Gender and Speech Disfluency Production: a Psycholinguistic Analysis on Turkish Speakers

Гендер і порушення при породженні мовлення: психолінгвістичний аналіз мовлення носіїв турецької мови

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ABSTRACT

The aim of this study is to analyze the influence of gender on fluent Turkish native speakers' speech disfluency production rates. Totally 84 participants

from four different age groups (4–8, 18–27, 33–50 and over 50) took part in the study. Gender distribution was equal in each group. In a corpus of face to face interviews, the prepared and impromptu speech samples of at least 300 words from each participant were analyzed. As a result, in the prepared speech situation 18–23-year-old males produced more prolongations than females, and 33–50-year-old males produced more prolongations, false starts and slips of the tongue (SOT) than females in the same age group. In impromptu speech situation, 18–23-year-old males produced more hesitations, prolongations, false starts and slips of the tongue than females, and 33–50-year-old males produced more prolongations and false starts than females in the same age group. Further analyses pointed out various findings related to the position of disfluencies in an utterance and the linguistic units involved in disfluency production.

Key words: Psycholinguistics, speech production, gender, Turkish speech, speech disfluencies.

Introduction

Speech disfluencies, which have been named and classified differently by many researchers, have aroused a specific interest in research literature since they are one of the most observed features of spontaneous speech (*hesitations* by Beattie & Butterworth, 1979; Boomer & Dittmann, 1962; Goldman-Eisler, 1960; Hieke, 1981; Kjellmer, 2003; Martin & Strange, 1968; *speech errors* by Fromkin, 1971; *self repairs* by Postma et al., 1990; Bear et al., 1993; *production problems* by Bock, 1991; *speech repairs* by Levelt & Cutler, 1983).

Various linguistic and nonlinguistic factors could influence the production rates of speech disfluencies. As a result of this, various approaches have been applied in the speech disfluency research literature. While pure linguistic studies have been focusing on the phonetic, phonological, morphological, semantic, syntactic and prosodic aspects of speech disfluencies (Fromkin, 1971; Shriberg, 1999), studies with a physiological approach have been questioning the effects of age, gender and respiration on speech disfluency production (Ambrose & Yairi, 1999; Bortfeld et al., 2001; Branigan et al., 1999; Johnson, 1961; Lickley, 1994; Menyhárt, 2003; Shriberg, 1994; Tottie, 2011; Watson & Anderson, 2001). The effects of stress, anxiety, and reward/punishment on speech disfluency production have been the main focus of research with a psychological approach (Christenfeld & Creager, 1996; Marshall &

Cullinan, 1971; Martin & Hasbrouck, 1977; Martin & Rangaswamy, 1972; Siegel & Martin, 1965; Siegel et al., 1969). Interdisciplinary studies have been performing analyses regarding different disciplines. Studies in computational linguistics investigate the negative influence of speech disfluencies on human-machine interaction (Heeman & Allen, 1994; Hindle, 1983; Liu et al. 2003; Shriberg et al., 2001; Shriberg & Stolcke, 2002; Snover et al., 2004; Stolcke et al., 1998) and researchers analyze the speech production and speech recognition processes in psycholinguistic studies (Bard, et al., 2001; Butterworth, 1975; Dell, 1986; Ferreira & Bailey, 2004; Fox Tree, 2001, 2002; Goldman-Eisler, 1968; Levelt, 1989; Soderstrom & Morgan, 2007). In the current study, we question the influence of gender on speech disfluency production of Turkish speakers.

Many studies have demonstrated that there is a relation between the gender of the speaker and speech disfluency production; however, whether males or females produce more disfluencies is a controversial issue. Some of these studies suggest that male speakers produce more disfluencies than female speakers (Binnenpoorte et. al., 2005; Johnson, 1961; Lickley, 1994) whereas some other studies (Menyhárt, 2003) suggest just the opposite. Some studies analyzed the influence of gender on disfluency production with a pathological point of view (Johnson, 1961; Engelhardt et al., 2011; Lickley, 1994).

Johnson (1961) conducted a research with 100 male 100 female adult speakers, of whom 50 in each group were stutterers (males aged between 16 and 24 and females aged between 17 and 41) and 50 were 17–24-year-old nonstutterers and gave them two different speaking tasks and a reading task. At the end of the research, the researcher suggested that male stutterers produced more revisions and fewer incomplete phrases than female stutterers in both speaking tasks and nonstuttering males displayed more revisions (instances in which the content of a phrase is modified, or in which there is grammatical modification) and interjections (extraneous sounds such as ‘uh’ ‘er’ and ‘hmmm’ and extraneous words such as well’) on both speaking tasks than female nonstutterers, the difference being significant for the job task. Regarding general disfluency production, nonstuttering males produced more speech disfluencies than females on three different tasks (significantly on the job task again) they were given. The researcher emphasized that

sex differences in speech behaviour should not be considered to be specific to the stuttering group.

There are some other clinical studies in which gender is typically not correlated with disfluency production. Engelhardt et al. (2011) examined disfluency production in a clinical population (13–35-year-old 194 participants) suffering from attention-deficit/hyperactivity disorder (ADHD). In the study, sentence production tasks were employed. On each trial, the participants were presented with one animate object and one inanimate object, along with a printed verb. As a result, the researcher found that gender did not have an effect on any of the three types of disfluencies (filled pauses, repetitions, and repairs) that they examined.

In his research on fluent speakers, Lickley (1994) conducted informal conversations with six British English speakers (three males, three females) aged between 25 and 45 and found that male speakers produced more speech disfluencies than female speakers in his study.

Menyhárt (2003) conducted a series of experiments with the participation of 15 female and 15 male subjects from three age groups (9–12-year-olds, 22–45-year-olds, and 60–90-year-olds). In her study, the participants' spontaneous speech was recorded and sampled. The children had to tell a continuous story on the basis of a series of four pictures, whereas the other participants were interviewed on various topics (work, hobby, and career). The researcher found that women exhibited more instances of disfluency than men did.

Considering the type of the speech disfluency, Acton (2011) demonstrated that women's average um/uh ratios were more than those of men in his two corpus-based investigations. However, many researchers claimed that males produce some types of disfluencies more than females. Shriberg (1994) used the analysis of over 5000 hand-annotated disfluencies from a database (250,000 words) containing three different styles of spontaneous speech: task-oriented human-computer dialog, task-oriented human-human dialog, and human-human conversation on a prescribed topic and found that filled pauses were more common in male speakers' speech. The researcher assumed with a sociolinguistic point of view that this result could be an indication of males' attempts to sustain their turn in speech.

