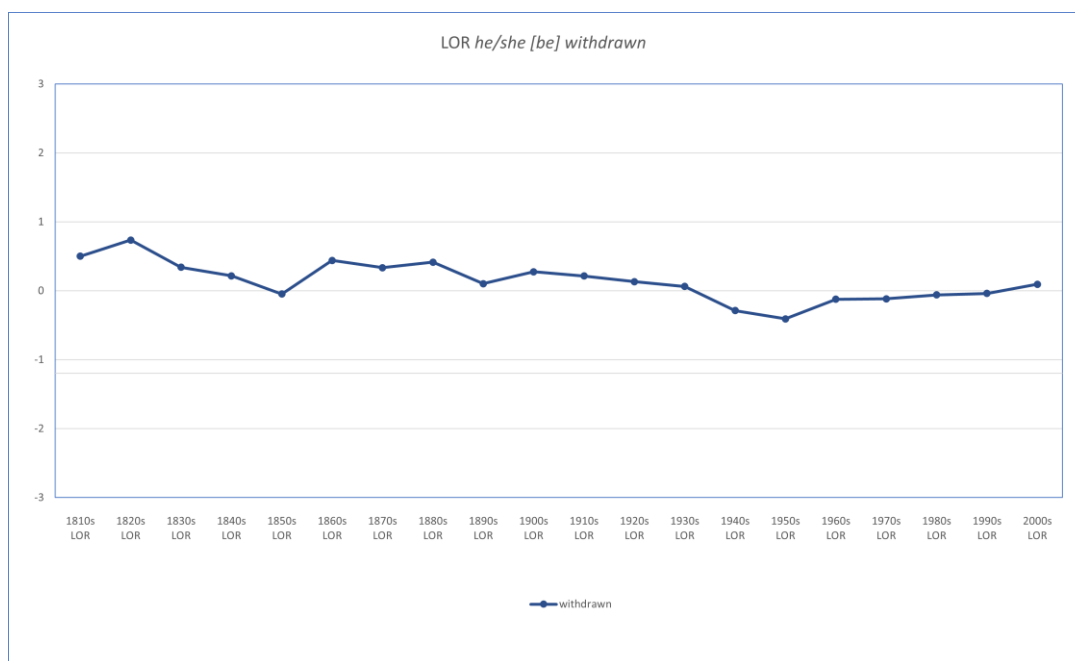


Figure 108 Log odds ratio for the American English sample of *he or she [be] withdrawn*.

As the graph illustrates, *withdrawn* mostly shows a male bias throughout the investigated period, except for the period between the 1940s and 1980s. Overall, it exhibits a decreasing gender bias pattern from the 1810s to the 2000s. For the 1810s, the log odds ratio is 0.50, while it is 0.09 for the 2000s. The gender bias for *withdrawn* exhibits a declining trend from the 1950s onwards; however, it increases from the 1990s to the 2000s, contrary to the hypothesis of this study.

Figure 109 portrays the log odds ratio of the construction *he/she [be] hysterical*.

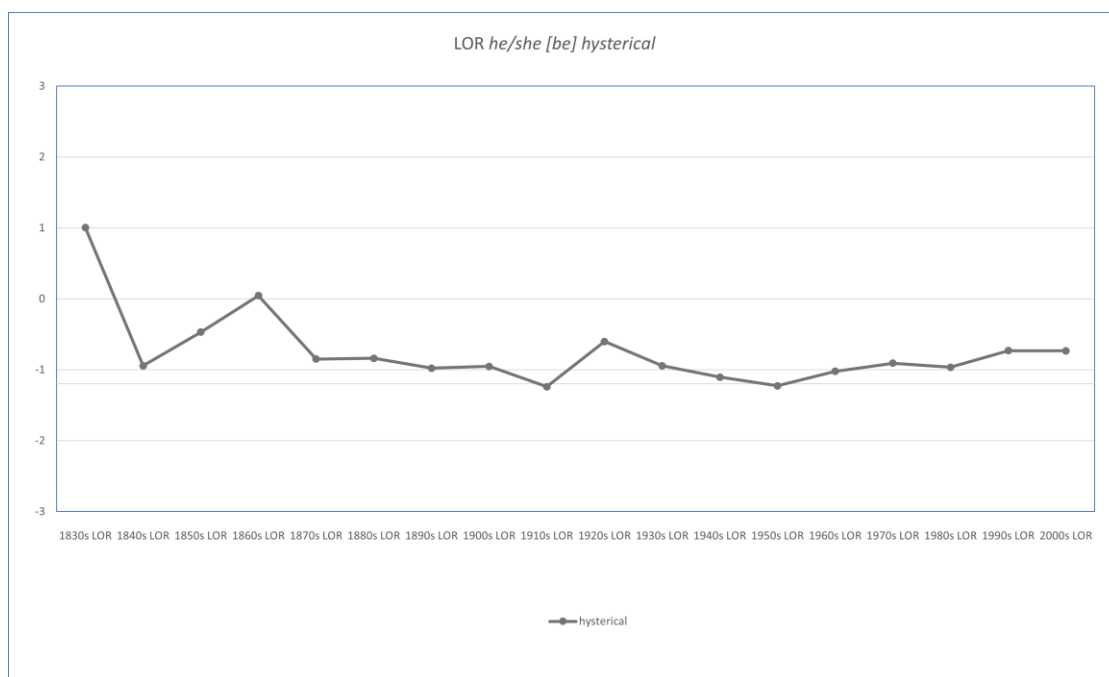


Figure 109 Log odds ratio for the American English sample of *he or she [be] hysterical*.

This graph demonstrates the gender bias development of *hysterical* from the 1830s to 2000s as there are no instances of *he/she [be] hysterical* in the 1810s and the 1820s. Initially, there seems to be a strong male bias; however, this is because there are no occurrences of *she [be] hysterical* in the 1830s (0.1 was inserted as the frequency value). *Hysterical* almost exclusively exhibits female bias throughout the investigated period, and this bias slightly decreases from the 1830s to the 2000s. For the 1830s, the log odds ratio value is 1.00, while it is -0.73 for the 2000s. There is a decrease in gender bias from the 1950s onwards, but contrary to the hypothesis of this study, this decrease is not continuous as there is an increase in bias in the 1980s in comparison to the 1970s.

Figure 110 shows the log odds ratio of the construction *he/she [be] impatient*.

