Elena Ryabina (Tartu): Sex-related Differences in the Colour Vocabulary of Udmurts

Abstract. This study provides a comparison of the colour vocabulary used by male and female native speakers of Udmurt. In the study, the overall count of colour terms and the amount of specific terms offered by 6 groups of respondents (67 women and 44 men) were analysed. The analysis included such factors as the respondents' colour preferences and difficulties in naming colours. The groups of respondents were differentiated with respect to sex, age and occupation. Two experiments – listing colour terms and naming the colour of testing tiles were used in the work. It was found that female respondents of older age offered more colour terms than the older men and younger respondents of both sexes. This result confirms the findings of previous research in other languages. However, a group of male respondents, specialists in Udmurt and painters, provided more colour terms than all the other subjects. Occupation was thus found to be a relevant factor for male respondents; in groups of female respondents it did not considerably influence the use of colour vocabulary. The young female respondents provided the least number of colour terms. Older men named fewer colour terms but knew more specific terms than the younger male respondents. This study has shown that red was the colour preferred in all the respondent groups. The question of the sexes' colour preferences warrants further research.

Introduction

Colour vocabulary used by women has been known to be richer than that of men. Early research dealing with the comparison of sex-related colour vocabulary showed that women were more prompt than men in naming the right colour (see DuBois 1939). The results of subsequent research have shown that women largely use fancy or elaborate colour vocabulary, while men use basic colour words.

Rich (1977), for example, studied six groups subdivided by age and occupation differing in size from seven to 24 subjects. The author found that women compared to men, whose occupation could be the same, used more elaborate words and less repeated colour words in describing colors. Age differences were not significant in the female group while they were significant in the men's group: younger men (aged 20 to 35) used more elaborate words than older men (aged 45 to 60).

An extensive study comprising two experiments has been reported by Nowaczyk (1982). Students of both sexes used more or less the same colour vocabulary for 18 colour tiles. However, when they were asked to use names given in a list of 64 colour words for the 18 tiles female students tended to choose basic colour terms less than male students; they were also more precise in giving specific names for the tiles. In the second experiment, which set the task of defining specific colour terms, female students described a greater amount of colour words and used more specific colour names than male students.

The study of Simpson and Tarrant (1991) has also shown that women used more specific colour names than men. However, older subjects of both sexes in this study used more elaborate names than younger subjects; besides, older men had a more elaborate vocabulary than younger women. Swaringen et al. (1978) required subjects

to give as many names for different colour chips as they could. They found that college-age women provided more colour names for the chips than college-age men did.
Y. Yang (2001) has assessed the knowledge of English colour names by Chinese students whose major subject was the English language. It was found that female students knew more colour terms than male students; they gave a greater number of specific terms and left fewer colour terms undefined.
Frank (1990) analysed mail-order catalogues and found that "women's colours" were complex, multi-varied, more abstract, and expressive (raspberry sorbet, daffodil yellow, blush) while "men's colours" were simple, straightforward, conventional, real-world (royal blue, gold, grey). The researcher claims that women's colours are red, purple, white, and men's colours are black and brown (Frank 1990).
As an explanation for the differences in the colour vocabulary used by men and women, Lakoff (1975) suggests that women's daily routine, for example, selection of clothes or house decorations is connected with colours. This is confirmed by the results of the study obtained by Rich (1977). She compared the colour vocabulary used among Catholic nuns and among other respondents of both sexes; the colour vocabulary of nuns was found to be poorer than that of other women but richer than that of men. It can be assumed that, firstly, colour vocabulary is enlarged in the course of life – nuns usually have a limited choice for colours; secondly, basic vocabulary is acquired in childhood – nuns knew more words than men. The results of Simpson and Tarrant's study (1991) show that colour-related hobbies were significantly correlated with enhanced vocabulary for the male group, but not for the female group.
The present study aims at finding out the sex-related use of colour vocabulary by Udmurts of different ages and occupations. The Udmurts are a Finno-Ugrian people who live within the Russian Federation in the Udmurt Republic and in the neighbouring territories. All the respondents speak both Udmurt and Russian; some of the elderly subjects are not fluent in Russian. The study will deal with the following questions:
Which of the sexes has a larger colour vocabulary?
Which of the sexes largely uses basic words and which of them uses elaborate words?
Are the respondents' age and sphere of activities factors related to the knowledge of colour vocabulary?
Which colours are preferred by men and women?