Similar to Shriberg's observation, Bortfeld et al. (2001) suggested that men produced about 1.5 more fillers and repeats combined per

100 words than women did in their study in which they used a corpus contained approximately 192,000 words uttered by 48 pairs of people (16 young, 16 middle-aged, and 16 older pairs) in conversation. Tottie (2011) found that male speakers produced more filled pauses than females in his study based on the British National Corpus (BNC) and also took data from the London-Lund Corpus (LLC) into account. Kools & Berryman (1971) collected speech samples of 150 words from 46 male and 46 female first-grade children. As a result of their study, no sex differences were found with regard to the total number of disfluencies; however, males exhibited a greater number of incomplete phrases than did females.

Other than these studies, some researchers have asserted female speakers speak more fluently in certain conditions (when there is eye contact with the listener) than male speakers, and the gender of the listener does not influence speech disfluency production (Branigan et al. 1999). Andrade & Martins (2011) and Shin & Lee (2017) suggest that gender does not affect disfluency production in general, and Laserna et al. (2014) assert that gender does not affect mainly filled pause type of disfluency production. Related to speech comprehension, Gósy (2001) has suggested that females show more sensitivity toward correct pause perception. In a study analyzing the speech disfluencies of Turkish speaking children, Doğan (2001) recorded the speech of children in a free play environment and found that 2.6–5.6 years old children's speech gender is not effective on the production rates of different types of disfluencies.

In the current study, we analyzed the influence of gender on the fluent Turkish native speakers' production rates of filled pauses, hesitations, prolongations, slips of the tongue, false starts, and repetitions.

«Gender» has been chosen as the factor to be examined since the influence of gender is a controversial issue in the literature and there is a lack of research analyzing the influence of gender on the production of disfluencies in various languages other than English. In addition, most of the research questioning the influence of gender on disfluency production has been conducted to analyze stuttering in order to reach some pathological insights related to disfluency production. Analyses regarding the disfluency production of fluent Turkish native speakers will make valuable contributions to understand disfluency production

phenomenon better. Thus, at the end of the research, we tried to find answers to the following questions:

- a. What types of speech disfluency are produced by Turkish native speakers?
- b. Which of these types are more common in Turkish speech?
- c. Is gender an effective variable on disfluency production in different age groups?
- d. Is it possible to reach some psycholinguistic and sociolinguistic assumptions considering the position of disfluencies in Turkish speech?

Method

In this part of the study, we present the method of our study including the participants and the data collection and analysis processes.

Participants

The participants were 84 fluent native speakers of Turkish living in the cities of Eskisehir and Izmir in Turkey, 42 of them were female, and 42 of them were male. The participants were from four different age groups: 4–8 (14 participants) (mean = 5.9 years, standard deviation = 1.2), 18–23 (14 participants) (mean = 20.2 years, standard deviation = 1.8), 33–50 (28 participants) (mean = 39.4 years, standard deviation = 3.2) and over 50 (28 participants) (mean = 59.5 years, standard deviation = 3.1). All participants, except children, were considered by themselves and by the researcher who conducted the interviews with them to be fluent speakers without any hearing loss, developmental language disorders or neurological problems. They were not informed about the aim of the study. For the children, the researcher talked to the children's parents and teachers before the interviews to check if the children had any of the aforementioned health problems.

Data Collection and Analysis

Speech disfluency data in our study were gathered from face to face interviews conducted by a female researcher in two different speech situations- prepared and impromptu. Each interview containing at least 300 words was audiotaped and transcribed. All transcriptions were prepared by one of the researchers of the current study and reviewed by a transcriber who had an educational background in linguistics. To increase the reliability of the disfluency coding, each disfluency type on

the corpus was labeled by hand on the transcriptions by the researcher who also transcribed the recordings. In the prepared speech situation, participants answered the questions they had seen before the interview. In this way, they could plan their answers beforehand. In impromptu speech situation, they answered all the questions spontaneously. Since it was not practical, the prepared speech samples of 4–8-year-old children were not collected. The children had to answer spontaneous questions on subjects which were expected to provoke them to speak, such as talking about his/her favourite cartoon, pet, toys, and family members. 18–23, 33–50 and over-50-year-old participants answered 24 questions (12 in prepared speech situation, 12 in impromptu speech situation). The questions were the same in general with slight changes in wording, or some adaptations according to the age group (e.g. What do you like the most about your job/school?). There was no specific motivation for the participants to speak; however, the participants were volunteers and the questions were from common areas of interest such as jobs, hobbies, career, directions, and cooking instructions. Therefore, there was no need for prompting the participants to speak. The questions about giving directions and cooking instructions were included intentionally among the questions for face-to-face interviews since answering them required the ordering of information and could lead to more disfluency production. Speech disfluency rates of each participant were calculated as the average number of each type of speech disfluency per 100 words. In order to increase the validity and reliability of the research, we did further analyses related to the location where the disfluencies occur in an utterance and the extent of disfluencies: in what kind of linguistic units they are seen. Regarding the disfluency types, silent gaps were not analyzed in the current study since what counts as a silent gap in speech is not clear in the literature. Silent periods at various lengths are considered as silent gaps in various researches. [Ee], [ɪ], [aa], [ii], [uu] and [mm] sounds were determined as the sounds used by the participants for filling the pauses in Turkish speech and counted as filled pauses in the current study. Hesitations experienced by the participants in producing a whole word at once were marked as hesitation type of disfluencies. The sounds which were produced longer than they should be were counted as prolongations. The disfluencies in which the speaker stops the flow of his/her speech and starts his/her utterance again were

labeled as false starts. All slips including sounds (shifts, exchanges, anticipations, perseverations, additions, deletions, blends, substitutions) (see Carroll 2008), words, and word groups were marked as slips of the tongue. The repeated sounds, words, and word groups in an utterance were considered to be repetitions. Some examples of disfluency types analyzed in the current study are as shown in Table 1.

Table 1. Disfluency types

Disfluency type	Examples from the data
Filled pause	Ben ee mm iyi bir insanım. (I'm uh um a good person)
Hesitation	Abim yirmi bi- yirmi iki yaşında. (My brother is twenty o- twenty-two years old.)
Prolongation	Çocukluk anılarını anlattığı biir kitap. (It was aaa book in which he told his childhood memories)
Slip of the tongue	20 dakika kaynadıktan sonra makineyi makarnayı süzgeçten geçiririz. (After 20 minutes of boiling, we drain the machine macaroni with a colander)
False start	[Orası]--Otobüsle giderken bize çok hoş hikayeler anlatmışlardı. ([That place]—They had told us very nice stories while traveling by bus)
Repetition	Bu bu çok büyük bir olay. (This this is a very big event.)