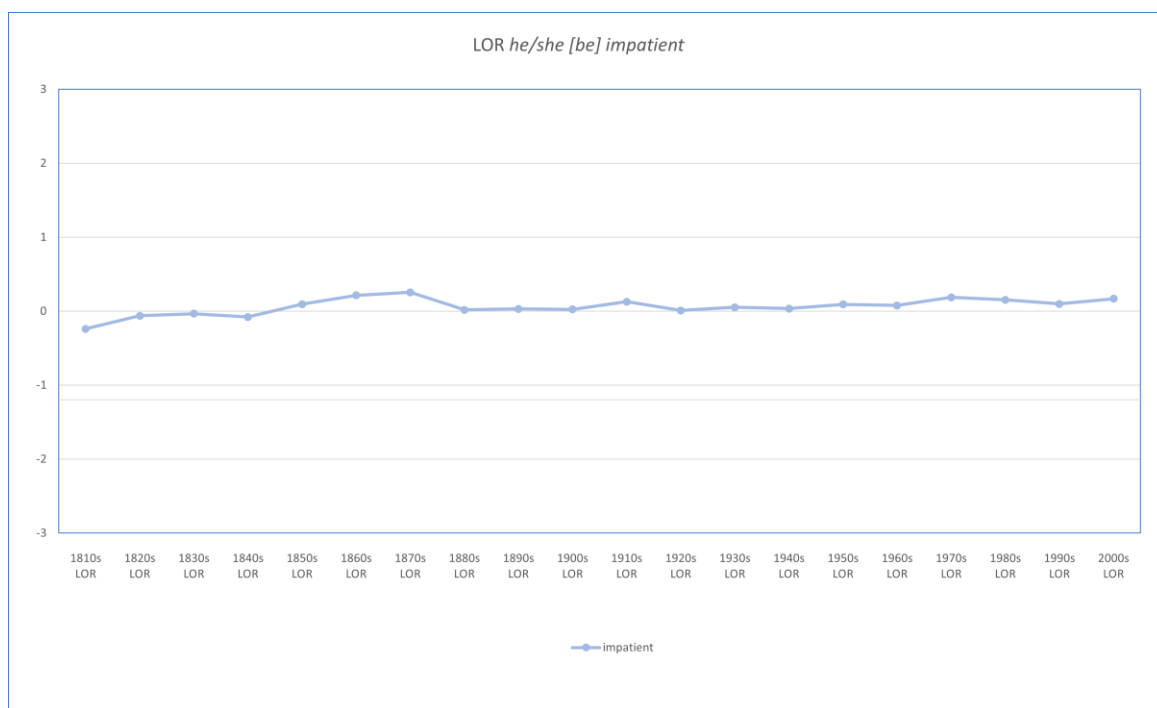


Figure 110 Log odds ratio for the American English sample of *he or she [be] impatient*.

From the graph, it is evident that *impatient* mostly exhibits male bias throughout the investigated period. Overall, it shows a slightly decreasing gender bias pattern from the 1810s to the 2000s. For the 1810s, the log odds ratio value is -0.23, while it is 0.16 for the 2000s. Unlike the majority of the analysed words, *impatient* does not exhibit a stable decrease in gender bias from the 1960s onwards.

Figures 111 and 112 portray the log odds ratio of the constructions *he/she [be] guilty* and *he/she [feel] guilty*.

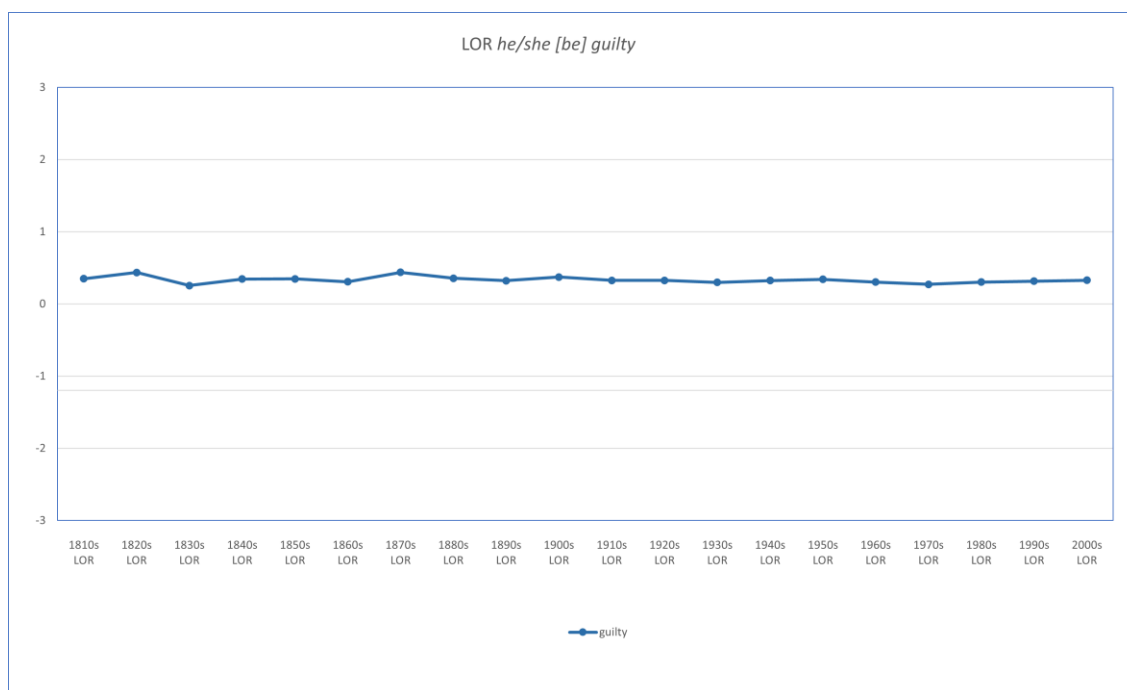


Figure 111 Log odds ratio for the American English sample of *he or she [be] guilty*.

As exhibited by the graph, *guilty* mostly exclusively exhibits male bias throughout the investigated period in the *he/she [be] guilty* construction. Overall, *guilty* mostly follows a stable trend in terms of gender bias, and the bias remains mostly unchanged from the 1810s to the 2000s. For the 1810s, the log odds ratio value is 0.34, while it is 0.32 for the 2000s. Unlike the majority of the analysed words, *guilty* does not show a decrease in gender bias from the 1960s onwards. However, it is important to note that *guilty* is often used in its legal meaning in the *he/she [be] guilty* construction. Therefore, the gender bias patterns of *he/she [feel] guilty* are also worthy of investigation.