Hitherto, there has been no systematic treatment of the basic colour vocabulary in the Udmurt language; the author of this work intends to study the question of the basic colour terms in Udmurt in further research. This paper will focus on the comparison of the size of overall colour vocabulary offered by the respondents. As far as the basic colour vocabulary is concerned, reference can be made to the work by Tarakanov (1990) who distinguishes 8 basic terms: *горд* 'red', *курень* 'brown', *ӵуж* 'yellow', *вож* 'green', *сьӧд* 'black', *тӧдьы* 'white', *пурысь* 'grey', *лыз* 'blue'. The terms *чагыр* 'pale blue', *лемлет* 'pink', *льӧль* 'pink', according to Tarakanov (1990), are loans which can not be regarded basic words. In this work they will be referred to as basic vocabulary. Tarakanov (1990) does not refer the term *нап-ӵуж* 'orange' to basic colour terms, either; in this work it will be regarded as a basic word. The words

used by the respondents for violet were *фиолетовой* and *сирень*, Russian loans. These words will also be referred to the basic (not elaborate) terms.[1]

2. Case study: Sex-related differences in the colour vocabulary

Language: Udmurt, Finno-Ugric, Uralic.
Regions where data have been collected: Izhevsk, Alnashskij District, Uvinskij District, Seltinskij District – Udmurtia; Agryzskij District – Tatarstan, Tatyshlinskij District - Bashkortostan.
Dates: July-August, 2007 and December 2007-January 2008.
Subjects
Native speakers of the Udmurt language with different dialect backgrounds (111 subjects) took part in the experiment. Among them were 67 females (average age 41.5) and 44 males (average age 43.5).
The colour vision of the subjects was verified by the use of *The City University Color Vision Test* (Fletcher 1980).

2.1. Methods

In this study, the field work method of Ian Davies and Greville Corbett (1994, 1995) was used. Two parts – the list task, in which the subjects were requested to list as many colour names as they could, and the colour-naming task were included in the work. During the time between the two experiments, the respondents were also tested for colour blindness by using Ostwald's colour system.
In the colour-naming task, each respondent was shown 65 colour tiles of thin plywood sized 5 x 5 cm covered with *Color Aid Corporation* colour papers. In this system the main features of colour are colour tones (hue), content of white (tint) and content of black or blackness (shade). Eight brightness grades of grey scale subject to tint and black content were differentiated. Color Aid uses the modification of Ostwald's colour system, where there are 24 chromatic colours – 6 primary colours: Y – yellow, O – orange, R – red, V – violet, B – blue, G – green and their transition tones e.g. YO – yellow-orange, YOY – yellow-orange-yellow. Two extra-system colours, Sienna and Rose Red, have been added. Every colour tone breaks down into four light variants T1-T4, in which the share of tint increases pro rata, and into three dark variants S1-S3, where the role of black increases.
The tiles were shown in a random sequence, in natural daylight (not in shade or in direct sunlight); they were placed on a background of grey cloth. The task consisted of assigning a name to the colour of each tile. The answers of the respondents were recorded. After the tests were performed, the subjects were thanked.

[1] *Editor's note:* Udmurt words are given in the Cyrillic orthography of Standard Udmurt. The orthography basically follows the principles of Russian orthography (above all, in marking the palatalization of consonants either with *ь* or with the choice of the vowel character, e.g. [non-palatalized] consonant + *а* vs. [palatalized] consonant + *я*) but employs a few additional characters for phonemes not present in Standard Russian: *ӧ* for a non-front non-labial mid-high vowel ("back *е*"), *й* for a non-palatalizing *i (і* following a non-palatalized consonant), *ӵ* for a non-palatalized voiceless affricate (*č*), *ӟ* for a palatalized *d'ź, ӝ* for a non-palatalized *dž*.

2.1.1. Principles for Comparing Men's and Women's Colour Vocabulary

To compare the colour lexicon of men and women, the subjects of both sexes were divided into six groups on the basis of age and occupation as follows:

Group W1: female subjects aged 10-34, 12 subjects: 9 school students and 3 farm-hands.
Group W2: women aged 38-77, 26 subjects: 13 senior citizens; 7 women with higher education, 1 nurse and 5 workers, farm-hands.
Group W3: women aged 19-57, 29 subjects: 19 subjects who are by education Udmurt language specialists, preliminary school-teachers, a painter, a designer and 10 students of the Udmurt language.
Group M1: male subjects aged 9-35, 10 subjects: 5 school students, 3 farm-hands, a man with technical education and a school-teacher.
Group M2: men aged 38-76, 18 subjects: 5 senior citizens, 4 men with technical and economics education, 3 school-teachers and 6 workers, farm-hands.
Group M3: men aged 21-71, 16 subjects who are by education Udmurt language specialists (11 subjects), a student of Udmurt journalism, 3 painters and a designer.

