Sensitive Topics in PC Web and Mobile Web Surveys: Is There a Difference?

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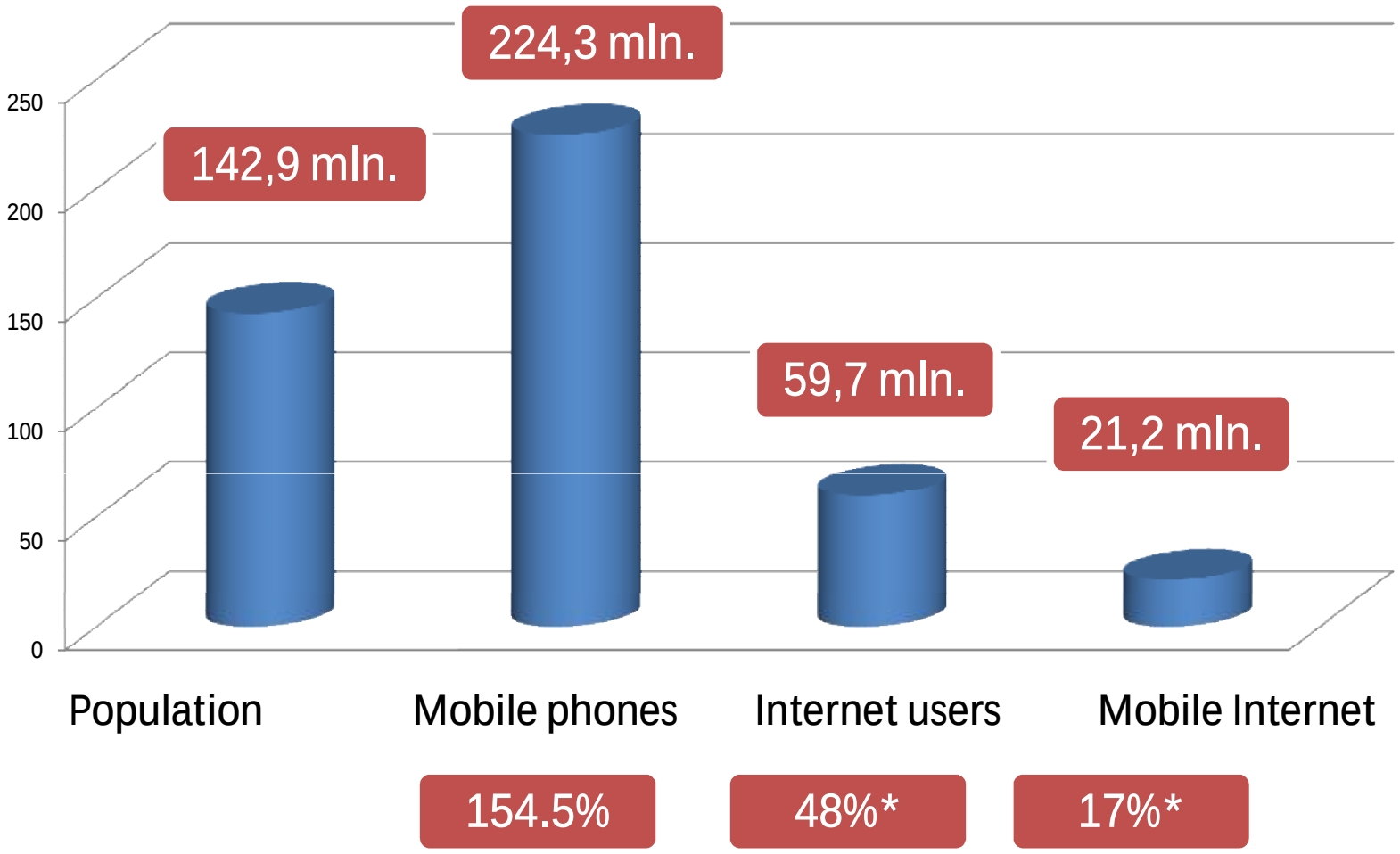
Mobile Internet in Russia

Statistics in Russia



The Public Opinion Foundation, 2011
Internet Monthly Users 18 y.o.+
* % of the population 18 y.o.+

Hypotheses and Experimental Design

Hypotheses

H1: The differences between survey modes

Since cell phones are more likely to be used in public places or in the presence of third parties, we hypothesize that surveys completed on mobile phones may show higher rates of social desirability bias than those completed on a PC-based browser.

