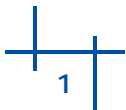# The Grouping of Items in Mobile Web Surveys

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Aigul Mavletova, NRU Higher School of Economics, Moscow

Mick P. Couper, Survey Research Center, University of Michigan

Scrolling vs Paging Designs

ü Prior research in PC web found few differences

ü McGeeney & Marlar (2013):

    ü 13 items (1 page vs 3 pages vs 13 pages)

    ü Reported lower breakoff rate in the scrolling version among mobile respondents (13% of all respondents)

ü Mavletova & Couper (2013):

    ü 17 items (2 pages vs 17 pages)

    ü Found shorter completion times, fewer technical problems, lower breakoff rate, & higher subjective evaluation for scrolling version

    ü No significant differences in item nonresponse

Research Questions

ü Does the number of questions presented on the page have an effect on data quality in a scrolling design in mobile web surveys?

ü Is it different in a survey with user-controlled skips (conditional questions) and in a survey without skips in the scrolling design?
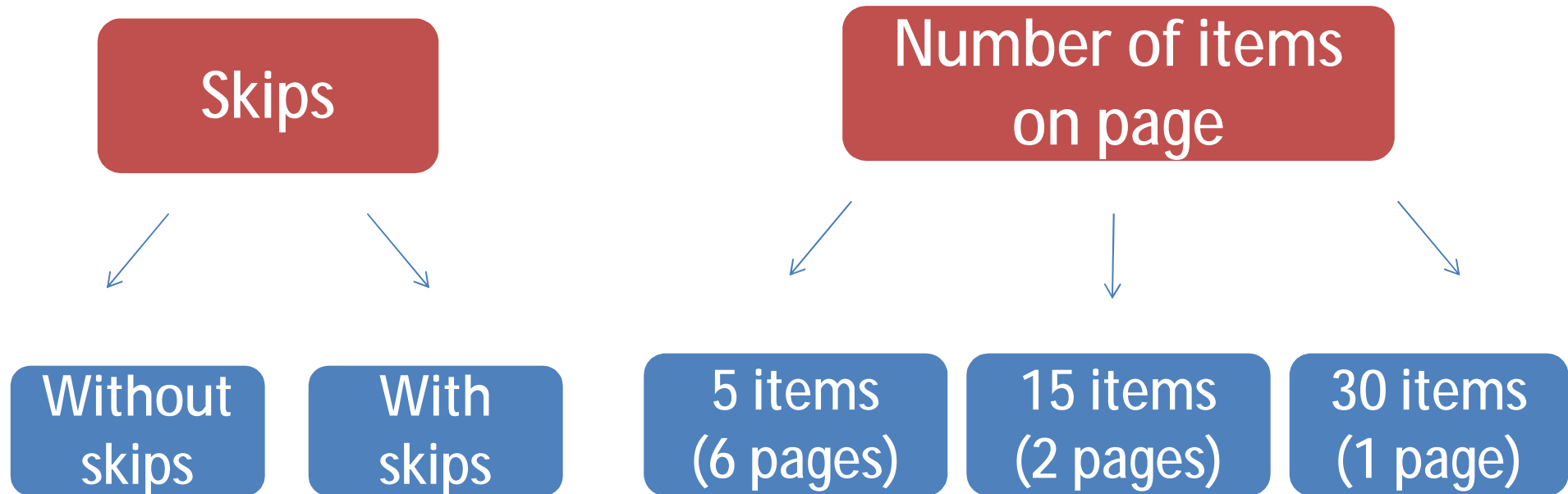
Experimental Design and Hypotheses