Specialists and students of the Udmurt language were placed in the same group with painters because they were expected to use larger vocabulary in Udmurt than the other respondents.
In the colour-list task, it was important to find out how many terms would be named by men and women and which colours would dominate in the listed names. In the colour-naming task, the respondents' difficulties in naming the colours and the use of elaborate words were in focus. For analysis, the respondents' answers were divided into 4 categories, as was done by Rich (1977):
1) Basic.
2) Qualified – a basic word qualified by words such as *югыт* 'light', *пеймыт* 'dark' or by another basic word, for example *вожпыр-лыз* 'greenish blue'.
3) Qualified Fancy – a basic word qualified by special words, such as *ин-лыз* 'sky blue' or *кешер-ӵуж* 'carrot yellow'.
4) Fancy – colour words not in the basic category, such as *коньысир* 'mauve', *италмас* 'globe-flower' or *зангари* 'cornflower'. This category also includes idiosyncratic words or names used by single individuals such as *ӟазеглэн ныры з* 'goose's nose', *выль кенлэн буёлэз* 'colour of marriageable girl'.

A score for each subject was computed by assigning one point for each basic response, two for each qualified, three for each qualified fancy, and four for each fancy response. Since there were 65 cards, the possible scores ranged from 65 to 260.

3. Results

3.1. The list task

Table 1 shows the results obtained in the colour listing task. There is no difference between the average numbers of colour terms named by the male and female respondents. Within the groups, however, the results differ. In the male group, the

greatest number of colour terms (21.56) was named by the men of group M3, among whom were Udmurt language specialists and painters.
The female subjects of group W3, among whom were Udmurt language specialists and painters, listed fewer words (20) than their male colleagues but in comparison to the female subjects of the other groups they named more colours. The average number of terms named by the female subjects in group W2 (17.26) was lower than that named by Udmurt language specialists in both gender groups. The listed word counts of male subjects in groups M1 and M2 were the same.
The fewest (13.3) were colour names given by group W1 (female subjects under 35 years of age). In this group, the least number of colour names (only 10) was given by a 15 year old female school student. The other subjects of all the groups named more than 11 colour terms.

Table 1. Inter-group colour vocabulary count

Groups	Group W1	Group W2	Group W3	Women's total	Group M1	Group M2	Group M3	Men's total
Overall number of terms	160	449	581	1190	142	265	345	752
Average of terms	13.3	17.26	20	17.76	14.2	14.7	21.56	17

It should be mentioned that although the average number of terms named by the male respondents of group M3 (21.56) was the highest, some of the female respondents of group W3 named more colour terms than all the other respondents. A teacher of Udmurt aged 52, for example, named 68 colour terms, another teacher, aged 51, named 52 terms. A newspaper reporter aged 36, who had previously done research in linguistics, named 45 terms. Among the male respondents, a 49 year-old painter could produce the greatest amount of colour names: 53. A university professor, also a painter (71 years old) named 36 terms. A poet, editor of a magazine (47 years old) listed 30 colour terms.
Table 2 compares the performance of the groups of respondents with respect to the average number of terms offered in the list task. It shows that the female and male groups' results (first row) did not differ. There is also a comparison of the inter- and intra-group results related to the male and female respondents' age (second and third rows), occupation (row 4), and both age and occupation (rows 5 and 6). For example, the young male respondents (group M1) offered more terms than the young female respondents (group W1). The women of older age (group W2) had a better result than the men of older age (group M2). Within the groups of Udmurt language specialists and painters the male respondents, when compared to their women colleagues, offered more terms.

Table 2. Inter-group results in the list task

Group W1 + Group W2 + Group W3 = Group M1 + Group M2 + Group M3
Group W1 (aged 10-34) < Group M1 (aged 9-35)
Group W2 (aged 38-77) > Group M2 (38-76)

Group W3 (Udmurt language specialists and painters) < Group M3 (Udmurt language specialists and painters) Group W3 (Udmurt language specialists and painters) > Group W2 (aged 38-77) > Group W1 (aged 10-34) Group M3 (Udmurt language specialists and painters) > Group M2 (aged 38-76) = Group M1 (aged 9-35)

3.1.1. Dominant Colours

Tables 1, 2, 3, 4, 5, 6, given in the appendix, show the colour names offered in each of the 6 groups of respondents at least by 3 persons.