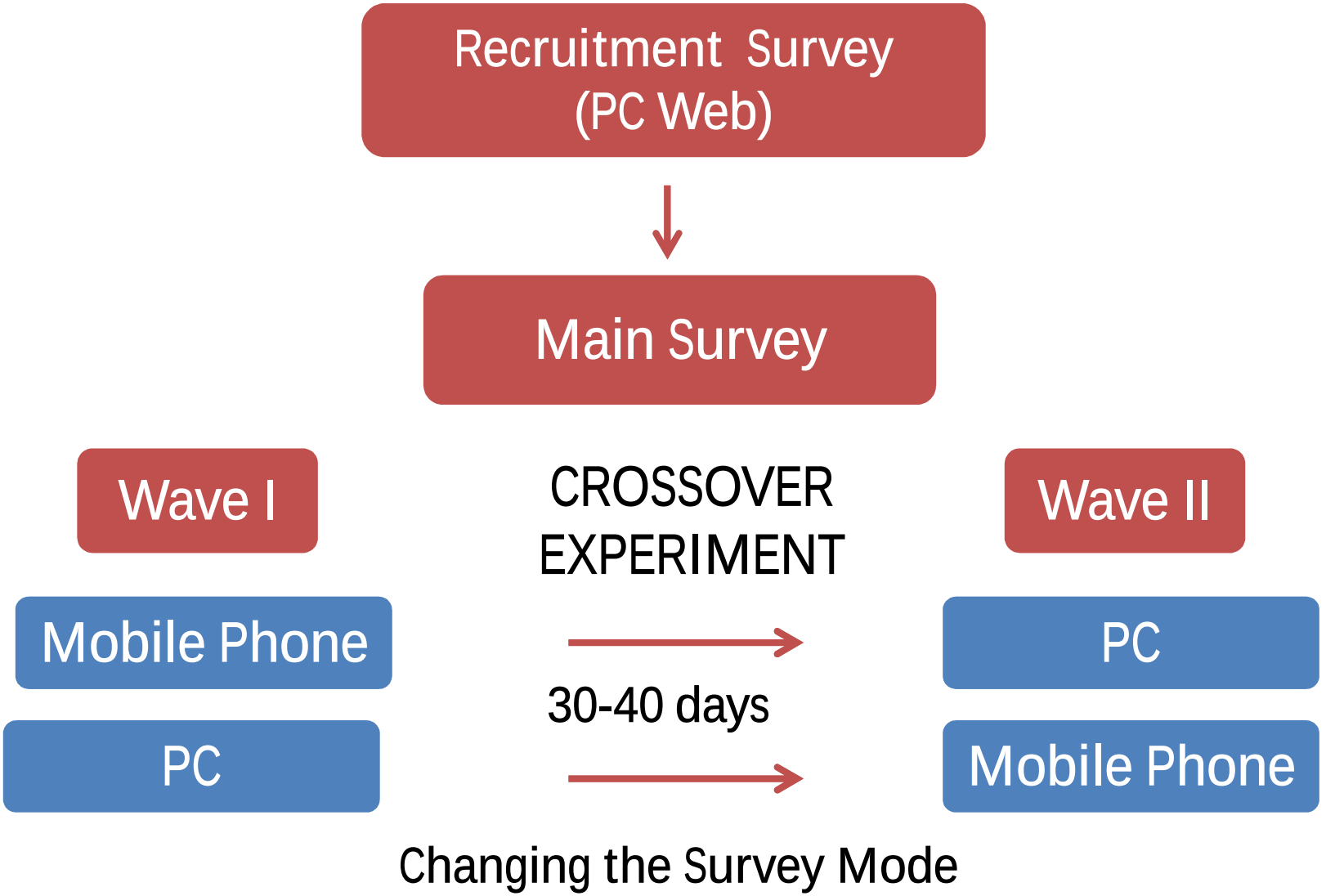
H2: Context variables

In both survey modes we expect that higher level of perceived privacy and trust in confidentiality of the survey mode, home-based setting (versus office, university or other place), and no presence of third persons during completing the questionnaire increase respondent candor and level of reporting.