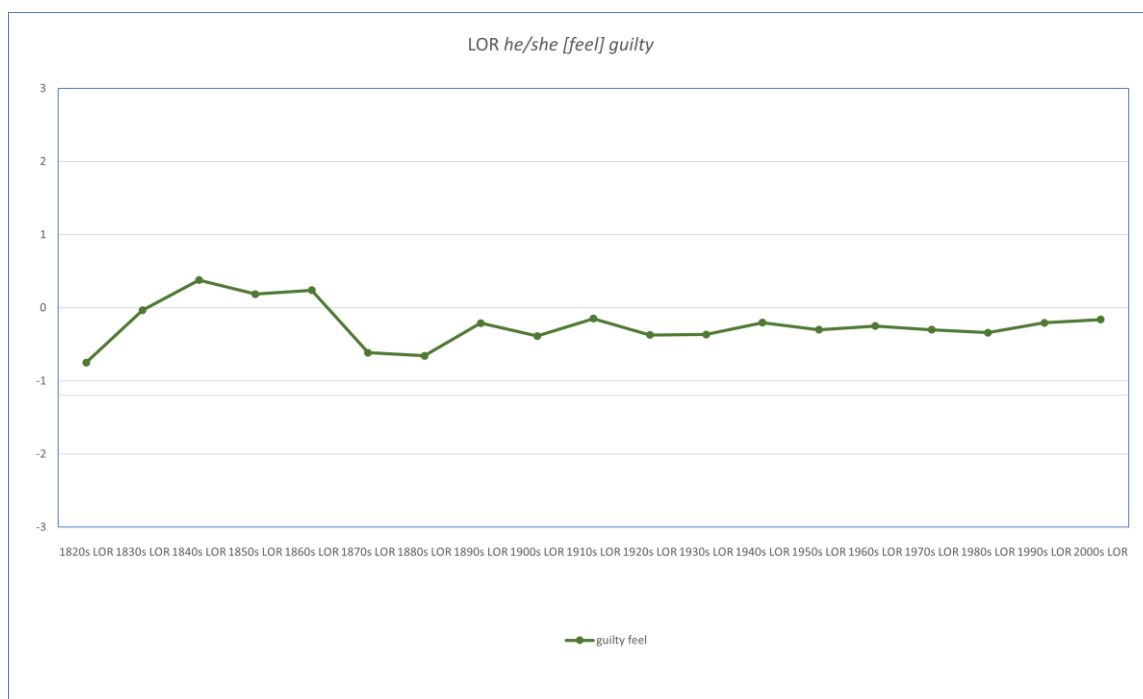


Figure 112 Log odds ratio for the American English sample of *he or she [feel] guilty*.

From the graph, it is evident that *guilty* exhibits an entirely different gender bias pattern in the *he/she [feel] guilty* construction. In this construction, *guilty* almost exclusively exhibits female bias. The graph only shows data from the 1820s onwards, as there are no instances of *he/she [feel] guilty* in the 1810s. This bias is initially very strong, but significantly decreases over time. For the 1820s, the log odds ratio value is -0.74, while it is -0.16 for the 2000s. *Guilty* does exhibit a decrease in gender bias in the *he/she [feel] guilty construction* in the second half of the 20th century, but only from the 1980s onwards.

After the individual results for the words with a negative connotation, a graph presenting the results for all these emotion words will be given. Figure 113 illustrates the log odds ratio values of the emotion adjectives with negative connotation in *he/she [be] ADJ* construction.

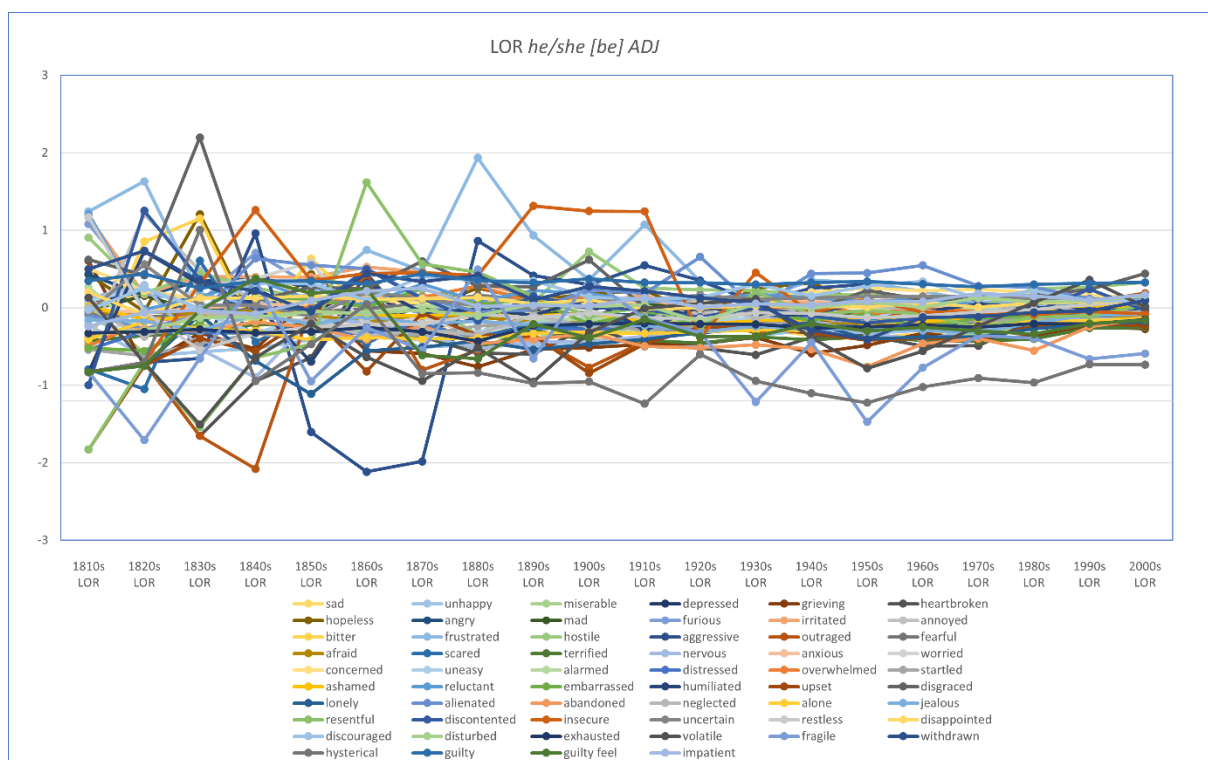


Figure 113 Log odds ratio for the American English sample of he or she [be] ADJ (denoting negative emotions).

It is rather difficult to observe gender bias patterns within a graph featuring 57 words; however, there are still certain deductions available for observation. Overall, there is evidence of strong gender bias in the early 19th century; however, this bias decreases in the 20th century, especially from the 1950s onwards. The words with the most substantial male bias are *insecure*, *distressed*, *frustrated* and *resentful*; while the words showing the strongest female bias are *fragile*, *resentful*, *outraged* and *aggressive*. However, it is important that the strongest bias patterns can be observed in the early 19th century, and the bias significantly decreases by the 2000s as the log odds ratios of most of the words analysed are very close to the 0 line. By the 2000s, even the highest log odds ratio values are significantly lower than they are for the early 20th century (0.44 for *disgraced*, 0.32 for *guilty*, -0.59 for *fragile*, -0.73 for *hysterical*).