Skips

Without skips
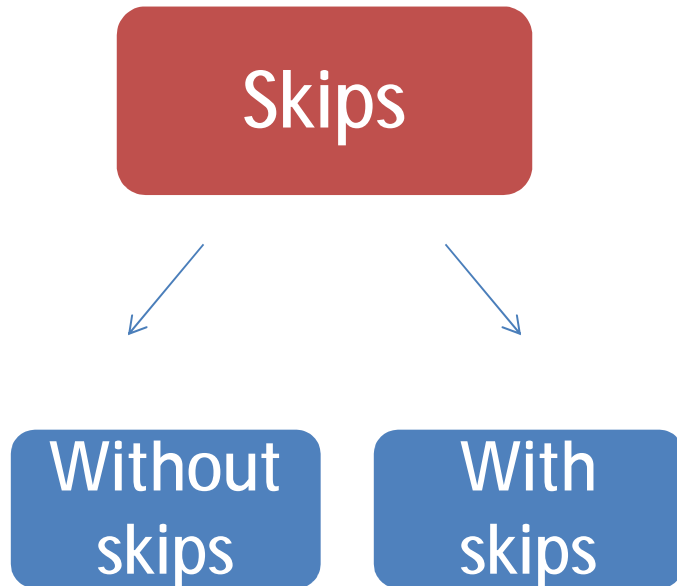
With skips

- Simple user-controlled skips (no hyperlinks)
- 7 skips

Experimental Design

Skips

Number of items on page

Without skips | **With skips**

5 items (6 pages) | **15 items (2 pages)** | **30 items (1 page)**

- Simple user-controlled skips (no hyperlinks)
- 7 skips

Questionnaire
with or without skips

	Hypotheses
Breakoff rate	Higher in survey with skips
Underreporting	

Number of items on page

	Hypotheses
Breakoff rate	Higher with 30 items per page
Completion time	Lower with 30 items per page

Number of items on page

|	Hypotheses
Breakoff rate	Higher with 30 items per page
Completion time	Lower with 30 items per page
Item nonresponse	Higher with 30 items per page
Measurement error	Higher with 30 items per page

Data Collection

- ü Volunteer online access panel (Online Market Intelligence), mobile web subpanel

- ü 10 minute survey

- ü Respondents were encouraged to complete the survey via mobile phone

- ü Fieldwork: 9-20th October, 2013, Russia

- ü Software: Unipark

- ü 7,740 SMS invitations, 2,032 respondents

- ü Participation rate=26.8%

Questionnaire

ü 30 questions: discrimination, with a special focus on age discrimination

ü Two questionnaires (with and without skips) were made as similar as possible

ü None of the questions were obligatory (i.e., answers were not required)