In the tables, the frequency and mean position of colour names are indicated. The tables also show the cognitive salience index S=F/(N mP), where F is the colour name's frequency in the list task, N is the number of subjects and mP is the mean position (Sutrop 2001: 267, 273-274). On the basis of the cognitive salience index, we obtain the final ranks of colour terms in the list task, as shown in table 3.

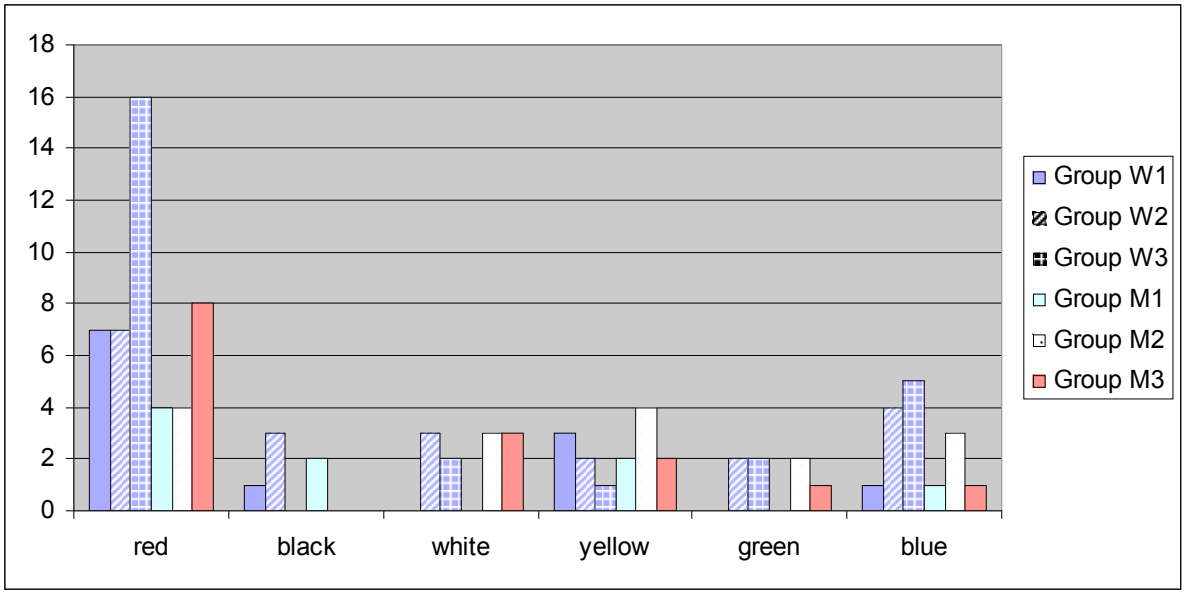
Table 3. Dominant colour terms in the list task

Colour Preference	Group W1	Group W2	Group W3	Group M1	Group M2	Group M3
1.	*горд* 'red'	*горд* 'red'	*горд* 'red'	*горд* 'red'	*вож* 'green'	*горд* 'red'
2.	*лыз* 'blue'	*вож* 'green'	*вож* 'green'	*ӵуж* 'yellow'	*горд* 'red'	*ӵуж* 'yellow'
3.	*ӵуж* 'yellow'	*лыз* 'blue'	*ӵуж* 'yellow'	*вож* 'green'	*лыз* 'blue'	*сьӧд* 'black'

It can be seen from Table 3 that *горд* 'red' is the most frequently listed term in all the groups, with the exception of group M2 (older men). In this group, *вож* 'green' was the most frequent term, while red was second. It is difficult to identify men's and women's colour preferences; the term black was named only by group M3.

Figure 1 displays the frequency of the colour terms offered as first by the groups of respondents. The vertical axis shows the number of respondents.

Figure 1. The inter-group frequency of the first colour terms named in the list task



As seen from the figure, the first colour words offered by all the respondents were red *(горд)*, blue *(лыз),* yellow *(ӵуж)*, white *(тӧдьы)*, green *(вож)*, black *(сьӧд)*. All the respondents gave preference to the term *горд* 'red'; in group M2 (older men) two terms, *горд* 'red' and *ӵуж* 'yellow', were first offered terms. The terms *ӵуж* 'yellow' and *лыз* 'blue' were also first offered terms in all the groups but they were less frequent than *горд* 'red', whereby the term *ӵуж* 'yellow' was named more often by men and *лыз* 'blue' by women. It is interesting to note that the young respondents of both sexes (groups W1 and M1) preferred the same colours: red, yellow, black, and blue. The older women (groups W2 and W3) preferred the same colours: red, blue, white, green, and yellow. Black was listed only by the respondents of group W2. The older men (groups M2 and M3) listed the same colours: red, yellow, white, blue, and green.