Out of the 59 constructions analysed, 18 show mostly or exclusively male bias: *hopeless*, *irritated*, *bitter*, *frustrated*, *hostile*, *aggressive*, *anxious*, *concerned*, *reluctant*, *disgraced*, *alienated*, *insecure*, *uncertain*, *disappointed*, *discouraged*, *impatient*, *withdrawn* and *guilty*. 33 out of 59 constructions mostly or exclusively exhibit female bias: *sad*, *unhappy*, *miserable*, *depressed*, *grieving*, *heartbroken*, *mad*, *annoyed*, *outraged*, *afraid*, *scared*, *terrified*, *nervous*, *worried*, *uneasy*, *distressed*, *startled*, *ashamed*, *em-*

barrassed, upset, lonely, isolated, abandoned, neglected, alone, jealous, discontented, restless, exhausted, volatile, fragile, hysterical, guilty (feel). 8 out of 59 words either exhibit both male and female bias in a balanced fashion or the bias exhibited by these words is barely noticeable. These words are: *angry, furious, fearful, alarmed, overwhelmed, humiliated, resentful, disturbed*. The findings of the analysis offer interesting results. Firstly, more than half of the emotion words with a negative connotation exhibit female bias, while the positive and neutral words are more balanced in terms of the gender bias they exhibit. This provides evidence that negative emotions are more likely to be attributed to women. Secondly, there is another pattern that is evident: emotion words denoting anger, such as *aggressive, frustrated, irritated*, show either mostly male bias or, when they do show female bias, this bias is rather weak. On the other hand, emotion words denoting shame and fear, such as *afraid, scared, terrified, ashamed, and embarrassed* are more likely to occur in the female construction. These findings provide evidence that gender stereotypes are reflected in language use. Another interesting finding is the case of *jealous* as it exhibits female bias, while it is generally attributed to men. The case of *guilty* is also of particular interest to this study: *guilty* exhibits male bias throughout the investigated period. However, when the search is conducted with the word *feel*, *guilty* mostly exhibits female bias. This could provide evidence that the overall male bias exhibited by *guilty* may be attributed to the use of this word in a legal context, and *women* are more likely to experience guilt as an emotion. It is still important to note that gender bias decreases for words denoting negative emotions, and it is very weak by the 2000s.

Overall, the results of the quantitative analysis is mostly in line with the hypothesis of the thesis and the findings of Hess et al. (2000), Brody and Hall (1993) and Plant et al. (2000). As argued by Hess et al. (2000 as quoted in Brody and Hall, 1993: 396), Brody and Hall (1993: 396), and Plant et al. (2000: 89), gender stereotypes expect women to be more happy, embarrassed, surprised, sad, afraid, ashamed, guilty and loving. The findings of the quantitative analysis show that these emotion words are all more likely to happen in the female construction. Similarly, the findings of the study align with the gender stereotypes that expect men to be more angry, proud and brave, with the exception of proud, which predominantly shows female bias, but this bias is mostly negligible, and from the 1970s onwards, *proud* shows male bias.

Another research question of this research was about the overall development of gender bias of the emotion words, and a large majority of the words showed a decreasing gender bias pattern throughout the investigated words. More than half of the words exhibited a special decrease in gender bias from the 1960s and the 1970s onwards. However, a significant portion of the words showed a declining trend earlier than the 1960s (from the 1930s onwards).

In the following sub-section of this thesis, the results of the qualitative analysis will be presented.

4.4 Qualitative analysis of the adjectives denoting emotions in the Corpus of Contemporary American English

In this section of this study, the results of the qualitative analysis of the words denoting emotions. For the qualitative analysis, 10 words were selected in total. To allow for a balanced representation, 4 words were selected for positive and negative emotions, while 2 words were selected among neutral emotion words. The results of qualitative analysis of the words denoting negative emotions will be presented in the following sub-section.

4.4.1 Qualitative analysis of the adjectives denoting negative emotions in the Corpus of Contemporary American English

The negatively connotated emotion words chosen for this part of the study are *afraid*, *concerned*, *alone*, *guilty (feel)*. The first word to be analysed in this sub-section is *afraid*. For *afraid*, the 5 meaning groups are observed in terms of the source of the emotion: a) fear of bodily harm; b) fear of others' action/feeling/behaviour/opinion; c) cases where just the emotion is highlighted; d) fear of a potential future outcome scenario other than bodily harm or other's action/behaviour; e) other meanings. The results of analysis are exhibited in the table below for *he vs she [be] afraid*.

Different meanings of <i>afraid</i> in COCA		He	S
			he
a)	Fear of bodily harm	21	8
b)	Fear of others' action/feeling/behaviour/opinion	26	3 8

c)	Cases where just the emotion is highlighted	22	2 1
d)	Fear of a potential future scenario	14	1 1
e)	Other meanings	17	2 2

Table 1 The table showing the results of the qualitative analysis for the constructions *he/she [be] afraid*.

The results show that *afraid* occurs most frequently in its “fear of other’s action/feeling/behaviour/opinion” sense for both in the male and the female constructions. The results also indicate that *afraid* is significantly more likely to be used in its “fear of bodily harm” meaning in the male construction than it is in the female construction. In other words, men are more likely to be referred to as “afraid of bodily harm” than women (21/100 vs 8/100). For the female construction, the likelihood of fear happening in its meaning denoting “afraid of others’ action/feeling/behaviour/opinion” is significantly higher than it is for the male construction (38 vs 26/100). In other words, women are more likely to be referred to as being afraid of others’ opinions/actions/feelings/behaviour. It is important to note that cases of “fear of bodily harm stemming from others’ action/behaviour” are counted under “fear of bodily harm”. Other meanings of *afraid* have also revealed that while men are more likely to be referred to as afraid of other people, women are more likely to be referred to as part of constructions that denote phobias.

The second word to be analysed in this sub-section is *concerned*. The meanings of *concerned* observed in the sample list can be grouped into five different categories: a) concerned about the safety of others; b) concerned about someone else's action/feeling/behaviour/opinion; c) cases where just the emotion is highlighted; d) concerned about a future outcome; e) related/interested/other meanings. The results of the analysis are demonstrated in the table below.