Findings

In this section, we present the statistical analyses on the speech disfluency production rates and the position of disfluencies in an utterance and the linguistic units involved in disfluency production.

Analyses on the Disfluency Production Rates

The differences among the disfluency production rates of females and males in different age groups in the prepared and impromptu speech situations were analyzed with Mann-Whitney U Test. We used Mann-Whitney U Test since our data were not normally distributed. As mentioned before, for 4–8-year-olds, we collected and analyzed the impromptu speech samples.

Influence of gender upon 'filled pause' type of disfluency production

Table 2 presents the average filled pause rates for females and males from four different age groups (4–8, 18–23, 33–50 and over 50) in the prepared and impromptu speech conditions.

Table 2. Average filled pause rates for females and males in different age groups

FILLED PAUSES					
PREPARED SPEECH					
AGE	FEMALE		MALE		p
	Mean ± SD	Median (Min_Max)	Mean ± SD	Median (Min_Max)	
4–8 Year Old n=14	–	–	–	–	–
18–23 Year Old n=14	3.93 ± 4.29	2.37 (1.21–12.50)	6.33 ± 4.55	5.07 (1.72–13.51)	0.23
33–50 Year Old n=28	4.67 ± 4.20	3.95 (0–13.38)	6.97 ± 4.75	5.92 (0.18–14.95)	0.17
Over 50 Year Old n=28	4.64 ± 4.21	4.31 (0–13.74)	4.43 ± 3.34	3.86 (0.28–12.74)	0.91
IMPROMPTU SPEECH					
AGE	FEMALE		MALE		p
	Mean ± SD	Median (Min_Max)	Mean ± SD	Median (Min_Max)	
4–8 Year Old n=14	3.80 ± 4.34	1.93 (0–11.65)	4.67 ± 3.30	6.14 (0.46–9.09)	0.53
18–23 Year Old n=14	3.90 ± 2.73	2.73 (2.33–9.40)	6.10 ± 6.38	3.20 (0.93–18.40)	1.00
33–50 Year Old n=28	4.72 ± 4.11	3.88 (0–14.12)	6.57 ± 4.96	6.33 (0.17–17.71)	0.28
Over 50 Year Old n=28	4.15 ± 4.17	2.96 (0–12.37)	4.25 ± 3.09	3.48 (0.32–9.92)	0.57

Mean; Arithmetic mean, SD; Standard deviation

*p<0.05 **p<0.01 ***p<0.001

As displayed in Table 2, the differences in the production rates of female and male speakers were not statistically significant for filled pause type of disfluencies.

Influence of gender upon ‘hesitation’ type of disfluency production

Table 3 presents the average hesitation rates for females and males from four different age groups (4–8, 18–23, 33–50 and over 50) in the prepared and impromptu speech conditions.

Table 3. Average hesitation rates for females and males in different age groups

HESITATIONS					
AGE	PREPARED SPEECH				p
	FEMALE		MALE		
	Mean ± SD	Median (Min_Max)	Mean ± SD	Median (Min_Max)	
4–8 Year Old n=14	–	–	–	–	–
18–23 Year Old n=14	2.03 ± 0.99	1.76 (1.19–3.69)	4.49 ± 3.51	3.49 (1.23–10.58)	0.18
33–50 Year Old n=28	2.61 ± 1.80	2.75 (0.60–7.13)	3.51 ± 2.64	3.31 (0–11.31)	0.24
Over 50 Year Old n=28	3.79 ± 1.95	3.64 (1.07–7.90)	5.19 ± 3.25	3.98 (1.46–12.25)	0.24
AGE	IMPROMPTU SPEECH				p
	FEMALE		MALE		
	Mean ± SD	Median (Min_Max)	Mean ± SD	Median (Min_Max)	
4–8 Year Old n=14	6.30 ± 3.07	6.95 (2.33–10.09)	5.86 ± 3.35	5.56 (2.30–12.61)	0.71
18–23 Year Old n=14	1.59 ±0.39	1.75 (0.96–1.99)	4.98 ± 3.13	4.38 (1.49–9.56)	0.01*
33–50 Year Old n=28	2.23 ± 1.70	1.87 (0.19–6.88)	3.31 ± 2.25	2.71 (0.73–9.20)	0.13
Over 50 Year Old n=28	3.58 ± 2.24	2.85 (1.22–8.60)	4.55 ± 1.99	4.10 (1.40–8.91)	0.16

Mean; Arithmetic mean, SD; Standard deviation

*p<0.05 **p<0.01 ***p<0.001

The figures gathered from the statistical analysis of the hesitation type of speech disfluency data indicated that gender differences were not significant for the production rates of 4–8, 33–50 and over 50-year-old participants. It was also the case for 18–23-year-old participants’

prepared speech. Gender did not influence the hesitation production rates of 18–23-year-old participants in the prepared speech situation, either. However, in the impromptu speech situation, the hesitation median is 1.75 (0.96–1.99) for 18–23-year-old females and it is 4.38 (1.49–9.56) for 18–23-year-old males. The difference is statistically significant ($p=0.01<0.05$). 18–23-year-old males produced more hesitations than 18–23-year-old females in the impromptu speech situation.

Influence of gender upon ‘prolongation’ type of disfluency production

Table 4 presents the average prolongation rates for females and males from four different age groups (4–8, 18–23, 33–50 and over 50) in the prepared and impromptu speech conditions.

Table 4. Average prolongation rates for females and males in different age groups

PROLONGATIONS					
AGE	PREPARED SPEECH				P
	FEMALE		MALE		
	Mean ± SD	Median (Min_Max)	Mean ± SD	Median (Min_Max)	
4–8 Year Old n=14	–	–	–	–	–
18–23 Year Old n=14	4.60 ± 2.63	4.48 (1.91–9.09)	8.58 ± 2.26	8.14 (6.04–12.10)	0.02*
33–50 Year Old n=28	2.15 ± 1.53	1.75 (0.50–5.96)	7.58 ± 2.69	6.79 (3.88–13.57)	0.000***
Over 50 Year Old n=28	16.26 ± 3.41	16.97 (9.60–21.89)	16.28 ± 7.02	14.46 (7.86–32.56)	0.66
AGE	IMPROMPTU SPEECH				P
	FEMALE		MALE		
	Mean ± SD	Median (Min_Max)	Mean ± SD	Median (Min_Max)	
4–8 Year Old n=14	16.65 ± 8.85	14.91 (9.55–35.19)	21.67 ± 5.62	20.74 (14.94–32.88)	0.07
18–23 Year Old n=14	3.66 ± 2.06	3.16 (1.66–7.47)	6.94 ± 2.50	6.03 (4.40–11.61)	0.01*
33–50 Year Old n=28	1.79 ± 1.23	1.81 (0–3.78)	6.18 ± 2.29	6.03 (2.78–11.49)	0.000***

Over 50 Year Old n=28	14.61 ± 3.91	14 (0.42–21.86)	15.49 ± 5.01	14.49 (10.23– 22.92)	0.66
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Mean; Arithmetic mean, SD; Standard deviation

*p<0.05 **p<0.01 ***p<0.001

Although we found markedly significant differences in the prolongation production rates of females and males in 18–23 and 33–50-year-old age groups, we observed that gender was not an influential variable on the prolongation production rates of 4–8 and over-50-year-old participants (see Table 4).