H3: Anxiety and sensitivity of the questions

We expect that respondents are more likely to feel uneasy answering the questions and classify the questionnaire as sensitive, if their response values are not socially desirable.

Experimental Design



Object: Monthly mobile Internet users aged at least 18 y.o.

Software

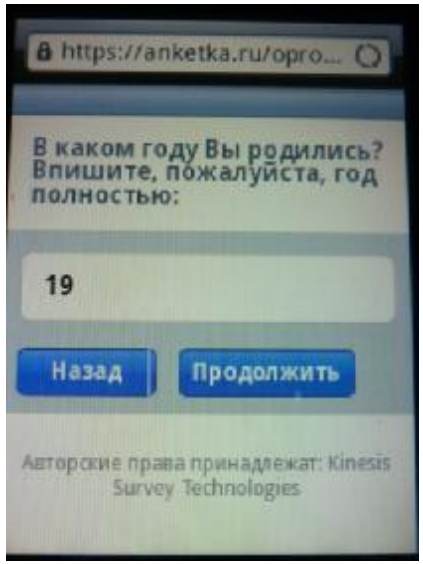
Software: KINESIS

Questionnaire for PC Web browsers

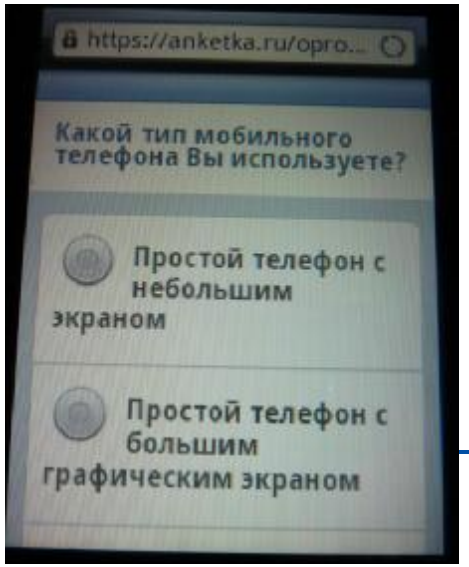
Questionnaire for mobile Web browsers

Invitation mode

E-Mail Invitation



SMS Invitation



No mobile application

Data Collection

Recruitment Stage

Random invitations among the participants of a volunteer online access-panel stratified according to the gender and age profile of the mobile Web population in Russia in 2011

Sent: 75,257 invitations

Start Rate: 28.5% (*21,462*)

Completion Rate: 7.8% (*5,859*)

5,859 respondents, or 7.8% among invited:

- were eligible for the survey,
- agreed to participate in the experiment,
- provided their mobile phone numbers.

Data Collection

	Mobile Web	PC Web
Number of invitations	2,564	1,479
Absorption Rate	88.5% (*2,269*)	99.4% (*1,470*)
Start Rate	29.9% (*766*)	75.2% (*1,112*)
Completion Rate	27.8% (*713*)	73.7% (*1,090*)
Screened out Rate	4.8% (*34*)	5.0% (*55*)
Breakoff Rate	14.2% (*109*)	2.9% (*32*)
Number of completes	658	1004
Excluded from the analysis		
Number of screened out (in another survey mode)	7	
Number of breakoffs (tried to start in another survey mode)	24	
Number of completes in another survey mode	61	

Wave I: April 12-April 24, 2012

Data Collection

	Mobile Web	PC Web
Number of invitations	996	657
Absorption Rate	92.6% (*922*)	98.9% (*650*)
Start Rate	38.0% (*378*)	85.5% (*562*)
Completion Rate	33.1% (*330*)	87.5% (*575*)
Breakoff Rate	12.7% (*48*)	1.1% (*6*)
Number of completes	330	575
Excluded from the analysis		
Number of breakoffs (tried to start in another survey mode)	12	
Number of completes in another survey mode	27	

Wave II: May 29-July 10, 2012

Data Collection

	Mobile Web	PC Web	TOTAL
Wave I, April 12-April 24, 2012	658	1005	1663
Wave II, May 29-July 10, 2012	330	575	905

Panel provider managed to identify and link panel data for 884 respondents.