3.2. The Colour-naming Task

3.2.1. Missed answers

Table 4 contains data on the overall count of the offered terms as well as the number and percent of missed terms in the colour-naming task. The percent of the missed answers was defined by using the following formula: ((u/n)x100)/65, where 65 is the number of tiles, u – unnamed answer count, n – the number of respondents per group. As seen from the table, the respondents in group M3 (Udmurt language specialists and painters) were the top performers in this task. The female respondents in group W3 (Udmurt language specialists and painters), also did well. The older male respondents (group M2) had more difficulties than others. A 58 year-old school-teacher missed more answers (17) than others; 12 answers were missed by a 41 year-old engineer and 9 answers – by a 43 year-old school principal. Both respondents live in the Alnashsk district, in which the Udmurt language is better preserved than elsewhere. In this group 12 respondents failed to name some of the colour tiles. The missed answers count was the following: 7 for ORO S3; 6 for ROR

S3 and RVR S3; 5 for ORO T3. Among the missed names were also those for colour tiles Y S2, YOY T4, YOY S2, YO T3, YO S3, RO T3, R HUE, R T4, RVR S1, RV HUE, VRV S3, VBV HUE, VBV T4, BVB S3, BGB T3, GBG S2, ROSE RED. The female subjects aged 10-35 (group W1) failed to give answers more times than male subjects aged 9-35 (group M1). It should be noted that female school students from the Seltinski district, where Udmurt is spoken less than in other places, had problems in naming colour tiles. A 13 year-old student missed 10 answers, a 15 year-old student – 6 answers. In this group there were 8 respondents who missed some of the answers. The tile RVR S1 was not named 5 times, the other tiles, for example, Y S2, YOY S2, OYO HUE, O HUE, ORO T3, ORO S3 etc – 1 or 2 times.

Table 4. Count of the offered and missed terms in the colour-naming task

Groups	Overall number of terms	Unnamed	% of missed terms
Group W1	751	28	3.58
Group W2	1648	41	2.42
Group W3	1848	31	1.64
Women's total	4247	100	2.29
Group M1	630	17	2.61
Group M2	1107	63	5.38
Group M3	1031	7	0.67
Men's total	2768	87	3.00

Table 5 compares the performance of the groups of respondents with respect to the percentage of missed answers. Comparison is made between the male and female respondents' results (first row) as well as the inter- and intra-group results related to the respondents' age (second and third rows), occupation (row 4) and both age and occupation (rows 5 and 6).

Table 5. Comparison of inter-group results on missed answers

Group W1 + Group W2 + Group W3 < Group M1 + Group M2 + Group M3
Group W1 (aged 10-34) > Group M1 (aged 9-35)
Group W2 (aged 38-77) < Group M2 (aged 38-76)
Group W3 (Udmurt language specialists and painters) > Group M3 (Udmurt language specialists and painters)
Group W3 (Udmurt language specialists and painters) < Group W2 (aged 38-77) < Group W1 (aged 10-34)
Group M3 (Udmurt language specialists and painters) < Group M1 (aged 9-35) < Group M2 (aged 38-76)

3.2.2. Score Results

In the respondents' score results the quantity of specific terms offered for the colour tiles by each group was taken into account. The highest scores were in the male and female groups of Udmurt language specialists and painters, M3 and W3 (135 and 120, respectively). The women aged 38-77 (group W2) had a higher score than the men aged 38-76 (group M2). The female respondents aged 10-35 (group W1) had a lower score than the male respondents aged 9-35 (group M1).

Table 6. Score results

Groups	Basic	Qualified	Qualified Fancy	Fancy	Total score	Average score
Group W1	389	674	54	32	1149	95.75
Group W2	577	1784	177	484	3022	116.23
Group W3	542	2186	270	496	3494	120.48
Women's total	1508	4644	501	1012	7665	114.4
Group M1	263	674	72	28	1037	103.7
Group M2	472	1104	96	204	1876	104.2
Group M3	267	1062	324	508	2161	135
Men's total	1002	2840	492	740	5074	115.31

Table 7 compares the inter-group score results with respect to the average score for both basic and specific categories of colour vocabulary offered by each group. Comparison is drawn between the results of the male and female respondents (first row), inter- and intra-group results related to age (second and third rows), occupation (row 4), and both age and occupation (rows 5 and 6).

