



Utrecht University

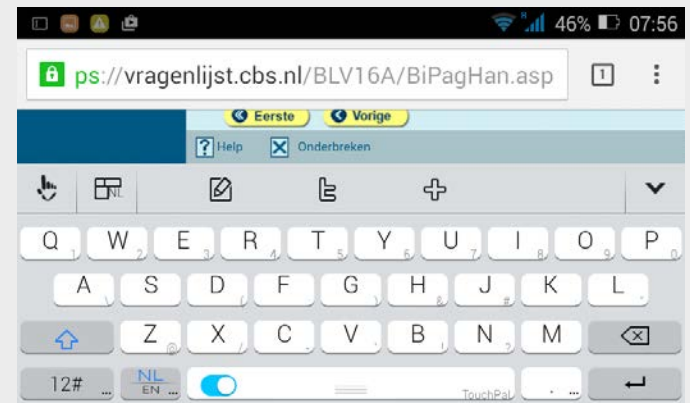
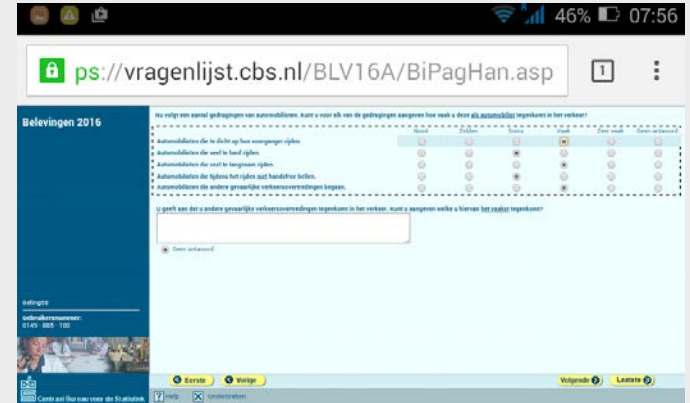
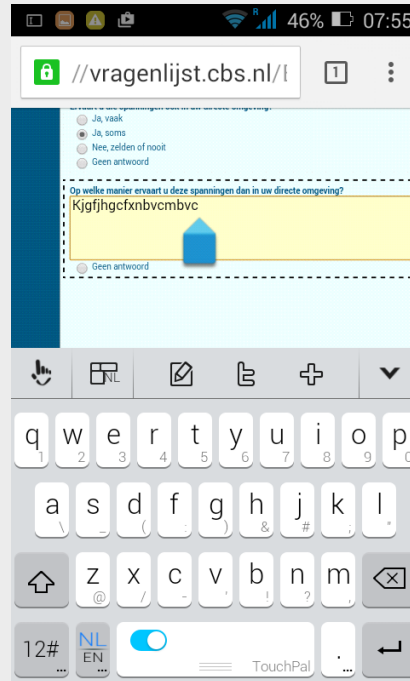
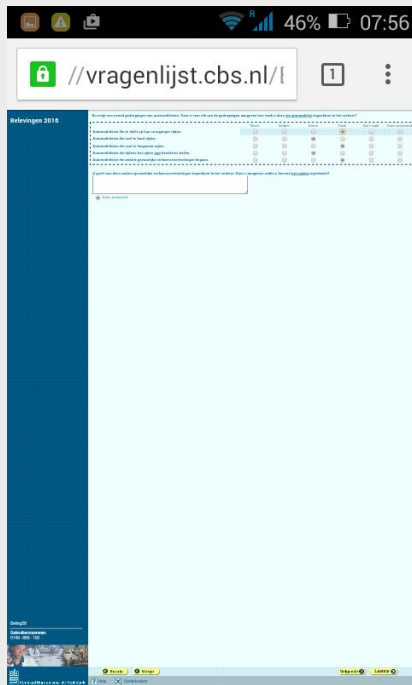
# The ultimate design for collection on mobile devices