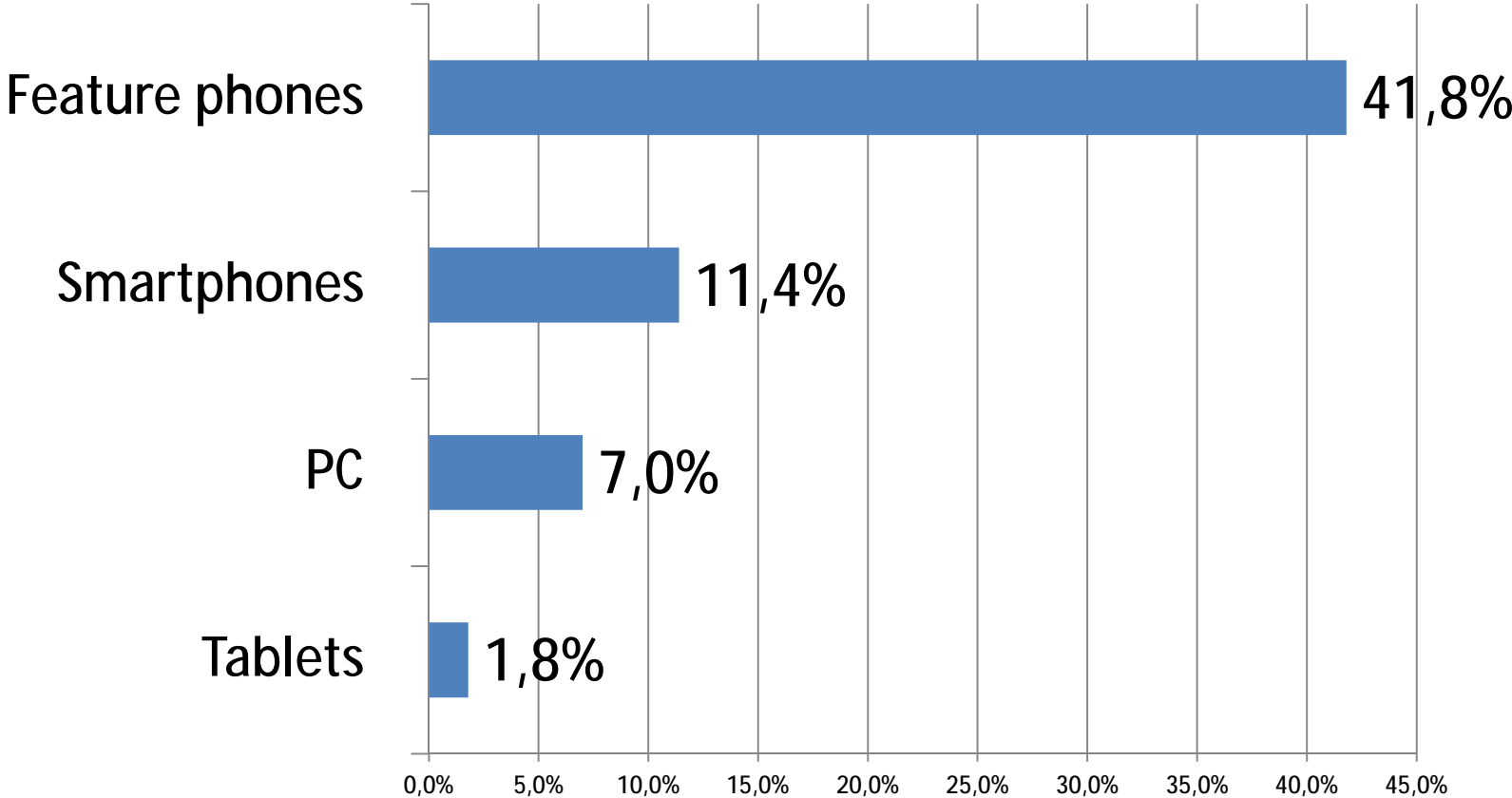# Results: Skips

Participation Rates and Breakoff Rates
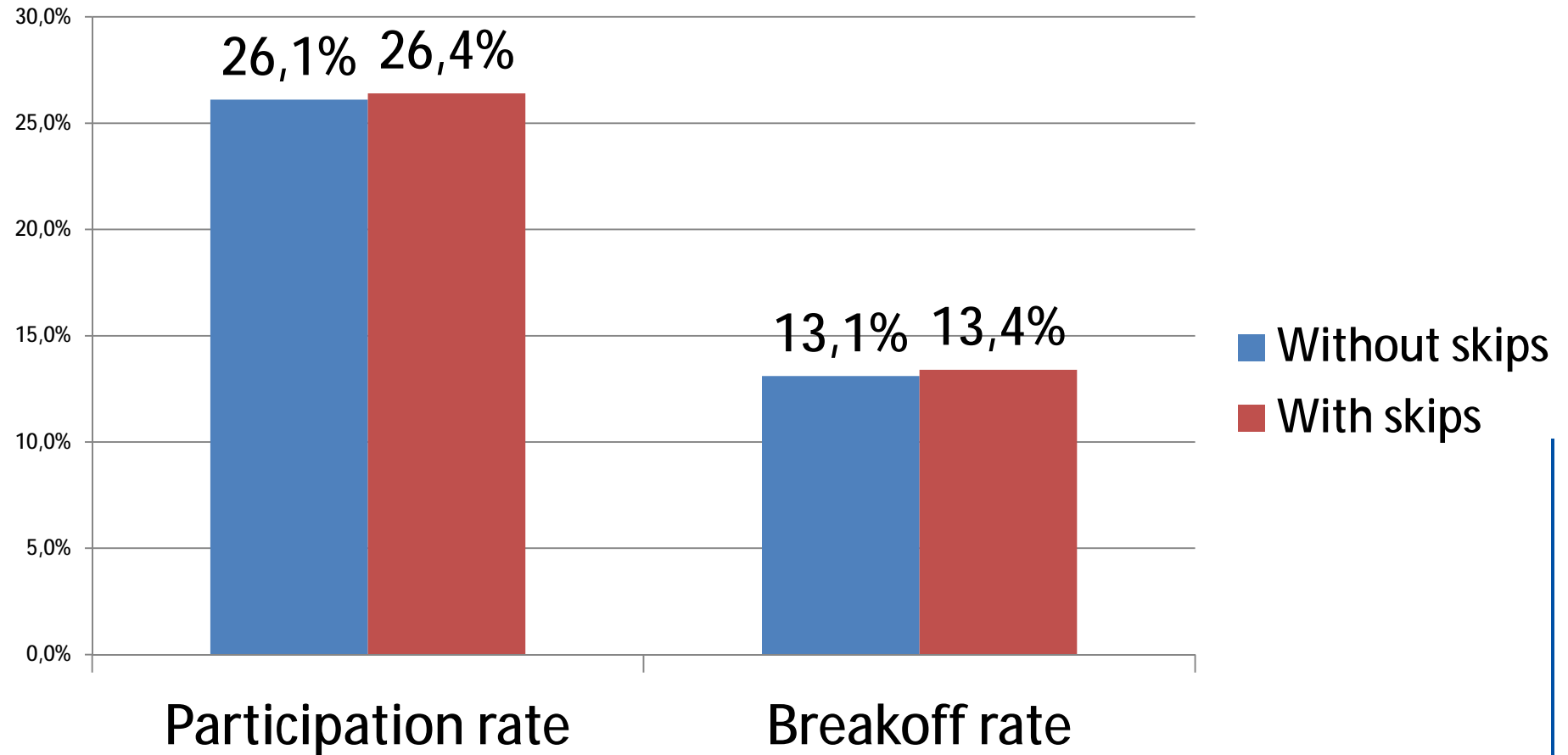
Sample Composition by Devices