Different meanings of <i>concerned</i> in COCA		He	She
a)	Concerned about the safety of	13	23

others		
b) Concerned about someone else's action/feeling/behaviour/opinion	22	20
c) Cases where just the emotion is highlighted	4	8
d) Concerned about a future outcome	22	14
e) Related/interested/other meanings	39 21: Regarding 14: Interested 4: Other	35 28: Regarding 3: Interested 4: Other

Table 2 The table showing the results of the qualitative analysis for the constructions *he/she [be] concerned*

Only a little bit above 60 per cent of the sample set seems to be relevant to this research as a significant portion of the instances denote other/not related meanings of *concerned*. The results of the qualitative analysis show that *concerned* most frequently occurs in “meaning b” in the male construction whereas it occurs in its “meaning a” in the female construction. That is, men are most likely to be referred to as “concerned about someone else's action/feeling/behaviour/opinion” and “concerned about a future outcome” (22/100 for both meanings), while women are most likely to be referred to as “concerned about the safety of others” and “concerned about someone else's action/feeling/behaviour/opinion” (23/100 and 20/100 respectively).

The third word under investigation for the qualitative analysis part of this thesis is *alone*. The analysis showed that the meanings of *alone* can be grouped into four categories: a) isolated and lonely; b) having no one else present; c) having no one to get help from or no participation from others. The results of the analysis are illustrated in the table below:

Different meanings of <i>alone</i> in COCA	He	S
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		he
a) Isolated and lonely	28	2 7
b) Having no one else present	62	6 7
c) Having no one to get help from or no participation from others	9	6
d) Other meanings	1	0

Table 3 The table showing the results of the qualitative analysis for the constructions *he/she [be] alone*

The results of the analysis demonstrate that *alone* most frequently occurs in its “having no one else present” meaning in both male and female constructions. However, *alone* is more likely to be used in this meaning in the female construction than the male construction (62/100 in male constructions. Another finding of the analysis shows that men are most likely to be referred to as “alone” in terms of “having no one to get help from or no participation from the others” than women, but the difference is rather slight (in 9 vs 6/100 instances).

The next construction that is of concern to the qualitative analysis of this study is *feel guilty*. The following five different meanings of *guilty* in the construction *feel guilty* have been observed: a) other; b) guilty about personal action/behaviour/opinion/feelings; c) cases where just the emotion is highlighted; d) guilty about someone else’s situation; e) guilty about personal inability/inaction. The results of the analysis are exhibited in the table below:

Different meanings of <i>feel guilty</i> in COCA	He	S he
a) Other such as (guilty about self-privilege, an obligation, etc.)	9	6
b) Guilty about personal action/behaviour/opinion/feelings	50	5 7
c) Cases where just the emotion is	29	2 2

highlighted		
d) Guilty about someone else's fate	8	5
e) Guilty about inability/inaction	4	1 0

Table 4 The table showing the results of the qualitative analysis for the constructions he/she [feel] guilty

The results show that both in the male and the female construction, the majority of the occurrences denote the meaning “guilty about personal action/behaviour/opinion/feelings”, which is followed by “cases where just the emotion is highlighted”. Women are more frequently portrayed to be guilty about a personal action/behaviour/opinion/feeling than men (57/100 vs 50/100); while men are more frequently featured in cases where just the emotion is highlighted (29/100 vs 22/100). Another important finding of note is that women are more likely to be portrayed as “guilty about their personal inability/inaction.”

The results of the qualitative analysis offer striking results. In the case of *afraid*, it is evident that men are more often referred to be in fear of bodily harm; while women are described as having a loss of social status as the bigger concern. When it comes to *concerned*, men are more likely to be concerned about a potential future outcome, while women are more likely to be concerned about the safety of others. In the case of *alone*, men are more likely to be referred to as *isolated*; while women are more likely to be referred to in the more neutral sense of the word. And lastly, regarding *feel guilty*, women are more likely to feel guilty about their personal action/behaviour/opinion/feelings and their inability/inaction in a certain situation, while with men, the cases where no reasoning was presented in the immediate context seem to be significantly more prevalent. From the results, it is evident that rather than the frequency of expressing or feeling the emotions, the starkest gender difference in the expression and experience of emotions seems to be found in the contexts/situations in which women and men feel these emotions. Men seem to be more frequently portrayed as in control of the situation, while women are more often portrayed as a subordinate in these examples.

In the following sub-section, the results of qualitative analysis of the words denoting positive emotions will be introduced.

4.4.2 Qualitative analysis of the adjectives denoting negative emotions in the Corpus of Contemporary American English

The negatively connotated emotion words chosen for this part of the study are *glad*, *determined*, *happy*, *pleased*. The first word to be analysed in this sub-section is *glad*. The results of the qualitative analysis are presented in the table below.

Different meanings of <i>glad</i> in COCA		He	S he
a)	Glad about personal appearance.	4	3
b)	Glad about personal action/behaviour/opinion/feeling	20	2 5
c)	Cases where just the emotion is highlighted	1	5
d)	Glad about someone else's action/behaviour/opinion/feeling/presence	44	3 4
e)	Other meanings:	31	3
		14	3
		7	1
	Glad about a specific outcome	8	0
		2	9
			8
	Glad about the surroundings		6
	Glad about personal privilege		
	Other		

Table 5 The table showing the results of the qualitative analysis for the constructions *he/she [be] glad*

The results of the qualitative analysis indicate that both in male and in female constructions, the majority of the instances denote the meanings “glad about personal action/behaviour/opinion/feeling” and “glad about someone else's action/behaviour/opinion/feeling/presence”. Men are more likely to be referred to as glad about someone else’s action/behaviour/opinion/feeling/presence (44 vs 34/100) while women are more likely to be referred to as glad about their personal action/behaviour/opinion/feeling (25 vs 20/100). When it comes to the other meanings of *glad*, men are also more likely to be referred to as “glad about a specific outcome”, while women are more likely to be “glad about the surroundings”.

The next word to be analysed is *determined*. For *determined*, the four meaning groups are observed in terms of the source of the emotion: a) determined about helping/not hurting others; b) determined about helping/serving himself; c) determined about a personal goal; d) other meanings. The results of analysis are exhibited in the table below for *he vs she [be] determined*.

Different meanings of <i>determined</i> in COCA		He	S he
a)	Determined about helping/not hurting others	16	20
b)	Determined about helping/serving themselves	7	18
c)	Determined about a personal goal	54	48
d)	Other meanings:	23	14

Table 6 The table showing the results of the qualitative analysis for the constructions *he/she [be] determined*

The findings of the qualitative analysis show that both men and women are most frequently referred to as “determined about a personal goal”. While men are more likely than women to be referred as determined about a personal goal (54 vs 48/100) while

women are more likely than man to be referred as “determined about helping/serving themselves (18 vs 7/100). Women are also more likely to be labelled as “determined about helping/not hurting others” (20 vs 16/100). When it comes to other meanings of *determined*, female constructions are more likely to occur with cases where the emotion is highlighted without an immediate context (determined as a trait), while male constructions are more likely to denote “determined about a course of action.”