Jeldrik Bakker, Sjoertje Vos & Vera Toepoel



Statistics  
Netherlands

# Surveys on smartphones



# What can we do?

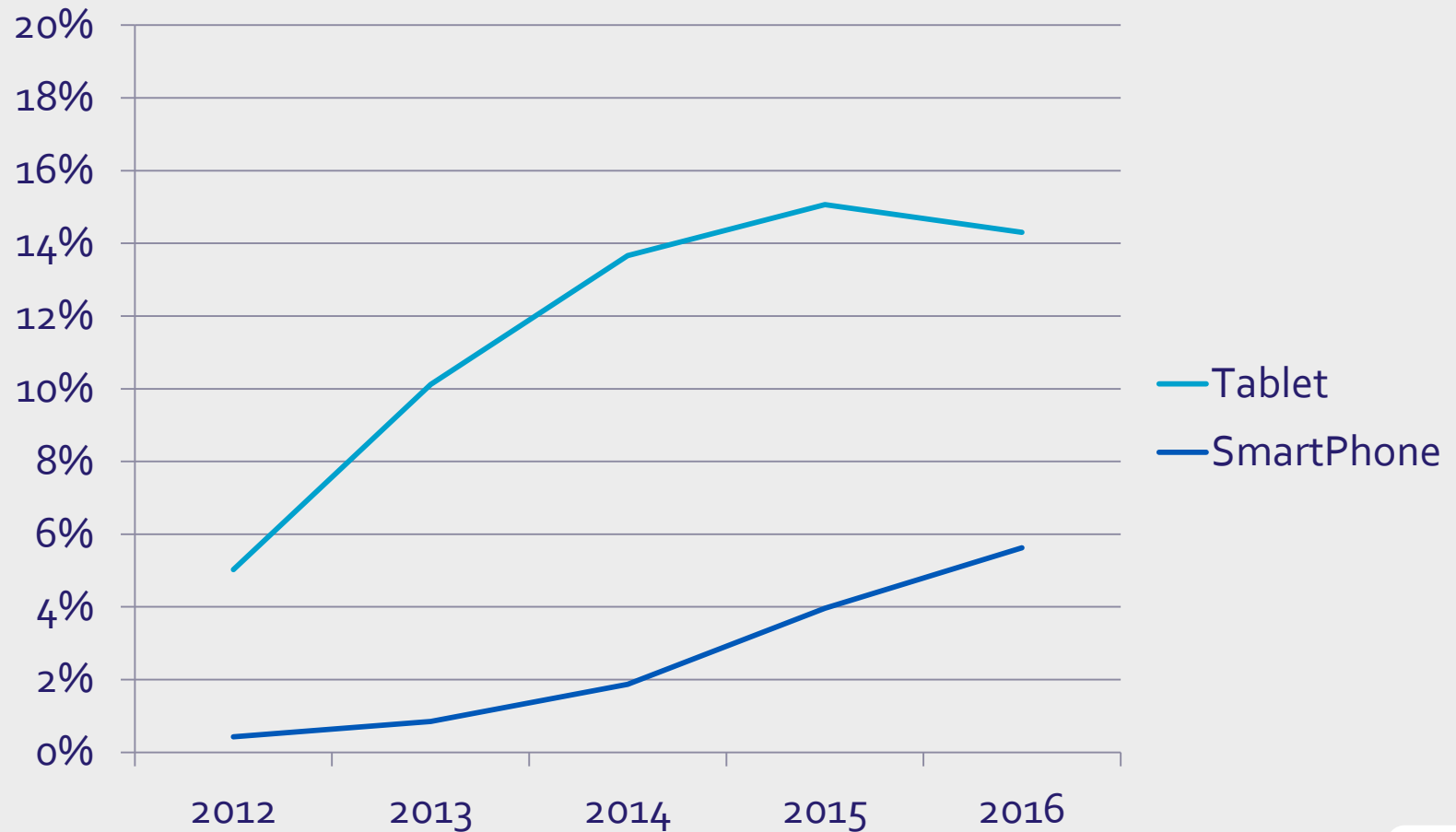
1. Do nothing
2. Explicitly discourage the use of a mobile device
  - In the survey invitation
  - On the introduction page
  - Blocking mobile device access
3. Make the survey mobile friendly
4. Optimize surveys for mobile devices
5. *Build a specific app for mobile devices*



# 1. Doing nothing: Can we get away with it?

1. Is the amount of mobile respondents neglectable?
2. Are mobile respondents similar to non-mobile respondents (background & answers)?