Device	%
Smartphones	90.6%
Feature phones	4.7%
Tablets	2.7%
PC	2.0%
Total	2,032

Breakoff Rate by Devices

Chi-square=
131.123*
(df=3)

Device

Device	Breakoff Rate
Feature phones	41,8%
Smartphones	11,4%
PC	7,0%
Tablets	1,8%

0,0% 5,0% 10,0% 15,0% 20,0% 25,0% 30,0% 35,0% 40,0% 45,0%

***p<0.001

Underreporting

Without skips	With skips
13. What opinion do you agree mostly? • In each professional area it is permissible to set age limit • In none of professional areas it is permissible to set age limit • In some professional areas it is permissible to set age limit, in others – not • Difficult to answer	13. What opinion do you agree mostly? • In each professional area it is permissible to set age limit → GO TO Q16 • In none of professional areas it is permissible to set age limit→ GO TO Q16 • In some professional areas it is permissible to set age limit, in others – not • Difficult to answer → GO TO Q16

Q14, Q15 – open-ended questions

Underreporting

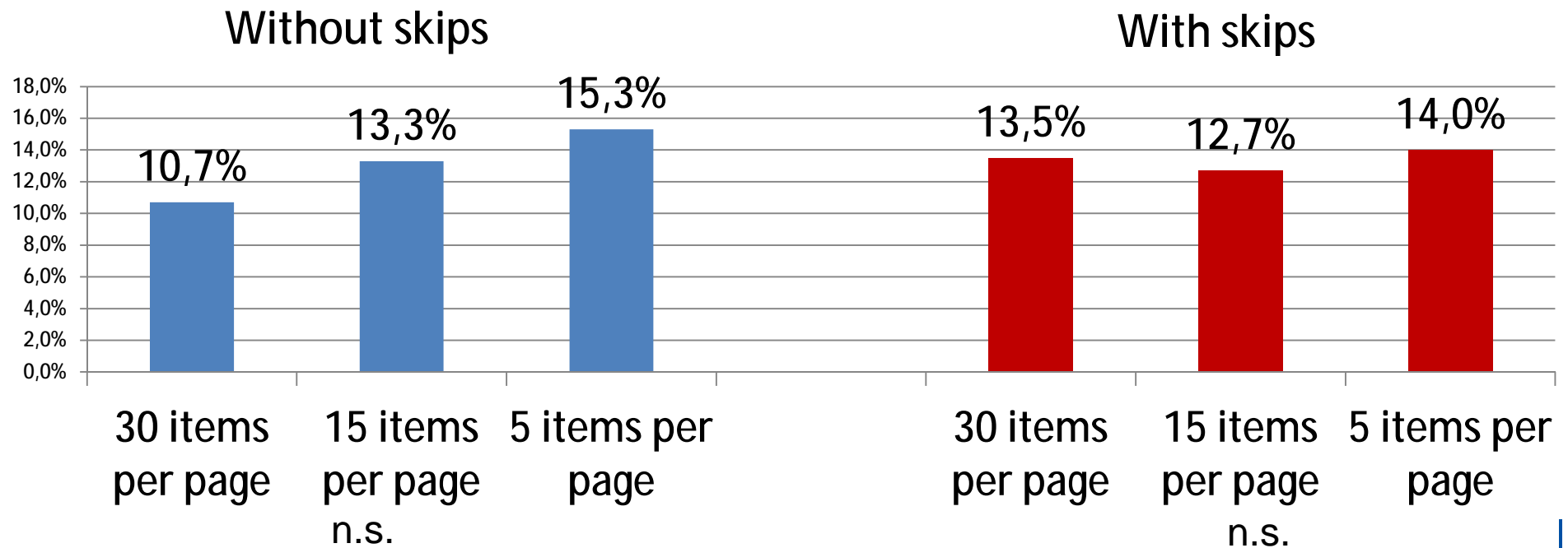| Without skips	With skips
13. What opinion do you agree mostly? • In some professional areas it is permissible to set age limit, in others – not (75%)***	13. What opinion do you agree mostly? • In some professional areas it is permissible to set age limit, in others – not (58%)