The third word denoting a positive emotion that will be analysed is *happy*.

Different meanings of <i>happy</i> in COCA		He	S he
a)	Happy to do something.	17	1 6
b)	Happy about a current situation.	26	2 3
c)	Cases where just the emotion is highlighted	29	3 2
d)	Happy about someone else's action/company	20	1 9
e)	Other meanings:	8	1 0

Table 7 The table showing the results of the qualitative analysis for the constructions *he/she [be] happy*

The results of the qualitative analysis point to a rather balanced distribution of the different meanings of *happy* in the male and female constructions. Although there are variations in the distribution (men tend to be portrayed as happier about a current situation (26/100 vs 23/100) while women tend to be just referred to as happy (29/100 vs 32/100), these are relatively small differences. In terms of the other meanings of happy, male constructions are more likely to denote “happy about personal performance (2/8)” and “happy about an opportunity”, while female constructions are interestingly more likely to denote “happy for someone else” (2/10) or “happy about someone else’s misery/death” (3/10).

The fourth word to be analysed that denotes a positive emotion is *pleased*.

Different meanings of <i>pleased</i> in COCA	He	She
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a)	Pleased to do something.	17	17
b)	Pleased about the current situation.	12	19
c)	Cases where just the emotion is highlighted	18	14
d)	Pleased about someone else's action/presence	50	43
e)	Other meanings:	3	7

Table 8 The table showing the results of the qualitative analysis for the constructions he/she [be] pleased

The results of the qualitative analysis demonstrate that men are more likely to be portrayed as “pleased about someone else’s action/presence” (50/100 vs 43/100). At the same time, women are more often referred to as “pleased about the current situation” (19/100 for female constructions vs 12/100 for male constructions). Men are more likely to be portrayed as “just pleased” than women (18 vs 14/100). *Pleased* in its “pleased to do something” meaning is equally as likely to happen in male and female constructions.

The results of the qualitative analysis of positive emotion words are overall striking. In the case of *glad*, men are more often referred to in a position of a control/approval mechanism of other people’s actions, whereas women are more frequently referred to as glad about their own actions, which indicates an increased level of self-reflection, but also hints at a sense of doubt. *Glad* is also used more often in the male construction together with an outcome, while it is more often used to denote a feeling about “surroundings” in the female construction. Men’s position seems to be hierarchically superior in both cases. In the case of *happy*, the distribution between the different meanings is relatively balanced; however, in the other meanings category, another finding that is worthy of note arises. Men are more often referred to as happy about “an opportunity” or “personal performance”. In contrast, women are more often referred to as happy “for someone else” or “someone else’s misery/death”. In the case of *happy*, men seem to be portrayed as more self-focused, while women seem to be portrayed as more outward-focused, be it in a positive or negative case. In the case of *determined*, women are more likely to be portrayed as determined about “helping and serving themselves” or “helping/not hurting others”. In contrast, men are more often referred to as deter-

mined “about a personal goal” or “a course of action”. Once again, it can be observed that men are portrayed as more individualistic, while women are portrayed as “self-serving” or “helpful towards others”. A similar pattern can be observed in the case of *pleased*. Men are more often referred to as “pleased about the presence/action of someone else”, whereas women are more often referred to as “pleased about the current situation they are in”. Men are more likely to be depicted in a position to be able to react to others' presence or actions, while women are more likely to be confined to reacting to the circumstances they find themselves in. These findings highlight the importance of a qualitative analysis as these positive words show either female bias or a neutral bias pattern. From a purely quantitative perspective, one can assume that women are more likely to be associated with positive emotion words. However, the qualitative analysis demonstrates that there are significant differences in terms of the use/collocation of the positively connotated emotion words, and men are more likely to be portrayed in a hierarchically superior position than women, even on an individual word level.

In the following sub-section, the results of qualitative analysis of the words denoting neutral emotions will be introduced.

4.4.3 Qualitative analysis of the adjectives denoting neutral emotions in the Corpus of Contemporary American English

The negatively connotated emotion words chosen for this part of the study are *surprised* and *sensitive*. The first word to be analysed in this subsection is “surprised.” The results of the qualitative analysis are presented in the table below.

Different meanings of <i>surprised</i> in COCA		He	She
a)	Surprised about self action/opinion/behaviour.	9	16
b)	Surprised about a turn of events.	20	15
c)	Cases where just the emotion is highlighted	7	6
d)	Surprised about someone else's action/opinion/presence/behaviour	49	46
e)	Other meanings:	15	17

Table 9 The table showing the results of the qualitative analysis for the constructions he/she [be] surprised

The result of the qualitative analysis shows that men are more likely to be referred to as “surprised about a turn of events” in comparison to women (20 vs 15/100); whereas women are more likely to be referred to as “surprised about self action/opinion/behaviour” (9/100 vs 16/100). However, it is important to note that the meaning “surprised about someone else’s action/opinion/presence/behaviour” is the most commonly occurring meaning in both male and female constructions (49 vs 46/100). Another interesting finding is that most of the instances falling under the other meanings category are examples of “surprised at something he/she discovers (12/100 of male constructions vs 13/100 of female constructions).

The second neutral word to be qualitatively analysed is *sensitive*.

Different meanings of <i>sensitive</i> in COCA	He (85)	She (68)
a) Sensitive about self action/position/status.	6 (7.05%)	3 (4.41%)
b) Sensitive about a topic/principle/concept.	16 (13.86%)	15 (22.05%)
c) Cases where just the emotion highlighted.	46 (54.11%)	25 (36.76%)
d) Sensitive about someone else's status/action/behavior	11 (12.94%)	13 (19.11%)
e) Other meanings:	6 (7.05 %)	12 (17,66%)

Table 10 The table showing the results of the qualitative analysis for the constructions he/she [be] sensitive

The findings of the analysis offer stark differences in the use of *sensitive* between the male and female constructions. As there are not enough occurrences for either the male or the female constructions, the percentages were compared. The results of the analysis show that men are more likely to be portrayed as “sensitive about self action/position/status” (7.05 vs 4.41 %) or just referred to as “sensitive” without the mention of a reason (54.11 vs 36.76%). In contrast, women are more likely to be referred to as “sensitive about someone else's status/action/behavior” (13.86 vs 22.05) or “sensitive

about a topic/principle/concept” (12.94 vs 19.11). The most prominent other meaning of sensitive was “easily influenced, changed, or damaged, especially by a physical activity or effect (according to Cambridge Dictionary)”. In this meaning of the word, there is a striking difference between the male and the female constructions; 4.70 % of the analysed instances belong to this category for male constructions, while it is 11.76 % for female constructions.