# Is the amount of mobile respondents neglectable?



# Are mobile respondents similar to non-mobile respondents?

	Tablet (vs. Desktop)	Smartphone (vs. Desktop)
Age	No difference	younger
Gender	No/small difference	More female
Income	No difference	Lower
Education	No/small difference	lower
Ethnicity /nationality	No difference	More ethnic background

## Differences in answer distribution (device effects)

- Longer question text
- Grid/matrix questions

# What can we do?

- ~~1. Do nothing~~
- 2. Explicitly discourage the use of a mobile device**
  - In the survey invitation
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## 2. Explicitly discourage the use of a mobile device

- In the survey invitation
  - doesn't work\*
- On the introduction page
  - doesn't work\*
- Blocking mobile device access
  - higher non-response\*

\* *Based on only a few studies*

# What can we do?

- ~~1. Do nothing~~
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# 3. Make the survey mobile friendly

## What is mobile friendly?

- Content is displayed properly
- Text is readable without the need to zoom in
- Selecting items is easy
- No horizontal scrolling
- Grid questions are transformed to multiple single choice questions

Lorch, J., Mitchell, N. (2014). Why you need to make your surveys mobile friendly now. Survey Sampling international



# Radio Buttons



# Check boxes

1. Which of the following devices do you use to connect to the internet? (Check all that apply)

- Enterprise digital assistant (EDA)
- Personal digital assistant (PDA)
- Laptop computer
- Desktop computer
- Computer tablet
- Smart phone
- Other (please specify)

2. Which of the following devices do you most prefer to use to connect to the internet?

2015 Census Test

What is John B Doe's race or origin?  
*Select one or more boxes. (Help)*

- White  
For example, German, Irish, English, Italian, Lebanese, Egyptian, and so on.
- Hispanic, Latino, or Spanish origin  
For example, Mexican or Mexican American, Puerto Rican, Cuban, Dominican, Salvadoran, Colombian, and so on.
- Black or African Am.  
For example, African American, Jamaican, Haitian, Nigerian, Ethiopian, Ghanaian, and so on.
- Asian  
For example, Chinese, Filipino, Asian Indian, Vietnamese, Korean, Japanese, and so on.
- American Indian or Alaska Native

Bent u op dit moment... ?

Meerdere antwoorden mogelijk

- alleen, of met onbekenden
- met partner, vriend/vriendin
- kinderen
- andere familieleden
- collega's, klasgenoten
- cliënten, klanten
- vrienden
- andere mensen die u kent

Vorige Volgende

# Drop-down boxes

## **Avoid using drop-down boxes**

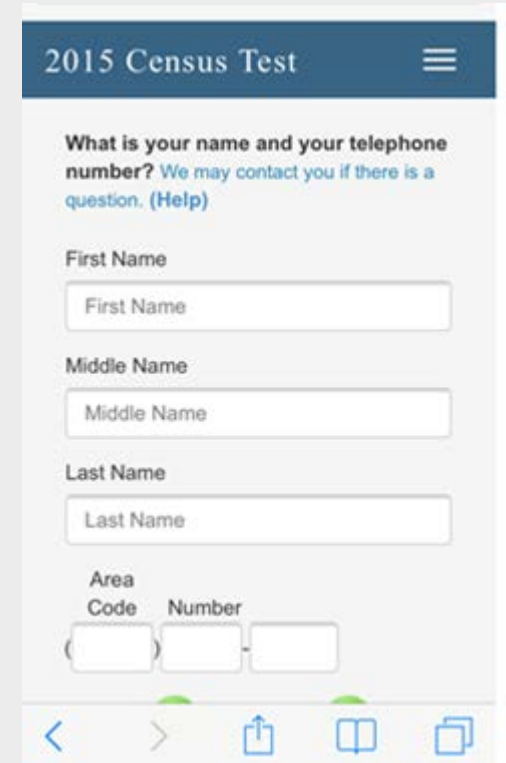
- produces stronger primacy effects
- Higher item missing's
- More errors/mistakes
- Layout dropdown boxes vary between browsers

If you do use a drop-down box, make sure the respondent knows the name of what they want and sort the list in a logical way.



# Text Fields

- Larger text fields result in longer answers
- Use multiple fields for multi-section answers (birth date)
- Respondents can use text fields on smartphones
  - abbreviations
  - typos
  - auto-correct errors
  - Similar content



2015 Census Test

What is your name and your telephone number? We may contact you if there is a question. (Help)

First Name  
First Name

Middle Name  
Middle Name

Last Name  
Last Name

Area Code Number  
( ) -

< > [Share] [Bookmarks] [Tabs]

# Sliders

- Avoid using sliders to collect precise values
- Sliders may produce
  - longer completion times
  - Lower quality responses
  - Different item means



# Grids

(1)

Terug naar Mail 19:29

www1.surveys.gfk.com

<< >>

Hoe onbelangrijk of belangrijk zijn onderstaande waarden, normen en overwegingen voor uw werk?

