



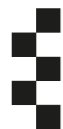
SURVEY FUTURES

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Mitigating against measurement effects when surveys transition to an online mode

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Background

- Many large-scale social surveys have adopted **mixed-mode** and **web-first designs** over the past decade (e.g., Coffey, Maslovskaya & McPhee, 2024; Huskinson & Irvin, 2025; Cabrera-Álvarez et al., 2025)
- This can introduce **mode measurement effects** (e.g., de Leeuw, Hox & Dillman, 2008)

Research question:

- How can survey practitioners effectively introduce an online mode to their surveys, whilst minimising unintended measurement effects?

Introducing the Measurement Effect Risk Framework (MERF)

The **MERF** contains two elements:

1. A **checklist** with different risk codes
2. A **supporting table** to:
 - Identify whether the risk is present and potential implications
 - Suggest mitigations through questionnaire design

The MERF checklist

Category of risk	Risk codes	
A. Interviewer effects	A1: Socially desirable responses	<input type="checkbox"/>
	A2: Sensitive question	<input type="checkbox"/>
	A3: Rating scale	<input type="checkbox"/>
	A4: Knowledge or skills test	<input type="checkbox"/>
B. Respondent satisficing	B1: Long or complex question	<input type="checkbox"/>
	B2: Looped question	<input type="checkbox"/>
	B3: Calculation required	<input type="checkbox"/>
	B4: Open question	<input type="checkbox"/>
C. Presentation effects	C1: Long lists	<input type="checkbox"/>
	C2: Check all that apply	<input type="checkbox"/>
	C3: Interviewer observation/hidden code	<input type="checkbox"/>
	C4: Interviewer check	<input type="checkbox"/>
	C5: Visual aid	<input type="checkbox"/>
	C6: Battery of questions/ Grids	<input type="checkbox"/>

The supporting table

The supporting table helps to **establish whether the risk is present and outline next steps** (if so).

For each of the 14 risk codes, the table contains three columns:

Description	Is risk factor present?	Implications and mitigations for WEB transition
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The MERF

Each questionnaire item can be systematically reviewed to:

Identify the risk of mode measurement effects

Understand implications for accuracy

Suggest mitigations through questionnaire design

How was the MERF developed?

It builds on a previous mode effect risk framework (d'Ardenne et al., 2017) that was based on:

- A **2011 review** of mode measurement effects (Campanelli et al.)
- The **Questionnaire Appraisal System** (Willis & Lessler, 1999)

This was refined and updated via a literature review on measurement effects and mitigations during the 2010s and early 2020s.

Overview of MERF checklist

Category of risk	Risk codes
A. Interviewer effects	A1. Socially desirable responses A2. Sensitive question A3: Rating scale A4: Knowledge or skills test
B. Respondent satisficing	B1: Long or complex question B2: Looped question B3: Calculation required B4: Open question
C. Presentation effects	C1: Long lists C2: Check all that apply C3: Interviewer observation/hidden code C4: Interviewer check C5: Visual aid C6: Battery of questions/ Grids

A: Interviewer effects



A1: Socially desirable responses

Description	Is risk factor present?	Implications and mitigations for WEB transition
<p>Reporting 'social desirable' responses is less likely in SC than INT (Kim & Cooper, 2021; Fergusson, 2022)</p> <p>Within a given mode, the risk depends on whether responses are seen or overheard (Adali et al., 2022)</p>	<p>Could respondents edit their answers to 'look good' in front of an interviewer?</p> <p>Could there be negative consequences for the respondent if bystanders are present?</p>	<p>May reduce measurement error (relative to INT modes) – but may compromise time-series</p> <p>If additional F2F mode is retained, ask these items in a self-completion module & aim to establish privacy</p> <p>Framing can be important but unlikely to mitigate fully against the MME</p>