The qualitative analysis of *sensitive*, an emotion that was stereotypically attributed to women more often than men, has shown similar results to positively and negatively connotated words, as male constructions tend to refer to more self-focused reasons for the triggering of the emotion, while the triggering factor is more often other people’s status/action/behaviour in the female constructions. Once again, men tend to be portrayed in a hierarchically superior position compared to women.

In the following session, the results of the qualitative and quantitative analysis will be discussed in relation to the current literature in the field.

5. Discussion

The results of this research offer partially similar results to the current literature. As stated by Brody & Hall (1993: 396) and Timmers et al. (2003:43), women are stereotypically believed to be more emotional than men. The findings of Timmers et. al (2003: 43) have further shown that women are expected to express positive emotions more often and are less permitted to display powerful negative emotions, whereas men are overall less permitted to display emotions and also less permitted to display negative emotions unless they are powerful negative emotions; men are expected to display powerful negative emotions more often. The findings of my quantitative research align with these findings. Parallel to Eagly & Mladinic's (1993: 6) research, where they found out that there are more positive stereotypes for women than men, positively connotated emotion words tend to show slightly more female bias (16 vs 13 out of 35). However, negatively connotated emotion words tend to show a significantly more female bias (33 vs 18 out of 59). Parallel to Brody and Hall's (1993: 396) findings, the type of emotion plays an important role in terms of the gender bias illustrated. Hess et al. (2000) (as quoted in Brody and Hall, 1993: 396) and Plant et. al (2000: 89) found out that women are stereotypically expected to express "surprise, happiness, guilt, embarrassment, fear, shame, sadness, distress, sympathy, love, shyness" more often whereas men are expected to show "anger and pride" more often. The findings of this study partially align with these findings. The quantitative research has shown that women are more likely to be referred to show happiness (happy, delighted, pleased, cheerful all show female bias), embarrassment (embarrassed shows female bias), fear (afraid, scared, terrified show female bias, fearful shows a balanced pattern), shame (ashamed shows female bias), sadness (sad and unhappy both show female bias), love (loving, caring and attached all show female bias). Surprise and distress are the only emotions where the results of the analysis for the chosen adjectives do not fully align with the stereotypes. Adjectives denoting distress show a varied pattern; nervous, worried and distressed show a female bias, anxious and concerned show a male bias and disturbed shows a balanced pattern. The quantitative analysis of the adjective chosen for surprise (surprised) shows a male bias instead of showing female bias as expected. When it comes to adjectives stereotypically attributed to males, the results of the quantitative analysis are not as uniform as expected. Out of the adjectives chosen (angry, mad, irritated, furious, frustrated, resent-

ful), showing anger, only irritated and frustrated show male bias, whereas angry, furious and resentful show a balanced pattern. Mad shows female bias despite it denoting a powerful negative emotion. However, this could be attributed to the fact that women are more easily and often labelled with words with mental instability undertones (such as mad or hysterical). Another emotion that is typically attributed to men, as mentioned above, is pride; however, the quantitative analysis of *proud* has shown that pride is more often attributed to women than men. The results of the analysis show that the stereotypes regarding the expression of emotions and gender bias thereof are reflected in the use of the English language; however, it is important to note that emotion words denoting pride or anger do not always illustrate a male bias. Therefore, it is important to conduct a qualitative analysis of the occurrences of emotion adjectives to get the full picture of the gender bias patterns of the emotion words in the English language.

The results of the qualitative analysis offer striking results partially aligning with the Ambivalent Sexism Theory by (Glick & Fiske, 1996, 121). As Glick & Fiske (1996: 121) suggest, sexism does not only occur in a “hostile” context, but also in a “benevolent” context, limiting women in roles where men are their superordinates. The results of the qualitative analysis align with this view on sexism. Men are more likely to be referred to as “glad” about other people’s actions, depicted in a position of control/approval mechanism; whereas women are more likely to be referred to as “glad” about their own actions, which indicate an increased amount of self-reflection and a sense of doubt. Similarly, in the case of “pleased”, men are more likely to be referred to as “pleased” about someone else’s action/presence, whereas women are more often portrayed to be “pleased” about the current situation they find themselves in. Once again, men are depicted in a hierarchically superior position. In the case of “determined”, men are more often portrayed to be determined about a personal goal or a course of action, whereas women are more often referred to as determined about helping themselves or others. Here, the imbalance of power distribution and the hierarchy can be observed once again, as men can afford to be self-centred, whereas women are more collaborative to remedy a disadvantaged position of themselves or others. A similar situation can be observed for “happy” as well, where men are more often portrayed to be happy about their personal performance or an opportunity, whereas women are happy for someone else or about someone else’s misery/death. The qualitative analysis shows that pure statistics are not enough to get a full picture of the gender bias exhibited by the words de-

noting emotion, as happy shows female bias, glad and pleased just show slight male bias and determined shows nearly no bias in the quantitative analysis. However, the qualitative analysis of the occurrences shows that benevolent sexism against women is present in the language use and language serves as another tool to keep the hierarchically superior position of men.

A similar type of differentiation in representation can be observed as a result of the qualitative analysis of the negative emotion words as well. Men are more likely to be afraid of bodily harm, whereas women are more likely to be afraid of loss of social status. When it comes to *concerned*, men are more likely to be concerned about a potential future outcome. In contrast, women are more likely to be concerned about the safety of others, which shows that men are represented as being concerned when they are active agents of the situation and fear the unknown, while women are depicted as powerless and as viewers of the situation. In the case of *alone*, men are more likely to be described in the negative, “isolated” meaning of the word, whereas women are more likely to be described in the neutral meaning of the word. Lastly, the case of *feel guilty* is a great example of the stark difference between male and female constructions. Women are more likely to be portrayed as “feeling guilty about their personal action/behaviour/opinion/feelings and their inability/inaction in a certain situation”, whereas the majority of the male constructions were cases where just the emotion was highlighted without an immediate explanation/context. The results of the qualitative analysis provide evidence of the hierarchical structure where men are portrayed as superordinates to women; even in their negative reactions, men tend to react more independently and from a position of higher power compared to women. It could be further argued that the kind of guilt experienced by women and men function differently, similar to the findings of the study of Norberg (2012: 180) who argues that women experience a rather “destructive”, identity-shaking guilt that drives them towards “hiding, withdrawal and silence” while men experience the kind of shame that is a normal aspect of social life that functions as a regulates their behaviour patterns, short-lived and is associated with their actions rather than their identity. Examples of Norberg’s argument regarding women can be observed in this research as well; however, regarding men’s guilt, there is not enough data to support Norberg’s (2012: 180) argument. The reason for the guilt men feel stays relatively hidden, which may also be explained by a feeling of shame, which may not be as short-lived as Norberg (2012: 180) claims.