18–23 and 33–50-year-old males produced more prolongations than females both in the prepared and impromptu speech situations.

Influence of gender upon ‘false start’ type of disfluency production

Table 5 presents the average false start rates for females and males from four different age groups (4–8, 18–23, 33–50 and over 50) in the prepared and impromptu speech conditions.

Table 5. Average false start rates for females and males in different age groups

FALSE STARTS					
AGE	PREPARED SPEECH				p
	FEMALE		MALE		
	Mean ± SD	Median (Min_Max)	Mean ± SD	Median (Min_Max)	
4–8 Year Old n=14	–	–	–	–	–
18–23 Year Old n=14	1.00 ± 1.67	0.89 (0.24–1.93)	1.70 ± 0.99	1.72 (0.58–3.46)	0.23
33–50 Year Old n=28	0.67 ± 0.56	0.50 (0–1.68)	1.59 ± 1.45	1.01 (0.51–5.04)	0.02*
Over 50 Year Old n=28	0.91 ± 0.41	0.94 (0.20–1.49)	1.11 ± 0.61	0.87 (0.44–2.45)	0.70
İMPROMPTU SPEECH					
AGE	FEMALE		MALE		p
	Mean ± SD	Median (Min_Max)	Mean ± SD	Median (Min_Max)	
4–8 Year Old n=14	1.26 ± 0.44	1.29 (0.42–1.89)	1.49 ± 0.59	1.19 (0.92–2.54)	1.00

18–23 Year Old n=14	0.54 ± 0.44	0.31 (0.21–1.20)	1.69 ± 0.65	1.66 (1.0–2.73)	0.005**
33–50 Year Old n=28	0.42 ± 0.32	0.41 (0–1.08)	1.31 ± 0.86	1.09 (0.17–3.37)	0.000***
Over 50 Year Old n=28	0.89 ± 0.57	0.75 (0–1.96)	0.98 ± 0.65	0.93 (0–2.34)	0.73

Mean; Arithmetic mean, SD; Standard deviation

*p<0.05 **p<0.01 ***p<0.001

Related to false starts, we found that the gender of the speaker did not have an influence on the production rates of 4–8 and over-50-year-old participants. The differences between the production rates of 18–23-year-old females and males were not statistically significant in the prepared speech situation, either. However, we observed more false starts in 18–23-year-old males' prepared speech and 33–50-year-old males' prepared and impromptu speech than females in the same age groups (see Table 5).

Influence of gender upon 'slip of the tongue' type of disfluency production

Table 6 presents the average slip of the tongue rates for females and males from four different age groups (4–8, 18–23, 33–50 and over 50) in the prepared and impromptu speech conditions.

Table 6. Average slip of the tongue rates for females and males in different age groups

SLIPS OF THE TONGUE					
AGE	PREPARED SPEECH				p
	FEMALE		MALE		
	Mean ± SD	Median (Min_Max)	Mean ± SD	Median (Min_Max)	
4–8 Year Old n=14	–	–	–	–	–
18–23 Year Old n=14	0.30 ± 0.20	0.25 (0–0.57)	0.47 ± 0.20	0.42 (0.27–0.80)	0.10
33–50 Year Old n=28	0.30 ± 0.26	0.28 (0–0.83)	0.55 ± 0.34	0.47 (0–1.11)	0.04*
Over 50 Year Old n=28	0.29 ± 0.22	0.30 (0–0.61)	0.54 ± 0.41	0.45 (0–1.24)	0.15

AGE	İMPROMPTU SPEECH					p
	FEMALE		MALE			
	Mean ± SD	Median (Min_Max)	Mean ± SD	Median (Min_Max)		
4–8 Year Old n=14	0.62 ± 0.31	0.59 (0.27–1.27)	0.87 ± 0.66	0.62 (0.20–2.20)	0.71	
18–23 Year Old n=14	0.12 ± 0.10	0.07 (0.04–0.29)	0.37 ± 0.16	0.40 (0.12–0.55)	0.008**	
33–50 Year Old n=28	0.21 ± 0.16	0.25 (0–0.49)	0.41 ± 0.25	0.38 (0–0.73)	0.07	
Over 50 Year Old n=28	0.35 ± 0.31	0.30 (0–0.98)	0.48 ± 0.25	0.37 (0.25–1.03)	0.17	

Mean; Arithmetic mean, SD; Standard deviation

*p<0.05 **p<0.01 ***p<0.001

As shown in Table 6; with respect to the slip of the tongue type of disfluency production, the statistically significant findings were seen in the prepared speech of 33–50-year-olds and impromptu speech of 18–23-year-olds. 33–50-year-old males produced more slips of the tongue than females in the prepared speech situation ($p=0.04<0.05$) while 18–23-year-old males produced more slips of the tongue than females in the impromptu speech situation ($p=0.008<0.01$).

Influence of gender upon ‘repetition’ type of disfluency production

Table 7 presents the average repetition rates for females and males from four different age groups (4–8, 18–23, 33–50 and over 50) in the prepared and impromptu speech conditions.

Table 7. Average repetition rates for females and males in different age groups

REPETITIONS					
AGE	PREPARED SPEECH				p
	FEMALE		MALE		
	Mean ± SD	Median (Min_Max)	Mean ± SD	Median (Min_Max)	
4–8 Year Old n=14	–	–	–	–	–

18–23 Year Old n=14	0 ±0	0 (0–0)	0.39 ± 0.21	0.35 (0–0.80)	0.10
33–50 Year Old n=28	1.19 ±0.18	0.20 (0–0.60)	0.30 ± 0.60	0.05 (0–2.22)	0.48
Over 50 Year Old n=28	0.22 ±0.28	0.20 (0–1.01)	0.33 ± 0.39	0.20 (0–1.26)	0.63
IMPROMPTU SPEECH					
AGE	FEMALE		MALE		P
	Mean ± SD	Median (Min_Max)	Mean ± SD	Median (Min_Max)	
4–8 Year Old n=14	0.89 ±0.57	0.62 (0.41–1.93)	0.75 ± 0.55	0.88 (0.15–1.52)	0.53
18–23 Year Old n=14	0.03 ±0.08	0 (0–0.20)	0.17 ± 0.20	0.11 (0–0.49)	0.18
33–50 Year Old n=28	0.03 ±0.05	0 (0–0.12)	0.30 ± 0.50	0.07 (0–1.84)	0.21
Over 50 Year Old n=28	0.18 ±0.35	0.02 (0–1.23)	0.23 ± 0.28	0.16 (0–1.05)	0.21

Mean; Arithmetic mean, SD; Standard deviation

*p<0.05 **p<0.01 ***p<0.001

As shown in Table 7; the differences in the production rates of female and male speakers were not statistically significant for repetition type of disfluencies.

