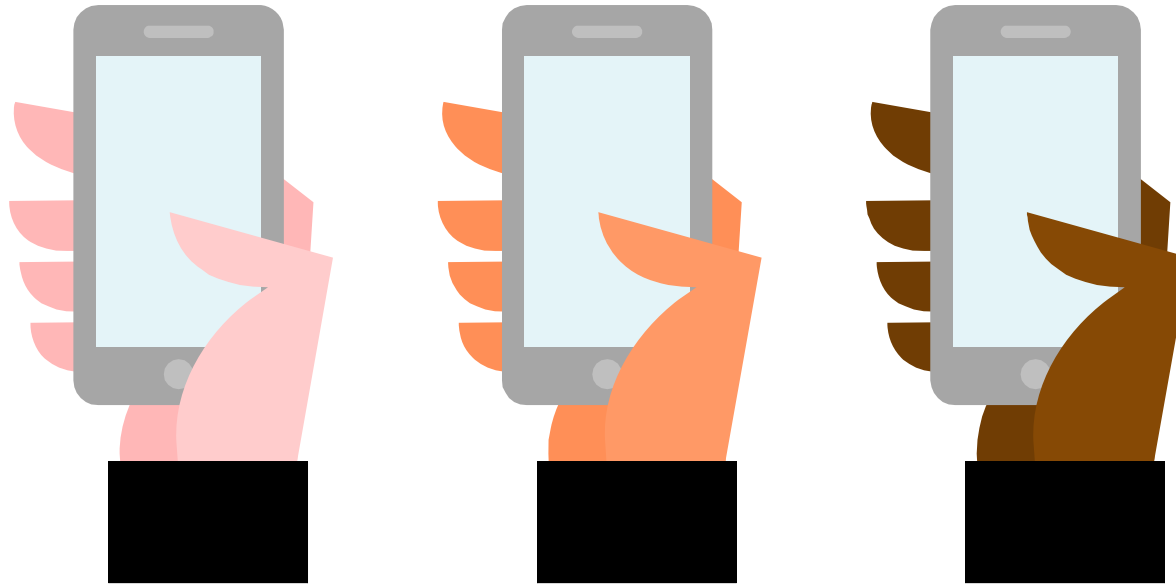


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**Online data collection within a mixed-mode design:
*Learning from the Our Future longitudinal survey of young people***

Joel Williams

Presented at "The future of online data collection in social surveys", 20 June 2019

Topic coverage of this paper

Online data collection within social research *in general*

Specific benefits and drawbacks in mixed-mode surveying

The *Our Future* (W4) study of mode effects

Implications for the future

Online data collection within social research *in general*

Online data collection within social research

Online-only is survey norm in MR but rare in SR:

(i) Need coverage of the now-distinctive offline population

(ii) Need high and/or group-invariant response rates

(iii) Need (greater) confidence about data provenance

(iv) Need capacity to collect complex data

Barrier 1: Need for coverage of the offline population

Alt mode offered on request, or online is part of MM design

...But risk of hard-to-detect mode effects

Some random sample panels supply device & data subs

(i) Participation rates can be low (tokenistic coverage?)

(ii) Do they still 'represent' the offline population?

Barrier 2: Need for high/group-invariant response rates

Online RRs usually lower than interviewer-mediated RRs

But focus in last decade on proving RR not so critical

More sophisticated methods of compensating for low RR

(i) Probably over-reliant on conditional MAR assumptions

(ii) RR still critical for longitudinal studies >> mixed-mode

Barrier 3: Need confidence in data provenance

No human agent = greater risk of rushed or fake data

Development (i): Better design & deterrence methods

Development (ii): Bad data detection algorithms

But human data collectors lead to tailoring of responses...

... and they sometimes cheat

Barrier 4: Need capacity to collect complex data

Trained agents improve biomedical / record-based DC

But self-administration not impossible or always poor

YouTube style how-to videos; better respondent support

Problem of motivating respondents remains

Online behaviour DC: passive & direct beats reported

Specific benefits and drawbacks of online data collection in mixed-mode surveys

Online data collection in a mixed-mode design

Despite preceding 'solutions', MM is still preferred for SR

Online used to pick the low hanging fruit at low cost

Human agents used to climb up to the canopy...