No difference between
5, 15, 30-item per page conditions

*** χ2(3)=82.524, p<0.001

Survey Evaluation

ü **No differences:**
- ü Technical problems while completing the survey
- ü Subjective rating of the survey
- ü Subjective rating of difficulty of filling out the survey

ü **Survey with skips:**
- ü 2.5% reported difficulties following instructions
- ü No differences between 5, 15, and 30-item per page conditions

Results:
number of items
per page

Breakoff Rates

Without skips

With skips

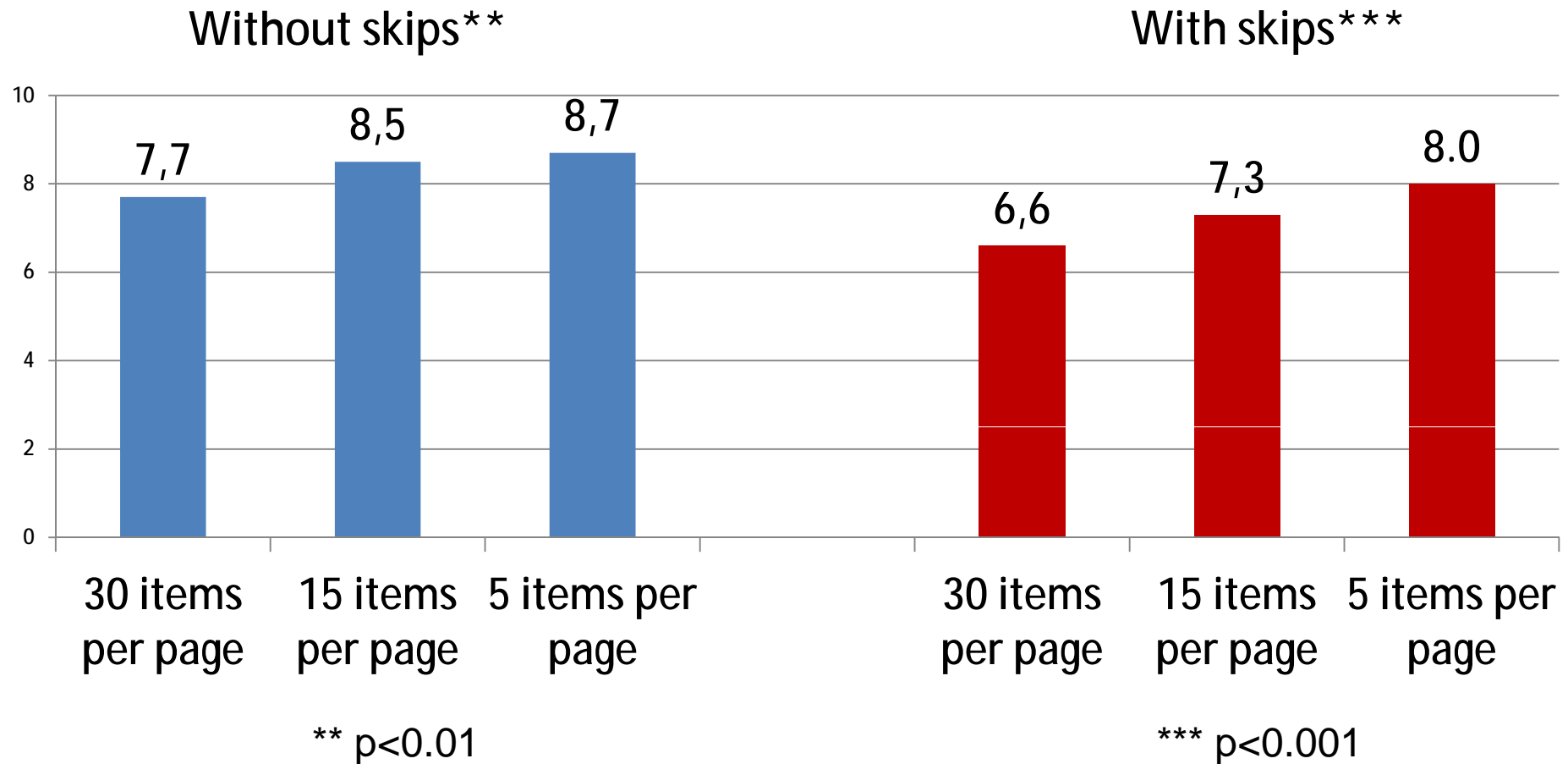|	Without skips			With skips		
	30 items per page	15 items per page n.s.	5 items per page	30 items per page	15 items per page n.s.	5 items per page
	10,7%	13,3%	15,3%	13,5%	12,7%	14,0%