Further Analyses on the Position of Disfluencies and the Linguistic Units Involved in Disfluency Production

The analyses in this section include the data related to the position of disfluencies in an utterance and the linguistic units involved in disfluency production. With this aim, the frequency and the percentage of speech disfluencies regarding the related information both in the prepared and impromptu speech situations were calculated. The position of disfluencies (the location where they occur in an utterance) was analyzed at the sentence level (sentence-initial/medial/final) for filled pause, hesitation, and false start type of disfluencies; however, it was analyzed at word level (initial/medial/final syllable) for prolongation type of disfluencies since prolongations were the prolonged sounds in an utterance. For one-syllable words, we analyzed whether the vowels or consonants in that syllable were prolonged. Related to the slips of the tongue and repetitions, the linguistic units involved in disfluency production (whether the disfluency involved sounds, words or word

groups) were analyzed since this information gives more insights regarding these disfluency types' peculiar characteristics. Table 8 presents the findings for the prepared speech situation.

Table 8. The position of the disfluencies and the linguistic units involved in prepared speech

PREPARED SPEECH									
TYPE FILLED PAUSES	18–23			AGE f(%) 33–50			Over 50		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
Sentence-Medial	139(74.3)	48(30.0)	187(52.2)	396(60.2)	445(63.3)	841(61.8)	357(60.6)	298(54.7)	655(57.8)
Sentence-Final	-	-	-	-	1(0.1)	1(0.1)	-	3(0.5)	3(0.2)
TOTAL	198	160	358	658	703	1361	589	545	1134
HESITATIONS									
Sentence-Initial	8(5.2)	31(40.8)	39(17.1)	40(14.5)	58(15.2)	98(14.9)	78(14.9)	115(30.5)	193(21.5)
Sentence-Medial	143(94.1)	45(59.2)	188(82.5)	229(83.0)	321(84.0)	550(83.6)	432(82.8)	257(68.2)	689(76.6)
Sentence-Final	1(0.7)	-	1(0.4)	7(2.5)	3(0.8)	10(1.5)	12(2.3)	5(1.3)	17(1.9)
TOTAL	152	76	228	276	382	658	522	377	899
FALSE STARTS									
Sentence-Initial	13(24.5)	32(74.4)	45(46.9)	41(33.3)	51(53.7)	92(42.2)	51(40.2)	68(61.3)	119(50.0)
Sentence-Medial	39(73.6)	11(25.6)	50(52.1)	77(62.6)	44(46.3)	121(55.5)	71(55.9)	39(35.1)	110(46.2)
Sentence-Final	1(1.9)	-	1(1.0)	5(4.1)	-	6(2.3)	5(3.9)	4(3.6)	9(3.8)
TOTAL	53	43	96	123	95	218	127	111	238
SOT									
Sound	5(71.4)	19(90.5)	24(85.7)	31(96.9)	48(96.0)	79(96.3)	24(82.8)	60(93.7)	84(90.3)
Word	2(28.6)	2(9.5)	4(14.3)	1(3.1)	2(4.0)	3(3.7)	5(17.2)	3(4.7)	8(8.6)
Word Group	-	-	-	-	-	-	-	1(1.6)	1(1.1)
TOTAL	7	21	28	32	50	82	29	64	93
REPETITIONS									
Sound	-	-	-	3(11.1)	-	3(6.7)	3(6.4)	5(18.5)	8(10.8)
Word	5(71.4)	1(100.0)	6(75.0)	19(70.4)	16(88.9)	35(77.8)	33(70.2)	15(55.6)	48(64.9)
Word Group	2(28.6)	-	2(25.0)	5(18.5)	2(11.1)	7(15.5)	11(23.4)	7(25.9)	18(24.3)
TOTAL	7	1	8	27	18	45	47	27	74
PROLONGATIONS									
Initial Syllable	5(3.5)	27(7.3)	32(6.2)	20(8.3)	29(4.2)	49(5.2)	39(2.7)	68(3.8)	107(3.3)
Medial Syllable	2(1.4)	6(1.6)	8(1.6)	5(2.1)	5(0.7)	10(1.1)	35(2.5)	32(1.9)	67(2.1)
Final Syllable	115(81.6)	261(70.4)	376(73.4)	146(60.6)	503(72.4)	649(69.3)	1102(77.1)	1304(73.6)	2406(75.2)
ONE-SYLLABLE WORDS									
Vowel	14(10.0)	59(15.9)	73(14.3)	56(23.2)	120(17.3)	176(18.8)	192(13.4)	301(17.0)	493(15.4)
Consonant	5(3.5)	18(4.8)	23(4.5)	14(5.8)	38(5.4)	52(5.6)	62(4.3)	66(3.7)	128(4.0)
TOTAL	141	371	512	241	695	936	1430	1771	3201

As shown in Table 8, in the prepared speech situation, filled pauses were more common in sentence-medial position for female and male participants in all age groups (18–23, 33–50 and over 50-year-olds) except for 18–23-year-old males. 18–23-year-old male speakers produced more sentence-initial filled pauses than sentence-medial filled pauses. And the percentages of sentence-initial and sentence-medial filled pauses were very close in over 50-year-old male speakers' speech. Hesitation type disfluencies were more common in sentence-medial position than the sentence-initial position for all female and male participants. As for false starts, although sentence-medial false starts were more common than sentence-initial false starts in female participants' prepared speech for all age groups (18–23, 33–50 and over 50), it was not the case for male participants. Male speakers used false start type of disfluencies more sentence initially. Related to slips of the tongue, a great number of slips of the tongue were between sounds for both female and male participants in our study. Regarding repetitions, repetitions at word level were significantly more common than repetitions at the sound and word group level for all females and males. Regarding prolongations, the final syllable was the most prolonged syllable in multi-syllable words by all participants. For one-syllable words, the prolongation of vowels was more common than the prolongation of consonants for all female and male speakers in different age groups.

For the impromptu speech situation, we observed some differences from the prepared speech situation for some disfluency types. Table 9 presents the findings for the impromptu speech situation.