	Mobile Web	PC Web	TOTAL
Wave I	565	319	884
Wave II	319	565	884

Questionnaire

Wave I: 83 items

- Demographic variables, mobile Web usage patterns, the willingness of the respondents to participate in different types of mobile Web surveys.
- Sensitive blocks about the attitude towards deviant practices, towards immigrants, behavioral blocks about deviant behavior, alcohol-related behavior, and alcohol consumption.
- Monthly household income.
- “Context” questions: whether the questions were sensitive for respondents, if they trust that the survey mode protects their confidentiality, whether third parties were present during an interview, where they filled out the questionnaire.

Questionnaire

Wave II: 72 items

- The core of the questionnaire with income question, attitudes towards deviant practices, behavioral blocks about deviant behavior, alcohol-related behavior, and alcohol consumption repeated the first wave.
- Contextual variables such as the place of completing the questionnaire, presence of third people, level of trust in survey mode confidentiality, and sensitivity of the questions.
- To minimize conditioning effects some questions were replaced. We added the questions about mass media usage and items about the importance of some biographical facts to feel truly Russian.

Completion Time

- In both survey modes and in both waves the respondents were invited to the questionnaire with the expected length of 10 minutes.

- However, here is the factual median completion time:

	Mobile Web	PC Web
Wave I	20.67 min.	9.07 min.
Wave II	15.62 min.	6.62 min.

Sensitive Indices

1. *Attitude towards deviant practices* (15 items: whether behaviors, e.g., abortion, cheating on taxes, prostitution, etc. can or cannot be justified).
2. *Deviant behavior* (15 items: whether respondents have stolen anything from a shop, have used marijuana/hashish/ecstasy, etc.).
3. *Alcohol-related behavior* (9 items: whether respondents have ever been drunk during several days, have forgotten some events next day after they were drinking alcohol, etc.).
4. *Alcohol consumption*. Quantity-frequency index: Consumption = Σ Quantity X Frequency (natural log transformation of frequency).
5. *Monthly household income* (13 income groups).

Results

Context Variables

		Mobile Web	PC Web	Chi-square, *df*=1
Place where the respondent filled in the questionnaire	At home	55.1%	71.0%	48.276***
	Outside the home	44.9%	29.0%	
The presence of third persons	Not present	70.8%	83.9%	43.476***
	Present	29.2%	16.1%	
Trust in confidentiality of the survey mode	Do not trust	37.2%	25.2%	29.595***
	Trust	62.8%	74.8%	
The sensitivity of the questions	Not sensitive	43.3%	36.5%	8.489**
	Sensitive	56.7%	63.5%	
Feeling uneasy answering the questionnaire	Did not feel uneasy	78.1%	75.6%	1.537 (n.s.)
	Feeling uneasy	21.9%	24.4%	
N		884	884	

*p < 0.05, **p < 0.01,***p < 0.001 (two-tailed)

Context Variables

		Wave I			Wave II		
		Mobile Web	PC Web		Mobile Web	PC Web	
Trust in confidentiality of the survey mode	Do not trust	41.2%	20.2%		28.8%	27.4%	0.200 (n.s.)
	Trust	58.8%	79.8%	85.206***	71.2%	72.6%	
The sensitivity of the questions	Not sensitive	44.6%	41.1%	2.007 (n.s.)	41.1%	34.2%	4.189*
	Sensitive	55.4%	58.9%		58.9%	65.8%	
N		648	996		319	565	

*p < 0.05, **p < 0.01,***p < 0.001 (two-tailed)

Nonresponse Error

1. Given that the response rate was different in two survey modes, we can hypothesize that those who were invited to mobile Web survey but did not participate in the second wave reported more sensitive attitudes or behavior in the first wave when they filled out the questionnaire on PC.

2. Logistic Regression: Nonrespondents reported slightly lower monthly household income, lower score in the attitude index, and higher level of reporting of alcohol consumption.