A logistic regression of the main effects and interactions among the experimental conditions yields no significant ($p < 0.05$) coefficients

Partial Data among Breakoffs

Number of questions completed	30 items	15 items	5 items
0	100 %	78 %	45%
5	0%	0%	14%
10	0%	0%	19%
15	0%	22%	11%
20	0%	0%	5 %
25	0%	0%	5%
Number of breakoffs	95	101	114

Completion Time (min)

Without skips**   With skips***

30 items per page: 7,7
15 items per page: 8,5
5 items per page: 8,7

30 items per page: 6,6
15 items per page: 7,3
5 items per page: 8.0

** p<0.01   *** p<0.001
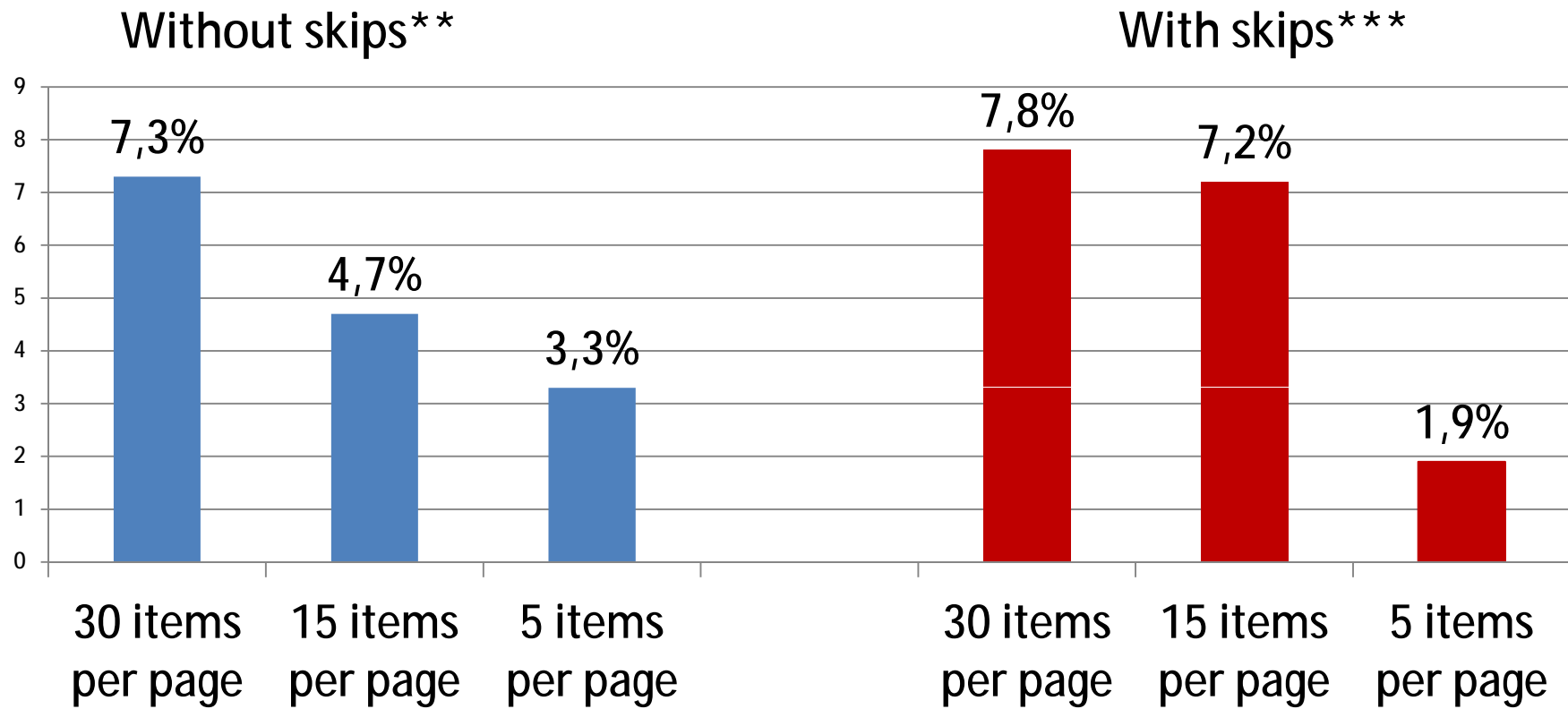
Main effect of skips is also significant (p<.001), but not the interaction