	Helemaal niet belangrijk	Niet belangrijk	Ni belangrijk onbela
Loyaliteit ten aanzien van de directe leidinggevende	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
De positie van belangenorganisaties	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mijn eigen wens om bij te dragen aan goed beleid	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Loyaliteit ten aanzien van het parlement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vakinhoudelijke en professionele normen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Effectiviteit van de taakuitvoering	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

< >   

Terug naar Mail 07:06

noties.nl

 Albert Heijn

Hieronder ziet u een aantal stellingen over boodschappen doen.

Kunt u voor iedere stelling aangeven in hoeverre deze op u van toepassing is bij het boodschappen doen?

*Is deze stelling helemaal niet op u van toepassing dan vinkt u het meest linker hokje aan. Is deze stelling zeer van toepassing op u dan vinkt u het meest rechterhokje aan. De tussenliggende waarden vinkt u al naar gelang uw mening aan.*

Helemaal niet van toepassing Zeer van toepassing

Ik vind het belangrijk dat ik op de versproducten kan zien waar alles vandaan komt

Ik ga voor mijn boodschappen meestal naar de winkel die het dichtste bij

< >   

# Grids

(2)

During the current school year, about how often have you done the following?

Prepared two or more drafts of a paper or assignment before turning it in

Very often   Often   Sometimes   Never

Come to class without completing readings or assignments

Very often   Often   Sometimes   Never

Attended an art exhibit, play, or other arts performance (dance, music, etc.)

Very often   Often   Sometimes   Never

Asked another student to help you

Bent u het eens of oneens met de volgende uitspraken?

Mijn eigen geluk hangt sterk af van het geluk van mensen om mij heen.

1 helemaal oneens

2

3

4

5

6

7 helemaal eens

Ik weet het niet

Vorige   Volgende

https://acctestenquête.cbs.nl/

Gezondheidsenquête 2016

Wilt u van de volgende langdurige ziekten en aandoeningen aangeven of u die heeft of in de afgelopen 12 maanden heeft gehad?

Migraine of regelmatig ernstige hoofdpijn

Ja

Nee

Astma

Ja

Nee

COPD, chronische bronchitis, longemfyseem

Ja

Nee

Psoriasis

Ja

# What can we do?

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# 4. Optimizing surveys for mobile

## Limited or no research available

- Paging vs. scrolling
- Automated scrolling/auto forward
- Question wording (length)
- Radio buttons vs. big buttons
- Questionnaire length



# Paging vs. scrolling design

- Paging
  - No scrolling needed
  - Longer loading time
  - More clicking
  - Limited content effects
- Scrolling
  - Faster
  - Risk of item missings



# Automated scrolling/auto forward

- Faster than desktop
- Need for animated movement
- Potential risk for straightlining

The screenshot shows a mobile survey interface. At the top, there is a status bar with various icons and the time 4:17. The survey questions are as follows:

During the current school year, about how often have you done the following?

Prepared two or more drafts of a paper or assignment before turning it in

Very often    Often    Sometimes    Never

Come to class without completing readings or assignments

Very often    Often    Sometimes    Never

Attended an art exhibit, play, or other arts performance (dance, music, etc.)

Very often    Often    Sometimes    Never

Asked another student to help you

At the bottom, there is a navigation bar with three icons: a back arrow, a home icon, and a document icon.

# Question wording (length)

- Complicated text is about twice as hard to read on a small device (Nielsen, Budiu, 2013)
- Device effect for questions with a lot of text
- Can we shorten questions & question text without changing the question?

# Radio buttons vs. big buttons

18:22  
https://acctestenquête.cbs.nl/

Onderbreken ? Help  
Gezondheidsenquête 2016

Wilt u van de volgende langdurige ziekten en aandoeningen aangeven of u die heeft of in de afgelopen 12 maanden heeft gehad?

**Migraine of regelmatig ernstige hoofdpijn**

**Astma**

**COPD, chronische bronchitis, longemfyseem**

**Psoriasis**

18:07  
start.panelwizard.com

panelwizard direct

U heeft met het beantwoorden van vragen € 0,20 verdiend. Kunt u misschien aangeven waar dat bedrag naar toe moet?