Measurement Error

Linear fixed-effects model coefficients:
Survey mode differences

	Attitude towards deviant practices	Deviant behavior	Alcohol-related behavior	Daily alcohol consumption	Monthly household income
Intercept	6.524 (.228)***	4.633 (.202)***	3.267 (.198)***	-.414 (.341)	6.735 (.163)***
Mobile Web	.008 (.085)	-.016 (.058)	-.044 (054)	-.350 (.157)*	-.236 (.051)***
Males	-.152 (.188)	1.015 (.165)***	1.042 (.162)***	1.594 (.281)***	-.122 (.134)
Age group: 18-34 y.o.	-.337 (.214)	-.666 (.192)***	-.342 (.188)	-.647 (.318)*	-.244 (.155)
N	1768	1768	1768	1739	1708

*p < 0.05, ***p < 0.001 (two-tailed)

Measurement or Nonresponse Error

Level of alcohol consumption

- Since non-respondents among those who were invited to the second wave of the study to complete the questionnaire via mobile phone reported higher level of alcohol consumption, this difference could be due to *nonresponse* error.
- OLS regression based on the data in the first wave of the study. Controlling for the age and gender, the results of this analysis confirmed the survey mode difference in the direction predicted (p-value<0.05).
- PC Web survey produced significantly higher level of reported alcohol consumption.

Measurement or Nonresponse Error

Income

- OLS regression in the first wave did not show significant effect of the survey mode (control var.: age and gender) .
- OLS regression in the second wave of the study: significant difference between survey modes (p-value<0.05).
- OLS regression based on the data in the first wave but performed on those who completed the second wave of the experiment did not reveal any significant difference.
- The repeated measurement showed that those who changed the survey mode from mobile to PC Web indicated higher income group.

Measurement Error

Linear fixed-effects model coefficients: Survey mode differences

	Attitude towards deviant practices	Deviant behavior	Alcohol-related behavior	Daily alcohol consumption	Monthly household income
Intercept	6.610 (.273)***	4.627 (.227)***	3.119 (.220)***	-0.748 (.990)	6.771 (.186)***
Mobile Web	-.132 (.090)	-.079 (.063)	-.040 (.058)	-.361 (.166)*	-.233 (.055)***
Trust in confidentiality of the survey mode	-.375 (.147)**	-.072 (.110)	.097 (.104)	.084 (.247)	.064 (.094)
Bystanders	.388 (.146)**	.147 (.107)	.041 (.100)	-.275 (.253)	-.210 (.092)*
Completing the questionnaire outside the home	.246 (.128)	.186 (.094)*	.020 (.088)	.450 (.222)*	.150 (.080)
Feeling uneasy	-.234 (.156)	.262 (.117)*	.442 (.110)***	.665 (.264)*	-.094 (.100)
Sensitive questions	.005 (.130)	.173 (.096)	-.150 (.090)	-.004 (.223)	-.112 (.083)
“Standard” order of the responses++	.294 (.111)**				
Males	-.221 (.187)	1.024 (.165)***	1.010 (.161)***	1.610 (.281)***	-.131 (.135)
Age group: 18-34 y.o.	-.334 (.212)	-.636 (.191)***	-.318 (.186)	-.623 (.318)*	-.238 (.155)
N	1768	1768	1768	1739	1708

++ the experiment with the response order (standard or reverse) was conducted only in attitude questions

*p < 0.05, **p < 0.01,***p < 0.001 (two-tailed)

Conclusion

H1: The differences between survey modes

We found that PC Web survey tended to produce more honest responses in sensitive items compared to mobile Web survey mode. We found a significant difference between survey modes in the level of reporting of alcohol consumption and monthly household income.

H2: Context variables

- We did not find an effect of trust in anonymity and confidentiality of the survey mode.
- Contrary to the expectations, we found a positive effect of completing the questionnaire outside the home on the reporting level. Though the effect was significant only in some of the indices, it shows that completing the questionnaire in a home-based setting does not necessarily result in higher level of reporting in self-administered Web-based surveys.

Conclusion

H2: Context variables

- We found a positive effect of presence of bystanders on the responses in attitude questions, and a negative effect in the income question.
- In both indices an effect was significant only when the bystanders were familiar to the respondent.

H3: : Anxiety and sensitivity of the questions

- In accordance with the expectations, those respondents who reported that they were feeling uneasy while answering the questions, were more likely to have socially undesirable response values.
- No effect of sensitivity of the questions was found.