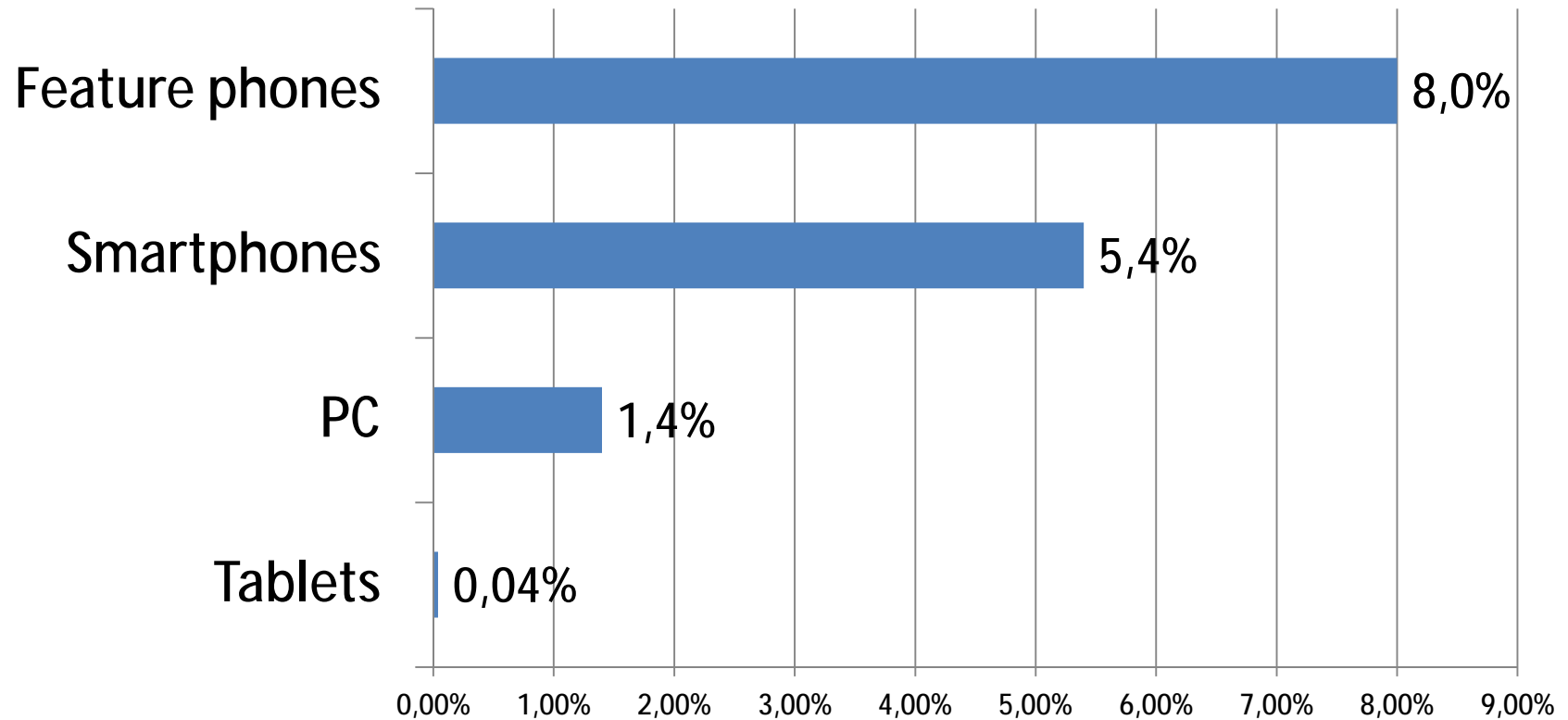In both questionnaires: no difference in the subjective estimate of completion time
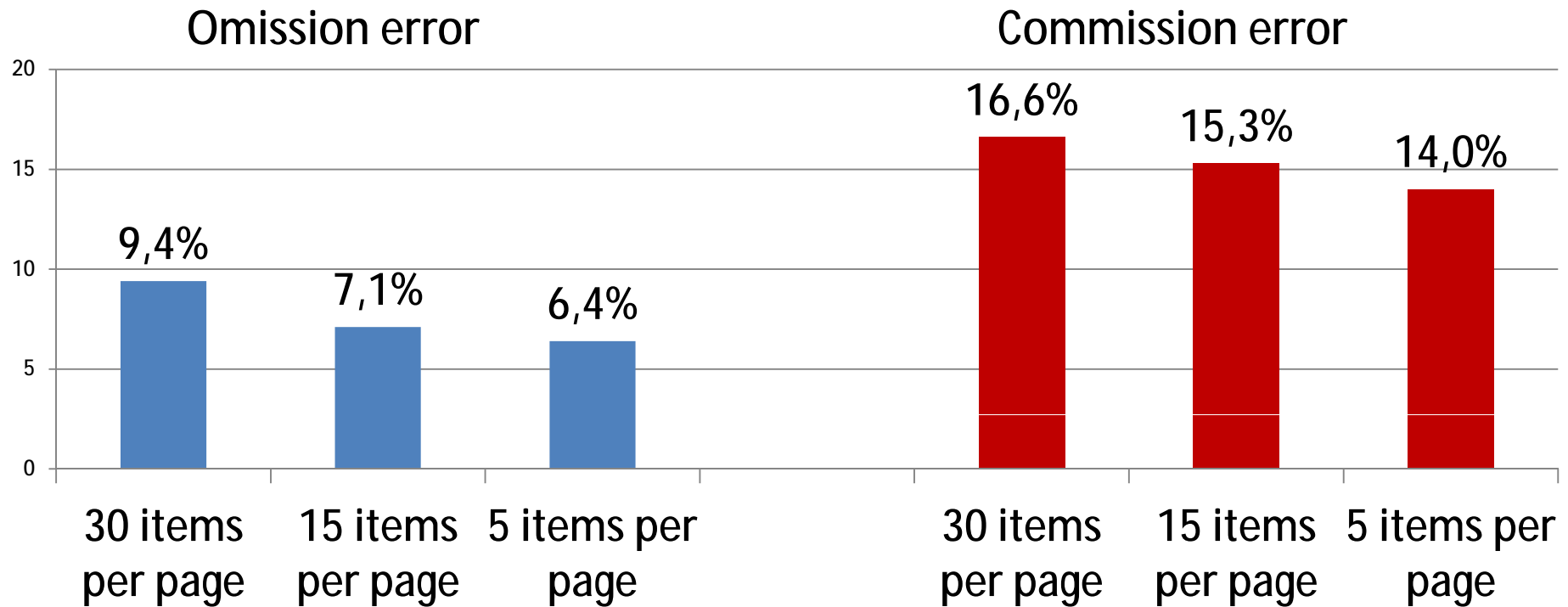
22

Item Nonresponse

Without skips**

With skips***

7,3%

4,7%

3,3%

7,8%

7,2%

1,9%

30 items per page

15 items per page

5 items per page

30 items per page

15 items per page

5 items per page

** p<0.01

*** p<0.001

Item Nonresponse

F(3,2026)=3.681, p<0.05

Omission and Commission Errors

Omission error

Commission error

p=.06

Omission error rate: % of the conditional questions where respondents skipped but were supposed to answer

Commission error rate: % of the conditional questions which respondents answered but were supposed to skip

Measurement Error

ü **We examined:**
   ü Length of open-ended responses
   ü Proportion of nonsubstantive responses
   ü Primacy effects (choosing 1st option in 4 single- and multi-response questions)

ü **We found no significant differences between experimental versions**

Main Findings

1) Questionnaire with/without skips: almost no differences

   - Might be some motivated underreporting in the cognitively demanding tasks

2) Number of questions per page: effect on nonresponse but not on measurement error

3) Questionnaire without skips: 30 items per page → lower breakoff rate, shorter completion time, but higher item nonresponse

   - Losing data on breakoffs

4) Questionnaire with skips: 30 items per page → higher item nonresponse and omission error rate

Thank you!

Aigul Mavletova & Mick P. Couper