Cross-sectional and longitudinal web surveys among children: Is there a gamification effect?

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Introduction

- Gamified surveys: rules and goals; an involving narrative; challenging tasks or quests; regular feedback and rewards.
- No experiments have been published with a focus on younger respondents.

Research Questions

RQ 1: Is there a positive gamification effect in web surveys among children and adolescents 7-15 y.o.?
RQ 2: Would a gamification effect differ for cross-sectional and longitudinal surveys?

Hypotheses

H1: Lower breakoff rates and a lower measurement error in cross-sectional gamified web surveys.
H2: Higher participation rates in the 2nd wave in the gamified survey. No difference in test-retest reliability correlations between gamified and non-gamified surveys.

Experimental Design

<table>
<thead>
<tr>
<th>1st wave</th>
<th>2nd wave</th>
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<tbody>
<tr>
<td>text-only survey</td>
<td>text-only survey</td>
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<tr>
<td>visual survey</td>
<td>visual survey</td>
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<tr>
<td>gamified survey</td>
<td>gamified survey</td>
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</tbody>
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Data Collection

- Children and adolescents 7-15 y.o.
- Volunteer online access panel in Russia (Online Market Intelligence)
  - 1st wave: N=1,050; participation rate 10.0% (February 2014)
  - 2nd wave: N=737; participation rate 70.7% (April-May 2014)

Questionnaires

- 79 items: questions about school and Internet usage
- No images, Flash or Javascript-based questions
- Background color, images, Flash-based questions, Javascript-based slider bars
- The same design as the visual survey + gamification features

Gamification features:

- Narrative – traveling in the Antarctic and helping penguins
- Rules – helping penguins, responding to questions, and receiving points
- Challenges – helping and saving as many penguins as possible
- Rewards – points and personalized feedback

Results

- Participation rates and breakoff rates (BR)
- Request for help
- Survey evaluation
- Average test-retest reliability correlations
- Measurement error

Main findings and implications

- Gamified surveys among younger respondents can be helpful in cross-sectional studies (ease and enjoyment of completing the survey).
- However, they distract the attention from the main task, which result in lower reliability in longitudinal surveys.
- What can be done in longitudinal web surveys?
  - Different narratives,
  - New gamified features introduced sequentially