As shown in Table 9, in the impromptu speech situation, filled pauses were more common in sentence-medial position for 18–23, 33–50 and over 50-year-old participants except for 18–23-year-old males, as in the prepared speech situation. Although the difference between the percentages of sentence-initial and sentence-medial filled pauses was not very significant, 18–23-year-old male speakers produced more sentence-initial filled pauses than sentence-medial filled pauses. In addition to this, the percentage of sentence-initial filled pauses was more than that of sentence-medial filled pauses in 4–8-year-old female and male participants' impromptu speech. Hesitations were more common in sentence-medial position than sentence-initial position for females and males in all age groups (4–8, 18–23, 33–50 and over-50-year-olds), but the percentage of sentence-initial hesitations for 4–8-year-old females

Table 9. The position of the disfluencies and the linguistic units involved in impromptu speech

IMPROMPTU SPEECH														
TYPE	4-8			18-23			AGE f(%)			33-50			Over 50	
	Female	Male	Total	Female	Male	Total	Total	Female	Male	Total	Female	Male	Total	
FILLED PAUSES														
Sentence-Initial	124(78.5)	137(85.6)	261(82.1)	77(27.9)	59(55.1)	136(35.5)	1(0.1)	1(0.1)	1(0.2)	2(0.1)	201(37.2)	218(34.4)	419(35.7)	
Sentence-Medial	33(20.9)	23(14.4)	56(17.6)	199(72.1)	48(44.9)	247(64.5)	311(42.3)	240(39.5)	240(39.5)	551(41.0)	337(62.4)	416(65.6)	763(64.1)	
Sentence-Final	1(0.6)	-	1(0.3)	-	-	-	424(57.6)	367(60.3)	367(60.3)	791(58.9)	2(0.4)	-	2(0.2)	
Total	156	160	318	276	107	383	736	608	608	1344	540	634	1174	
HESITATIONS														
Sentence-Initial	87(37.3)	89(44.1)	176(40.5)	5(8.9)	28(13.3)	33(12.3)	63(21.3)	63(16.5)	63(16.5)	126(18.7)	63(18.6)	91(17.2)	154(17.7)	
Sentence-Medial	140(60.1)	108(53.5)	248(57.0)	51(91.1)	182(86.2)	233(87.3)	225(76.3)	314(82.4)	314(82.4)	539(79.7)	269(79.3)	433(81.5)	702(80.7)	
Sentence-Final	6(2.6)	5(2.5)	11(2.5)	-	1(0.5)	1(0.4)	7(2.4)	4(1.1)	4(1.1)	11(1.6)	7(2.1)	7(1.3)	14(1.6)	
Total	233	202	435	56	211	267	295	381	381	676	339	531	870	
FALSE STARTS														
Sentence-Initial	31(58.5)	35(61.4)	66(60.0)	12(70.6)	29(40.3)	41(46.1)	36(34.9)	54(64.3)	54(64.3)	90(48.1)	45(44.5)	66(42.9)	111(43.5)	
Sentence-Medial	22(41.5)	18(31.6)	40(36.4)	5(29.4)	41(56.9)	46(51.7)	66(64.1)	20(35.7)	20(35.7)	96(51.4)	54(53.5)	80(51.9)	134(52.6)	
Sentence-Final	-	4(7.0)	4(3.6)	-	2(2.8)	2(2.2)	1(1.0)	-	-	1(0.5)	2(2.0)	8(3.9)	10(3.9)	
Total	53	57	110	17	72	89	103	84	84	187	101	154	255	
SOT														
Sound	23(95.8)	34(100.0)	57(98.3)	2(66.7)	15(83.3)	17(81.0)	22(95.7)	38(95.5)	38(95.5)	60(95.2)	25(92.6)	52(96.3)	77(95.1)	
Word	1(4.2)	-	1(1.7)	1(33.3)	3(16.7)	4(19.0)	1(4.3)	2(5.0)	2(5.0)	3(4.8)	2(7.4)	2(3.7)	4(4.9)	
Word Group	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total	24	34	56	3	18	21	23	40	40	63	27	54	81	

REPETITIONS												
Sound	3(8.3)	1(3.4)	4(6.2)	-	-	1(4.3)	-	1(3.0)	6(24.0)	3(7.3)	9(13.6)	
Word	30(83.4)	26(89.7)	56(86.1)	1(100.0)	7(77.8)	8(80.0)	18(78.3)	10(100.0)	28(84.9)	15(60.0)	47(71.2)	
Word Group	3(8.3)	2(6.9)	5(7.7)	-	2(22.2)	2(20.0)	4(17.4)	-	4(12.1)	4(16.0)	10(15.2)	
Total	36	29	65	1	9	10	23	10	33	25	41	66
PROLONGATIONS												
Initial Syllable	100(15.3)	179(20.9)	279(18.5)	8(6.7)	14(4.3)	22(4.9)	15(6.6)	30(5.0)	45(5.5)	61(4.6)	70(4.1)	131(4.3)
Medial Syllable	32(4.9)	47(5.5)	79(5.2)	-	3(0.9)	3(0.7)	11(4.9)	5(0.8)	16(1.9)	24(1.8)	14(0.8)	38(1.2)
Final Syllable	380(58.3)	473(55.1)	853(56.5)	88(73.3)	244(74.1)	332(73.9)	137(88.5)	433(72.4)	570(69.2)	947(70.8)	1293(75.4)	2240(73.4)
ONE-SYLLABLE WORDS												
Vowel	108(16.6)	135(15.7)	243(16.1)	18(15.0)	54(16.4)	42(16.0)	47(60.6)	102(17.1)	149(18.1)	241(18.0)	274(16.0)	515(16.9)
Consonant	32(4.9)	24(2.8)	56(3.7)	6(5.0)	14(4.3)	20(4.5)	16(20.8)	28(4.7)	44(5.3)	64(4.8)	64(3.7)	128(4.2)
Total	652	858	1510	120	329	419	226	598	824	1337	1715	3052

and males was significantly more than the percentages of sentence-initial hesitations for the female and male participants in other three age groups (18–23, 33–50 and over 50-year-olds). Concerning false starts, the results are a little bit more complicated. Sentence-initial false starts were more common than sentence-medial false starts in 4–8-year-old participants' impromptu speech regardless of gender, but the situation was just the opposite for over 50-year-old participants. The percentage of sentence-medial false starts was higher than sentence-initial false starts for them. For 18–23-year-old participants, while females were producing more sentence-initial false starts, male participants in the same age group produced more sentence-medial false starts. For 33–50-year-olds, the reverse was true. In this age group, female participants produced more sentence-medial false starts; however, male participants produced more sentence-initial false starts. Regarding slips of the tongue, a great majority of slips of the tongue were between sounds in all age groups, but the percentage of slips of the tongue occurred at the lexical level for 18–23-year-olds was significantly more than those for the other three age groups (4–8, 33–50 and over 50-year-olds). So, slips of the tongue mostly occurred at the phonological level in the impromptu speech situation as in the prepared speech. Regarding repetitions, repetitions at word level were significantly more common than repetitions at sound and word group level for female and male participants in all four age groups; however, repeated sounds were significantly more common in all over 50-year-old participants' impromptu speech than the repeated sounds in the impromptu speech situation of 4–8, 18–23 and 33–50-year-olds. As for prolongations, the final syllable was the most prolonged syllable in multi-syllable words by all female and male participants; however, 4–8-year-old children prolonged the initial syllable of multi-syllable words significantly more than the other participants in our study. For one-syllable words, the prolongation of vowels was more common than the prolongation of consonants as in prepared speech.