Table 7. Comparison of score results

Group W1 + Group W2 + Group W3 < Group M1 + Group M2 + Group M3
Group W1 (aged 10-34) < Group M1 (aged 9-35)
Group W2 (aged 38-77) > Group M2 (aged 38-76)
Group W3 (Udmurt language specialists and painters) < Group M3 (Udmurt language specialists and painters)
Group W3 (Udmurt language specialists and painters) > Group W2 (aged 38-77) > Group W1 (aged 10-34)
Group M3 (Udmurt language specialists and painters) > Group M2 (aged 38-76) = Group M1 (aged 9-35)

Frank (1990) writes that "men's colours" are simple, straightforward, conventional, real-world. Other authors (Rich 1977, Nowaczyk 1982, Simpson & Tarrant 1991, Yang 2001) claim that men use more basic colour names. In the present work, however, the male respondents of group M3 gave fantasy names to the tiles; various names were given to the GBG S2, ROR S3, ORO S3 tiles. In the green colour spectre the following names were used:

G - *вуэм турын буёл*, 'colour of grown grass'
G S3 - *вож нюлэспыръем* 'like green woods', *пушнер буёл* ,colour of nettle'
GYG - *выль кэнлэн буёлэз* 'colour of marriageable girl'

GYG T4 – *кубиста-вож* ‘cabbage green’
GYG S1 – *гужем-вож* ‘summer green’
YG - *ожо-вожо* ‘green young grass ’
YG S3 *вож нюлэспыръем* ‘like green woods’, *сизьыл-турын* ‘autumn grass’.
In this group, the 71 year-old painter used only three terms twice: VBV T4, RVR S3 - *югыт-бусйр* ‘light violet’; BV HUE, BV S2 - *сьӧдмыт-лыз* ,black blue’; RV T3, ROSE RED – *нап-лемлет* ,saturated pink’. The 45 year-old painter also used only three terms twice: YG HUE, YGY HUE – *югытлыкесо-ӵужалэсо-вож* ‘light yellow green’, ROR S3, R T4 - *ӟарытлыкесо-югытлыкесо-льӧль* ‘pale light pink’, GBG S2, YG S3 – *жобалэс-чагыр* ‘ugly sky blue’. This respondent used the longest terms (containing 2 and more words). He used basic words only 4 times. Two terms contained five words: ORO S3 *ӟарытлыкесо-югытлыкесо-бездэм-жоб-горд* ‘pale light dingy red’, YO T3 *юг-югытлыкесо-бездытлыкесо-нап-ӵуж* ,light-light dingy orange’. One of the painters used basic colours and qualified terms only 9 times. The other terms used by this respondent were qualified fancy, fancy or idiosyncratic words.

Female respondents in groups W2 and W3 also used different names for the colour tiles, though they did not give many fancy names, unlike the male Udmurt language specialists and painters; they used qualified fancy words and very few idiosyncratic words. Female respondents, unlike males from group M3, repeatedly used the same colour names.

Discussion

This work deals with a comparative study of colour vocabulary used by men and women among speakers of Udmurt. The work aimed at finding out which of the sexes has a larger colour vocabulary and uses specific colour names more, which colour preferences the sex groups have and whether the size of the respondents’ colour vocabulary depends on their age and occupation. Two experiments carried out in this work did not show significant differences between the male and female respondents’ overall results. The intra-group results were found to differ. The study has shown that the male respondents of group M3 (Udmurt language specialists and painters) know more colour terms than the other respondents. This group scored the highest in all the aspects of analysis. Firstly, they listed more colour terms than the other respondents; secondly, they missed the least number of answers in naming the colour tiles; thirdly, they scored the highest in naming the colour tiles.

Previous studies have shown that women know more colour terms than men (Rich 1977, Nowaczyk 1982, Simpson & Tarrant 1991, Swaringen 1978, Yang 2001). In this study, the female respondents (group W3) showed a lower score than the male respondents (group M3). It should be mentioned that the average number of the colour terms offered by female respondents of group W3 (20 terms) was somewhat lower than that offered by male respondents of group M3 (21.5); however, the female respondents gave more names as first offer than the male respondents did. It should also be noted that among the respondents of group M3 there was only one student, while in group 3 there were ten students. In the task of naming the colour tiles the male respondents of group M3 were ahead of the female respondents of group W3, as they produced more fancy or idiosyncratic words. Females of an older age-group (group W2) had a lower performance than the Udmurt language specialists and painters of both sexes, but they did better than males of the middle and older age

(groups M1 and M2) and younger female respondents (group W1). This result confirms the findings of previous research (Rich 1977, Nowaczyk 1982, Simpson & Tarrant 1991, Swaringen 1978, Yang 2001).