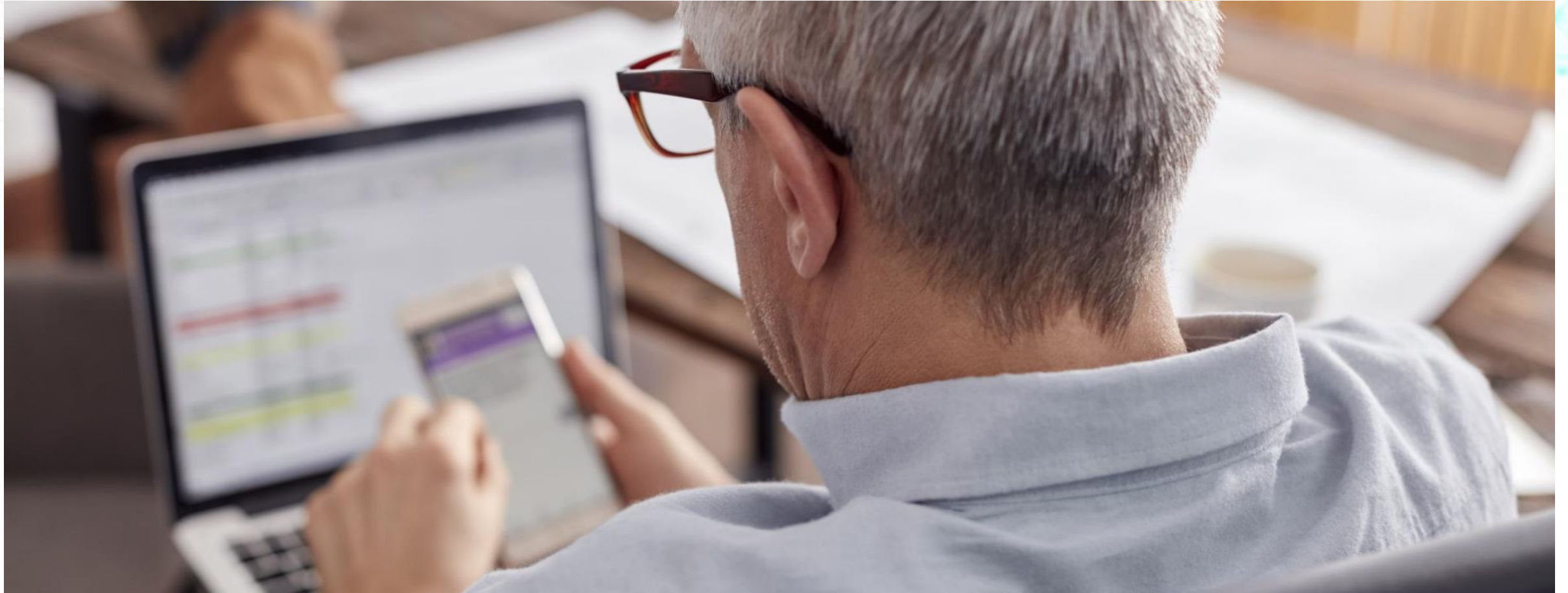
B: Respondent satisficing



B3: Calculations

Description	Is risk factor present?	Implications and mitigations for WEB transition
<p>Calculations involve tasks like transforming or adding to decide a response</p> <p>Probability of satisficing for calculation items is higher in SC than INT (e.g., Lipps & Monsch, 2022)</p> <p>Heaping is highly prevalent in WEB (Schnell et al., 2022)</p>	<p>Is a numerical response required, as a raw number or in bands?</p> <p>To provide that response, are mental calculations required (e.g., adding, subtracting, dividing or averaging)?</p>	<p>Allow respondents to select their own reference period</p> <p>Minimise the granularity of information requested. Use less granular follow up items (if DK is initially provided)</p> <p>Use prompts to reduce heaping</p>

C: Presentation effects



C6: Batteries

Description	Is risk factor present?	Implications and mitigations for WEB transition
<p>Some questions involve batteries that repeatedly use the same scale</p> <p>The risk of non-differentiation is affected by the electronic device in CAWI – higher in desktops than phones and tablets (Verbree et al., 2020)</p>	<p>Is the item part of a battery of items using the same scale (i.e., that could be displayed as part of a grid in CAWI)?</p>	<p>For battery questions, consistent presentation across different electronic devices is key</p> <p>Avoid grids and opt for ‘scrolling’ (static design) or ‘unfolding’ (dynamic design) (Vehovar et al., 2023; Mason & Huff, 2019)</p>

Summary

For surveys transitioning to an online mode, the **Measurement Effect Review Framework (MERF)** can be used to:

- **Understand impact** – helps designers assess how introducing online modes may affect survey estimates
- **Reduce risk** – suggests practical ways to minimise measurement effects when surveys transition to web

Caveats to the MERF

- **Does not deal with non-measurement sources of mode effects**
- **Risk factors may be overlapping and are subjectively defined**

THANK YOU

Category of risk	Risk codes
A. Interviewer effects	A1: Socially desirable responses <input type="checkbox"/>
	A2: Sensitive question <input type="checkbox"/>
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- The full MERF is contained in **Practice Guide 2** on the Survey Futures website
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