As for neutral words, the results align with the general gender stereotypes. For sensitive, they are more likely to be referred to as “sensitive about someone else’s action/behaviour” or as sensitive meaning “easily influenced, changed, or damaged, especially by a physical activity or effect”. In contrast, men are more likely to be portrayed as sensitive about their own actions/position/status. This difference can be explained with Glick and Fiske's (1996: 493) argument regarding patriarchy, as the defenders of patriarchy do not regard women as fully competent adults and believe that women need a superordinate male figure in their lives. This patriarchal view is clearly reflected in the use of language, as the analysis shows. In the case of *surprised*, men are more likely to be surprised by a turn of events, whereas women are more likely to be portrayed as “surprised about their own action/behaviour/opinion”. This might hint at the potential self-confidence/self-assuredness women might have in comparison to men as a result of being raised in a patriarchal society.

Lastly, the overall gender bias exhibited by the adjectives denoting emotions has shown a decreasing pattern as hypothesised. Both the analysis of the development of absolute log odds ratio values of the adjectives preceded by *he/she [be]* from the 1810s to the 2000s and the analysis of the gender bias exhibited by the individual emotion words have shown that gender bias decreases throughout the period under investigation, especially from the 1960s onwards. One potential explanation for this development could be the rise of feminist movements from the 1950s and 1960s onwards and the increased coverage of feminist views in the mainstream media and academia. However, it should be noted that this discussion is beyond the scope of this study, and it could be an interesting area to investigate for further studies. Notwithstanding, it is important to note that gender bias still exists by the end of the investigated period and this could be explained by Ridgeway (2013: 159) concept of “cultural lag” through which she claims that belief changes may require a certain time to manifest in language and culture and this delay, or in other words “lag” may even serve to maintain the status quo despite the changes in the “non-material culture”. These results show that gender bias is in an overall decreasing trend, but the efforts to neutralise the gender bias and its negative effects need to be a constant effort, or else the efforts of many decades may fail to materialise in the material culture.

6. Conclusion

This study was conducted to find out the gender bias patterns of the emotion adjectives in detail; the historical development of the bias, the type of bias and how these biases relate to the stereotypes regarding gender. The study was based on the quantitative and qualitative analysis of corpus data. The former enabled a statistical comparison of the frequencies exhibited by the individual words in an Excel template, whereas the latter offered a detailed overview of the context of the instances of the selected words.

All in all, 106 adjectives denoting emotion have been selected and their frequency has been searched in the Google Books American English Corpus in the following constructions: *he [be] ADJ vs she [be] ADJ*. The frequencies were then pasted into an Excel Template, and a log odds ratio value was obtained for every word for every single decade from the 1810s to the 2000s. Through the analysis of the log odds ratios, the gender bias patterns exhibited by the individual words have been established. Following that, a total of 10 most frequently occurring adjectives in their respective category (4 positive, 4 negative and 2 neutral) were selected for qualitative analysis. These words were searched in the Corpus of Contemporary American English (COCA), and 100 occurrences were selected through the random sampling function of the corpus for both male and female constructions. These occurrences were then analysed, and the frequencies of the male and female constructions to occur in the different meanings of the word were compared. Additionally, the average absolute log odds ratio of the *he/she [be] ADJ* constructions in the Google Books American English and the log odds ratio of the individual words from the 1810s to the 2000s were analysed to see the historical development of the overall gender bias exhibited by the selected emotion words.

The results of the quantitative analysis have shown that positively connotated words overall show slightly more female bias, negatively connotated words show significantly more female bias, whereas neutral words show a balanced gender pattern numerically. On the level of individual words, most words showed similar patterns to the general gender stereotypes (e.g. *detached* and *apologetic* as neutral, *courageous* and *brave* as positive and *aggressive* and *frustrated* as negative emotion words showed male bias whereas *delicate* and *calm* as neutral, *caring* and *kind* as positive and *afraid* and *ashamed* as negative emotion words showed female bias), yet there were some unforeseen results worthy of mentioning. Among the selected positive words, *stoic* and *resili-*

ent, two words stereotypically attributed to men, show female bias; and in terms of neutral words, *sensitive* and *apologetic*, two adjectives typically attributed to women, show male bias. These findings highlight a gap that could be addressed in future research. The findings of the quantitative part of this research align with the findings of previous research by Plant et al. (2000: 89), who argue that “Happiness, embarrassment, surprise, sadness, fear, shame, and guilt are believed to occur more in women, and anger, contempt, and pride more in men”.

The results of the qualitative analysis provide further evidence to the argument of Glick and Fiske (1996: 491), who argue that sexism is not only composed of negative feelings towards women; it also includes seemingly positive feelings. The number of positively connotated emotion words that demonstrate a female bias is more than those that show a tendency towards male bias from a purely numerical point of view; however, the results of the qualitative analysis provide evidence to the finer, less readily available aspect of sexism, “the benevolent sexism” as Glick and Fiske (1996: 491) recommend. The comparison of the likelihood of the selected positively, negatively and neutrally connotated words to occur in their different meanings in male and female constructions has shown that men are more likely to be portrayed in a hierarchically superior position than women, more as a superordinate to women. While men are more often portrayed in a position where they feel these emotions due to their own performance or status, women are more often portrayed in a position where they feel these emotions as a result of other people’s actions. These findings show that both benevolent and hostile sexism serve to preserve the status quo and keep the current structure of the patriarchal society where men hold a superordinate position compared to women.

Lastly, the results of the analysis of the historical development of the absolute log odds ratio of the selected word group and that of the individual words show that gender bias shows a declining pattern throughout the investigated period, especially from the 1960s onwards in the Google Books American English corpus. However, it is important to note that the most recent data obtained for the purposes of this study is from the 2000s, and further research on the bias patterns from the 2000s to 2025 may indicate a different pattern, considering the recent developments in the sociopolitical and cultural scene of the English-speaking world.

The selected data set for this study featured a sizeable number of emotion words, yet the number of words to be analysed qualitatively had to remain limited due to the

scope of this study. Future research focusing on the qualitative aspect of this study and a more balanced distribution of positive, negative and neutral emotion words may provide more tangible results. Furthermore, a future study focusing on corpora such as the NOW corpus that features more recent data could be important to observe the development of the gender bias patterns exhibited by emotion words from the 2000s onwards.

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