Simpson & Tarrant (1991) in their study have found that men whose hobby is associated with colour knew more colour terms than other men but women dealing with colours knew as many colour terms as other women. The present study also shows that the results of men whose occupation is associated with colours were higher than those of other men and even those of women. The results of the female respondents whose occupation is associated with colours did not considerably differ from the results of the other women of older age. All the respondents of group M3, both Udmurt language specialists and painters, scored high. It can be suggested that though the occupation of Udmurt language specialists is not directly connected with colour they are proficient in colour terms.

Female respondents aged 10-35 (group W1) showed the lowest results in both tasks. The male respondents of the same age had somewhat better results. It has to be taken into consideration that in group W1 there were 3 female students from the Seltinski region, where Udmurt is used less. One of the female students (15 years of age) named the fewest number of terms (10). In the colour naming task, two other female students (13 and 15 years of age) failed to name 10 and 6 tiles, respectively, and a 15 years old female student used only 4 qualified colour terms – the rest of the terms she used were basic names. The lower performance of the younger female respondents can be explained not only by insufficient acquisition of vocabulary through socializing but also by the fact that younger people are less proficient in Udmurt than older people.

Male respondents of older age (group M2) had more problems than all the other respondents in the naming of colour tiles; they had the most of failed answers – 5.38 % of the total number of possible answers. It has to be taken into account, though, that the percentage of missed answers in group M1 (male respondents aged 9-35) was twice as low – 2.61 % of the total number of possible answers, they had almost the same score as the male respondents in group M2 in naming the colour tiles. This means that the male respondents of group M2 used qualified, qualified fancy, and fancy words more often than the male respondents of group M1.

The work also treated the question of the preferences in the choice of colour names by male and female respondents in the colour list task, whereby the frequency of colour terms, the mean position of colour names and the cognitive salience index were taken into account.

As has been mentioned above, Frank (1990) who analyzed mail-order catalogues claims that the colour red is preferred by women. In this study it was found that the colour red was preferred by all the groups, with the exception of group M2 (men aged 38-76), in which it was second, after green. Besides, red was named as first by the respondents in all groups. The question of the sexes' colour preferences thus warrants further research.

Conclusion

The analysis of colour vocabulary among six groups of respondents allows the conclusion that the male respondents, specialists of Udmurt and painters, know more colour terms than the other respondents. Occupation did not considerably influence the results of the female respondents of older age (groups W2 and W3) but it was

found to be a relevant factor for the male respondents (groups M2 and M3). Male respondents dealing with painting or languages largely used specific colour terms while other men mainly used basic words. Female respondents of older age (groups W2 and W3) compared to male respondents of older age (group M2) and young respondents of both sexes offered more colour words.

Younger women (group W1) produced the least number of colour terms; this can be better explained by the language situation in the Udmurt Republic rather than by the acquisition of vocabulary in the process of socializing: younger people use the Udmurt language less than older people do. A same difference was observed in the results of male respondents: older men named more specific terms than younger men. They had difficulties in naming the tiles, while the younger male respondents performed this task fairly well.

This study has shown that red was the colour preferred in all the groups and it is not possible to identify colour preferences among the male and female respondents.

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Appendix

Table 1 The most salient colour names in the list task of Group W1

Term	Fr	Mp	S
горд	12	2.833	0.353
лыз	12	3.166	0.316
ӵуж	12	3.75	0.267
вож	12	5.083	0.197
сьӧд	12	6.833	0.146
тӧдьы	12	7.5	0.133
лемлет	10	7	0.119
пурысь	12	8.916	0.112
нап-ӵуж	9	7.444	0.101
курень	10	8.5	0.098
сирень	8	10.625	0.063
чагыр	7	9.714	0.06
чагыр-лыз	3	7	0.036
кизер-вож	3	7.333	0.034
льӧль	3	13.333	0.019

Table 2 The most salient colour names in the list task of Group W2

Term	Fr	Mp	S
горд	26	4.115	0.243
вож	24	4.708	0.196
лыз	25	5.24	0.183
сьӧд	25	6.4	0.15
ӵуж	25	7.32	0.131
тӧдьы	25	7.56	0.127
курень	23	8.217	0.108
лемлет	22	8.09	0.104
нап-ӵуж	25	11.44	0.084
пурысь	23	12.652	0.07
коньысир	21	11.619	0.069
чагыр	13	9.153	0.055
ӟарыт-лыз	10	8.4	0.046
горд-курень	11	9.636	0.044
кашамер	14	13.071	0.041
нап-вож	11	10.727	0.039
льӧль	11	11.545	0.037