Discussion and Conclusions

Our research conducted to find out whether gender had an impact on speech disfluency production revealed the following conclusions based on our four research questions:

As to **the first research question**, we found both female and male native speakers of Turkish from four different age groups (4–8,

18–23, 33–50 and over 50) produced filled gap, hesitation, prolongation, false start, slip of the tongue and repetition type of disfluencies in their speech.

Second, we found among these disfluencies, prolongations, filled gaps and hesitations were more common, both in prepared and impromptu speech situations in Turkish speech.

Third, regarding the effect of gender variable on disfluency production in different age groups, in **the prepared speech situation** (in which 4–8-year-old participants were not included),

- There were no significant differences between females and males regarding **filled pause**, **hesitation**, and **repetition** type of disfluency production rates.

- 18–23 and 33–50-year-old males produced more **prolongations** than females in their age groups.

- **False starts** and **slips of the tongue** occurred more frequently among male speakers than female speakers in 33–50-year-old age group.

- In impromptu speech **situation**,

- In relation to the **filled pause** and **repetition** types of disfluency production, no statistically significant variation was found regarding the gender of the speaker.

- 18–23-year-old male speakers produced more **hesitations** and **slips of the tongue** than females in the same age group.

- 18–23 and 33–50-year-old male speakers produced more **prolongations** and false starts than females in their age groups.

Finally, considering the position of disfluencies in Turkish speech, we reached some psycholinguistic and sociolinguistic conclusions.

As mentioned above, Turkish speakers produced all types of disfluencies (filled pauses, hesitations, prolongations, false starts, slips of the tongue, and repetitions) and among these disfluencies, prolongations were the most common with some exceptions both in female and male speech. Most studies showed that silent pauses and filled pauses are the most common disfluency types in different languages (Eklund, 2004; Shriberg, 1994). Our findings revealed that there are some language-specific factors in producing some types of disfluencies more than the others. The underlying phonological and morphological factors, specific to Turkish language, for higher prolongation rates are beyond the scope of the current study. It could be an interesting research area for future studies.

Overall, we found that there were no statistically significant differences between genders regarding disfluency production rates in 4–8 and over-50-year-old participants' prepared and impromptu speech. For 18–23 and 33–50 age groups, although there were some differences in our findings related to the speech situation variable, there was a prevalence of speech disfluency production (for hesitations, prolongations, false starts, and slips of the tongue only) among male speakers in general as predicted when the related research literature arguing that male speakers produced more speech disfluencies than females was considered.

In the present study, 18–23 and 33–50-year-old females spoke more fluently than males. As particularly emphasized by Shriberg (1994) and Branigan et al. (1999), this finding could be the consequence of some sociolinguistic and psycholinguistic factors. There is a relationship between disfluency production and some sociolinguistic factors, such as the social status of the speaker, social roles, and the social structure of society. In line with this assumption, the speech disfluency production rates of 4–8 and over-50-year-old participants' have not been affected by gender since 4–8-year-olds do not probably attribute so much meaning to sociological variables and over-50-year-olds may feel less anxious while speaking as a result of their speech practice comes by their age and their more clearly determined social status.

In the current study, a female researcher conducted all the interviews, so it is important to note that the contributions of our study need to be supported by research analyzing the gender of the listener to put a clearer picture of the effects of sociolinguistic variables on disfluency production.

With respect to the position of disfluencies in an utterance, we analyzed filled pause, hesitation, and false start type of disfluencies at the sentence level and aimed to reveal whether they occur sentence-initially, sentence-medially, or sentence-finally. Our analyses showed that filled pauses generally occurred in the sentence-medial position both in the prepared and impromptu speech situations for most of the participants in our study except for 4–8-year-olds and 18–23-year-old males. 4–8-year-olds and 18–23-year-old males produced filled pauses mostly in sentence-initial position. Related to these findings, some studies in the literature emphasized that filled pauses could have a floor-holding function if they occurred at turn beginnings (Macley & Osgood 1959;

d'Urso & Zammuner 1990). Conversely, Binnenpoorte et. al (2005) found that both in male and female speech, fillers and repetitions were preferably positioned at the end rather than in the first three words of an utterance, and suggested that if utterance-final disfluencies were indeed used to signal that a speaker intends to keep or cede the turn, they were probably less of an indication that the planning of the ongoing utterance was not yet complete. In this case, fillers and disfluencies could be regarded as mechanisms used for turn management. In an aforementioned study, Shriberg (1994) points out that the higher rate of filled pauses for men in her study is interesting in light of the view that filled pauses may serve to «hold the floor». Although our participants were responding to interview questions, and it was not a competitive conversational environment, it is assumed that 18–23-year-old males used filled pauses strategically to hold the floor since the interviewer was a female. However, 4–8-year-old participants are probably unaware of such kind of strategic usage, and they used filled pauses sentence-initially as a result of their undeveloped speech production mechanisms, the problems they experience related to the planning phase of speech production, and their lack of speech experience.

Hesitations mostly occurred in the sentence-medial position both in the prepared and impromptu speech for all females and males in our study; however, there was only a slight difference between the percentages of sentence-initial and sentence-medial hesitations for 4–8-year-olds. This could also be interpreted as a difference between the speech disfluency production processes of children and young adults/adults. As we mentioned above, we assume that their lack of speech experience may have an effect on the position of some type of disfluencies in their speech.