Zelf/eigen spaarpotje

- Maag Lever Darm Stichting
- Plan Nederland
- VluchtelingenWerk Nederland
- CliniClowns
- Stichting Natuur & Milieu
- Stichting Jarige Job
- Stichting ChoiceforChildren
- War Child
- Rode Kruis
- Amnesty International
- Aids Fonds

18:15  
coolblue.nl

zeer tevreden ✓

n.v.t. ○

**ERVARING MET COOLBLUE.**  
In hoeverre bent u tevreden met:

het oriëntatieproces

« ○○○○○○○○○ »

zeer ontevreden ○

ontevreden ○

niet ontevreden / niet tevreden ○

tevreden ○

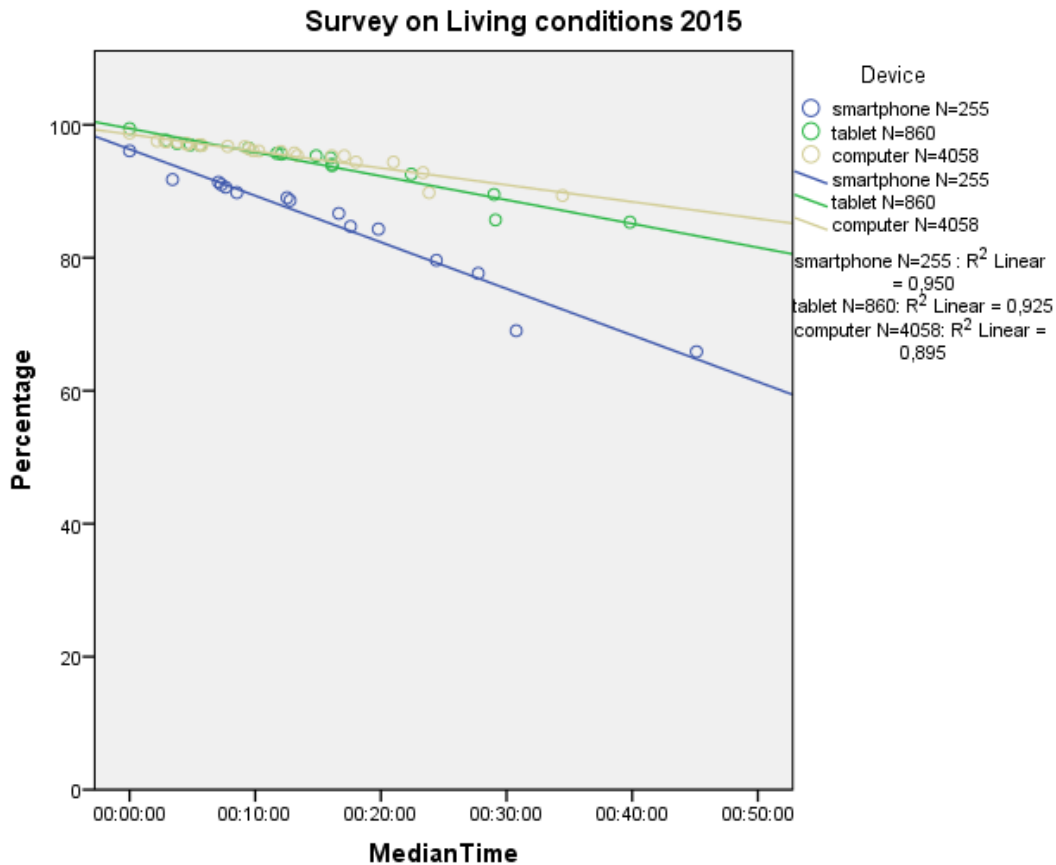
zeer tevreden ○

n.v.t. ○

**ENTHOUSIASME.**  
Zou u ons aanbevelen bij een vriend of collega?

0 = zeer onwaarschijnlijk, 10 = zeer waarschijnlijk

# Questionnaire length



Device	Breakoff per minute
Smartphone	0.70%
Tablet	0.36%
Computer	0.25%

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5. *Build a specific app for mobile devices*

## *5. Build a specific app for mobile devices*

- Use 24-7 availability
  - diary studies
  - Flash questionnaires
- Sensors
  - GPS
  - Health
  - Environment
  - ...
- Link to wearables

# Conclusions

- Make a special smartphone layout
- Tablet layout can stay similar to the desktop
- The best practices are not set in stone
- Most research relies on sub-optimal samples
- If you want to be safe (minimize potential device effects), only use question types that are known to work across devices (radio buttons, check boxes and text entry boxes)