кизер-ӵуж	9	11.555	0.03
сирень	8	13.75	0.022
кизер-вож	6	12.333	0.019
нап-горд	6	13.166	0.017
кизер-лыз	5	13.6	0.014
нап-лыз	5	13.8	0.014
бусӧр	4	11.5	0,014
шамакай	3	9.333	0.012
зангари	3	11	0.01
пуллёсир	3	13	0.009

Table 3 The most salient colour names in the list task of Group W3

Term	Fr	Mp	S
горд	29	2.344	0.427
вож	28	4.857	0.199
ӵуж	29	5.31	0.188
лыз	27	5.481	0.17
сьӧд	29	7.172	0.139
тӧдьы	29	7.586	0.132
курень	24	9.5	0.087
пурысь	27	13.148	0.07
лемлет	26	12.884	0.069
чагыр	25	13.08	0.066
нап-ӵуж	22	11.681	0.065
льӧль	20	13.75	0.05
бусӧр	10	10.4	0.033
коньысир	11	17.818	0.021
сирень	9	16.444	0.019
бусыр	4	7.5	0.018
нап-вож	6	12.333	0.017
пеймыт-вож	6	14.5	0.014
нап-горд	5	13.8	0.012
кизер-вож	7	19.714	0.012
нап-лыз	4	13	0.01
гордпыръем	3	10	0.01
кизер-ӵуж	6	20.166	0.01
пеймыт-лыз	4	16.75	0.008
ал	3	12.666	0.008
кизер-лыз	6	25.833	0.008
горд-курень	3	14	0.007
горд-горд	3	14.666	0.007
бардовый	3	15	0.007
кашамер	4	20.25	0.007
пеймыт-горд	4	23	0.006
пеймыт-чагыр	3	17.333	0.006
ӵужалэс-вож	3	20.666	0.006

вож-вож	3	22.666	0.004
тӧдь-тӧдь	3	26.333	0.004
кизер-горд	3	27.333	0.004
сьӧд-сьӧд	3	31.333	0.003
ӵуж-ӵуж	3	32.333	0.003
кизер-лемлет	3	37.333	0.003

Table 4 The most salient colour names in the list task of Group M1

Term	Fr	Mp	S
горд	10	2.8	0.357
ӵуж	10	3.6	0.278
вож	10	3.7	0.27
сьӧд	10	5.6	0.178
нап-ӵуж	8	4.875	0.164
лыз	8	5.375	0.149
тӧдьы	10	7.1	0.14
курень	8	8.125	0.098
лемлет	9	9.222	0.097
пурысь	9	10.333	0.087
сирень	8	9.75	0.082
чагыр	5	8	0.062
льӧль	4	9.5	0.042
югыт-лыз	3	11	0.027

Table 5 The most salient colour names in the list task of Group M2

Term	Fr	Mp	S
вож	18	3.166	0.316
горд	18	3.888	0.257
лыз	18	3.888	0.257
ӵуж	18	5.333	0.187
тӧдьы	18	6.277	0.159
сьӧд	18	6.888	0.145
лемлет	16	7	0.127
курень	16	8.062	0.11
нап-ӵуж	17	10.47	0.09
пурысь	15	10.2	0.082
чагыр	11	9.363	0.065
кашамер	8	10.875	0.04
ӟарыт-лыз	7	10.571	0.037
льӧль	7	12.285	0.032
коньысир	6	12.166	0.027
кизер-вож	4	9	0.025
сирень	5	12.2	0.023
кизер-ӵуж	4	11	0.02
нап-вож	3	10	0.017
пуллёсир	3	13	0.013

Table 6 The most salient colour names in the list task of Group M3

Term	Fr	Mp	S
горд	16	3.187	0.314
ӵуж	16	4.312	0.232
сьӧд	16	5.5	0.182
вож	16	5.75	0,174
тӧдьы	15	6.066	0.154
лыз	16	9	0.111
курень	16	10.312	0.097
пурысь	15	11.333	0.083
лемлет	15	12.066	0.078
чагыр	13	11.692	0.069
льӧль	14	14.214	0.061
бусӥр	11	11.727	0.059
нап-ӵуж	11	12.818	0.054
коньысир	8	14.5	0.034
пеймыт-курень	3	11	0.017
пеймыт-ӵуж	4	15.25	0.016
пеймыт-лыз	3	15.666	0.012
чагыр-лыз	3	18	0.01
нап-вож	3	20	0.009
кашамер	3	21	0.009