



Effects of Pagination on Short Online Surveys

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Pagination is a fundamental decision in web survey design

Goals:

- Optimize completion rate
- Minimize nonresponse bias
- Minimize order effects
- Minimize respondent burden

Options:

1. All questions on a single page (scrolling)
2. Multiple questions per page (grouped)
3. One question per page

Existing Evidence - Study Designs



Vehovar, 2000

- Research on Internet in Slovenia survey, 1996
- Scrolling (n=644) vs. Multiple screens (n=673)
- 7 minute response time

Couper, 2001

- UMich newspaper student survey; attitudes toward affirmative action & admissions policies
- Four grid questions (n=338) vs. 16 single question pages (n=327)
- Additional conditions: with & without progress bars, radio buttons vs text boxes
- Email invitations to web-based survey

Peytchev, 2006

- UMich student life census; evaluation of tobacco, alcohol, drug use
- Scrolling questionnaire (n=970) vs Paging (n=8747)
- Links to skip questions (scrolling) vs automatic skips (paging)
- Email invitations to web-based survey

Gonyea, 2007

- National Survey of Student Engagement; ~160,000 responses from freshmen and seniors
- 4 Pages (2004) vs 17 pages (2005)
- ~15 minute response time; web and paper modes

Existing Evidence - Results



Vehovar 2000

- No difference in breakoff rate
- Shorter response time for scrolling version (7.8 vs 6.1 minutes)
- Higher item nonresponse (esp. for grids) in scrolling version

Couper 2001

- Shorter response time for grid version (2.8 vs 3.2 minutes)
- Fewer DK/NA responses for grids (1.2 vs 1.7)
- Higher inter-item correlations for grids, but not significant
- Higher straightlining incidence for grid version

Peytchev 2006

- No difference in response or breakoff rates
- Scrolling version
 - Higher item nonresponse
 - Higher 'very likely' to complete next year
 - Longer response time (confounded by skip logic in paged version)

Gonyea 2007

- 17 page survey had higher breakoff vs 4 page survey
- Different response distributions vs prior years' unchanged formats
- Not a random assignment experiment

Experiment Design



'Take our survey' link randomly served to a percentage of visitors on YouTube.com each week

Help improve YouTube - Take our survey

Close



Search

Browse

Movies

Upload

kcp3

Sign Out

13 question Happiness Tracking Survey (HaTS)

- First question required, others not required

Help improve YouTube - Take our survey

Respondents assigned randomly to 1 of 3 conditions:

- 1 page (scrolling)
- 5 pages (grouped)
- 13 pages (one question per page)

Experiment Design



1 Page
Q1
Q2
Q3
Q4
Q5
Q6
Q7
Q8
Q9
Q10
Q11
Q12
Q13

5 Pages
Q1
Q2
Q3
Q4
Q5
Q6
Q7
Q8
Q9
Q10
Q11
Q12
Q13

13 Pages
Q1
Q2
Q3
Q4
Q5
Q6
Q7
Q8
Q9
Q10
Q11
Q12
Q13

Results: Completion Rate



Condition	Number of respondents starting	Number of respondents completing	Completion Rate
1 page (scrolling)	6,193	1,851	30.1%*
5 pages	6,066	2,042	34.0%
13 pages	6,246	2,146	34.6%

Significantly lower completion rate for the scrolling (1 page design)

No statistically significant difference among the 5 and 13 pages

Results: Response Time



Condition	Median Response Time in Minutes
1 page (scrolling)	3.8
5 pages	3.8
13 pages	4.2*

The 13 pages design took 27 more seconds to be completed
13 pages requires 12 more clicks, ~2 sec/click+loading page, ~24 sec.
No statistically significant difference among the 1 and 5 pages

Results: Correlations



Condition	Correlation 1 Overall Sat / Watch Videos Sat	Correlation 2 Overall Sat / Net Promoter
1 page (scrolling)	.629	.838 ^a
5 pages	.636	.845 ^a
13 pages	.638	.777*

In the 13 page version the correlation between overall satisfaction and the net promoter was lower than in the other conditions

^a Questions appeared on same page

Results: Survey Like/Dislike



How much did you like or dislike completing this survey? (7pt fully labeled scale)

Condition	Mean
1 page (scrolling)	4.72
5 pages	4.75
13 pages	4.76

No statistically significant differences among conditions

Results: Early Breakoffs



Q1 to Q2 breakoffs among incompletes

Condition	% Breakoff
5 pages	1.6%*
13 pages	19.4%

*Q1 and Q2 were on same page

Results: Middle Breakoffs



Q1 to Q5 breakoffs among incompletes

Condition	% Breakoff
5 pages	15.7%
13 pages	30.3%

Summary



- Completion rate lower for single-page (scrolling) version
- Response time slightly higher for 13 page version but only because of extra clicks and loading time
- Higher correlation for items on the same page: pagination design does have an effect on inter item correlations
- No difference in perceived enjoyment for these short surveys

Additional Analyses



- % speedsters
- % completes with item nonresponse (# of blanks)
- % incompletes with at least 1 response (5pg vs 13pg)
- Straightlining

Future Research



- Short vs long survey, same topic & sample
- Effect of progress bar + pagination
- Grid vs single item questions + pagination
- Provide time estimates + pagination
- Screen size (mobile phone vs desktop computer)



Thank you!

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