As for the position of false starts in an utterance, the findings related to the prepared speech situation revealed the difference between female and male participants more clearly. In the prepared speech situation, all female participants produced more sentence-medial false starts than sentence-initial ones while male participants' percentage of sentence-initial false starts was more than that of sentence-medial false starts in all age groups. It was also the case for 33–50-year-old female and male participants in the impromptu speech situation; however, as mentioned before, the results were a little bit more complicated for the impromptu speech of 4–8, 18–23 and over

50-year-old participants. All 4–8-year-old participants produced more sentence-initial false starts than sentence-medial false starts in the impromptu speech situation regardless of gender, but over 50-year-old participants did just the opposite. The percentage of sentence-medial false starts was higher than sentence-initial false starts for them. And for 18–23-year-old participants, females produced more sentence-initial false starts while male participants in the same age group were producing more sentence-medial false starts. These findings pointed out that in the prepared speech situation, especially male participants experienced some problems concerning their speech plan about how they should start their speech, or they did not plan their speech in advance as they were instructed to do so. In accordance with these assumptions, Shriberg (1994: 104) mentioned that disfluencies in initial position might reflect cognitive processing, for example, planning of the sentence. For the impromptu speech situation, we observed some irregularities in 4–8 and over-50-year-old participants' speech regarding the placement of disfluencies as in the disfluency production rates. It is possible to mention that 4–8-year-old children's producing more sentence-initial false starts could be depending on the same reason with the male participants' producing more false starts sentence-initially in the prepared speech. Children are probably experiencing some problems related to the planning of speech due to their continuing language development processes and their lack of speech practice which lead them to produce more false starts at the beginning of their utterances. Contrary to this, elderly people might be producing more sentence-medial false starts as a result of their decreasing cognitive functions with aging although they were handling the planning phase of their speech more easily than the other participants as a result of their speech experience. We also observed that speech situation could have a direct influence on the position of false starts in an utterance since 18–23-year-old female and male participants' sentence-initial and sentence-medial false start percentages in the prepared and impromptu speech situations were totally different. In impromptu speech, 18–23-year-old females produced more sentence-initial false starts, and male participants in the same age group produced more sentence-medial false starts; however, the reverse was true for the prepared speech.

As mentioned before, we analyzed the position of prolongations at the word level (initial/medial/final syllable) since prolongations were the

prolonged sounds in an utterance. For one-syllable words, we analyzed whether the vowels or consonants in that syllable were prolonged. Our analyses revealed that all female and male participants in all age groups had an inclination to prolong the final syllable of a multi-syllable word, and for one syllable words the prolongation of vowels was more common than the prolongation of consonants both in prepared and impromptu speech of all participants. There are many studies in the literature showing that most prolongations occur in final word position (Den 2003; Eklund & Shriberg 1998; Lee et al. 2004). Eklund (2004: 251) mentions that all segment types might be prolonged, although there is a tendency towards prolonging continuants. In our study on Turkish language, the prolongation of vowels was more common than the prolongation of consonants. We assume that the inclination for the prolongation of certain segments could be language specific independently of the gender of the speaker.

Regarding the linguistic units involved in disfluency production, our analysis pointed out that the slips of the tongue occurred mostly between sounds at phonological level and all participants mostly repeated words instead of sounds and word groups. Erişen (2010) mentions that 54.27% of the slips of the tongue in his study are phonological, and Turkish having more phonological errors might be related to a higher demand on working memory because of the head-final SOV (Subject-Object-Verb) sentence structure. Our findings supported this assumption. In conclusion, gender did not affect the linguistic units involved in slip of the tongue and repetition types of disfluency production.

In sum, the current study provides unique information as we have studied an understudied language in a large spoken corpus. One of the main contributions of this study is to provide a comprehensive understanding of how different types of speech disfluency are used by female and male native speakers of Turkish from four different age groups in impromptu and unprepared speech situations. This will help us to understand the mechanisms underlying speech disfluencies and implement them in language models to get a deeper understanding of controlled and automatic phases of speech production. Furthermore, our quantitative analyses and analyses regarding the position of speech disfluencies unraveled that there were some psycholinguistic/sociolinguistic and language specific factors influencing the production rates and position of disfluencies in female and male speech. These

factors should be analyzed in more detail in future studies to verify our assumptions.

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АНОТАЦІЯ

Метою даного дослідження є аналіз гендерного впливу на виявлення рівня вільного володіння мовленням турецьких носіїв мови. Всього у дослідженні взяли участь 84 учасники з чотирьох різних вікових груп (4–8, 18–27, 33–50 та старше 50 років). Гендерний розподіл був рівним у кожній групі. В рамках проведення індивідуального інтерв'ю були проаналізовані підготовлені та імпровізовані зразки мовлення щонайменше 300 слів від кожного учасника. Як результат, у підготовленій мовленнєвій ситуації 18–23-річні чоловіки здійснювали більше пролонгацій, ніж жінки, а 33–50-річні чоловіки також здійснювали більше пролонгацій, помилкових починань мовлення і помилкового вживання мови (SOT), ніж жінки в однаковій віковій групі. В імпровізованій мовній ситуації 18–23-річні чоловіки здійснювали більше вагань, подовжень, помилкових початків і помилкових використань мови, ніж жінки, а 33–50-річні чоловіки

здійснювали більше подовжень та помилкових початків, ніж жінки у тій самій віковій групі. Подальші аналізи вказують на різні висновки, пов'язані з позицією затримки у висловлюванні та мовними одиницями, які використовувалися при його породженні.

Ключові слова: психолінгвістика, породження мовлення, стать, турецьке мовлення, розлади мовлення.

Куруоглу Гюльмира, Алтипармак Айше. Гендер и нарушения при порождении речи: психолингвистический анализ речи носителей турецкого языка

АННОТАЦИЯ

Целью данного исследования является анализ гендерного воздействия на выявление уровня свободного владения речью турецких носителей языка. Всего в исследовании приняли участие 84 участника из четырех различных возрастных групп (4–8, 18–27, 33–50 и старше 50 лет). Гендерный распределение было равным в каждой группе. В рамках проведенных индивидуальных интервью были проанализированы подготовленные и импровизированные образцы речи не менее 300 слов от каждого участника. Были получены результаты, в соответствии с которыми в подготовленной речевой ситуации 18–23-летние мужчины осуществляли больше пролонгаций, чем женщины, а 33–50-летние мужчины также осуществляли больше пролонгаций, ложных начал и ошибочного употребления языка (SOT), чем женщины в одинаковой возрастной группе. В импровизированной языковой ситуации 18–23-летние мужчины совершали больше колебаний, удлинений, ложных начал и ошибочных использований языка, чем женщины, а 33–50-летние мужчины осуществляли больше удлинений и ложных начал, чем женщины в той же возрастной группе. Дальнейшие исследования указали на различные выводы, связанные с позицией задержки в высказывании и языковыми единицами, которые использовались при его порождении.

Ключевые слова: психолингвистика, порождения речи, пол, турецкая речь; расстройства речи.