Particularly useful for longitudinal studies

But MM surveys can have data compatibility problems

Mode effects increase risk of bad inference

Expect mix of large and small mode effects in MM studies

Some predictable, some not; response scales problematic

Variation in effects between people/types hard to predict

Descriptive statistics usually ignore mode effects

Solutions are complex

The *Our Future* (W4) study of mode effects

***Our Future*, the longitudinal study of young people in England (cohort 2)**

Initial sample of 13-14 year olds, surveyed annually

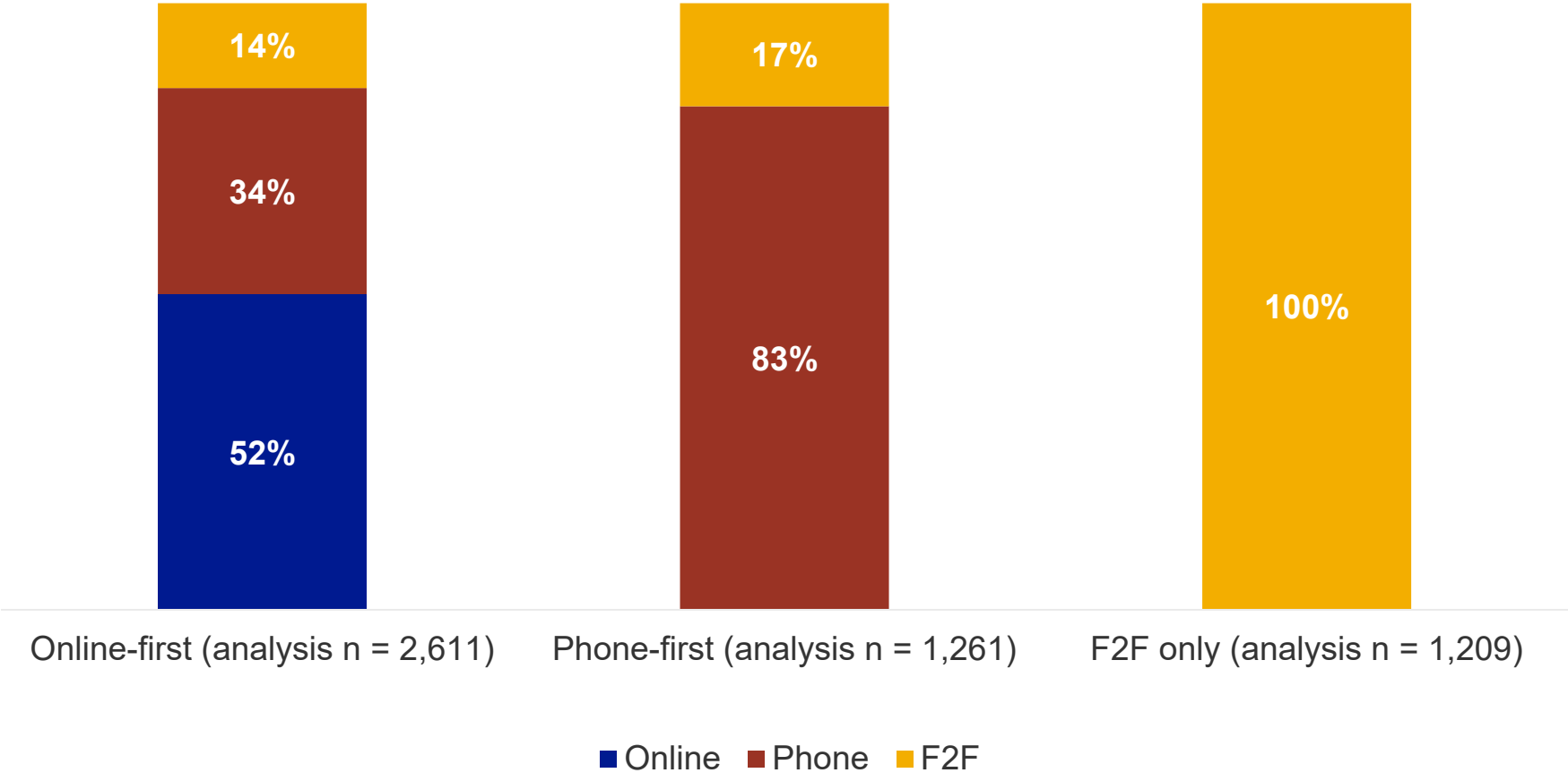
Waves 1-3: cohort members & parents, F2F

Waves 4+: cohort members only, sequential MM

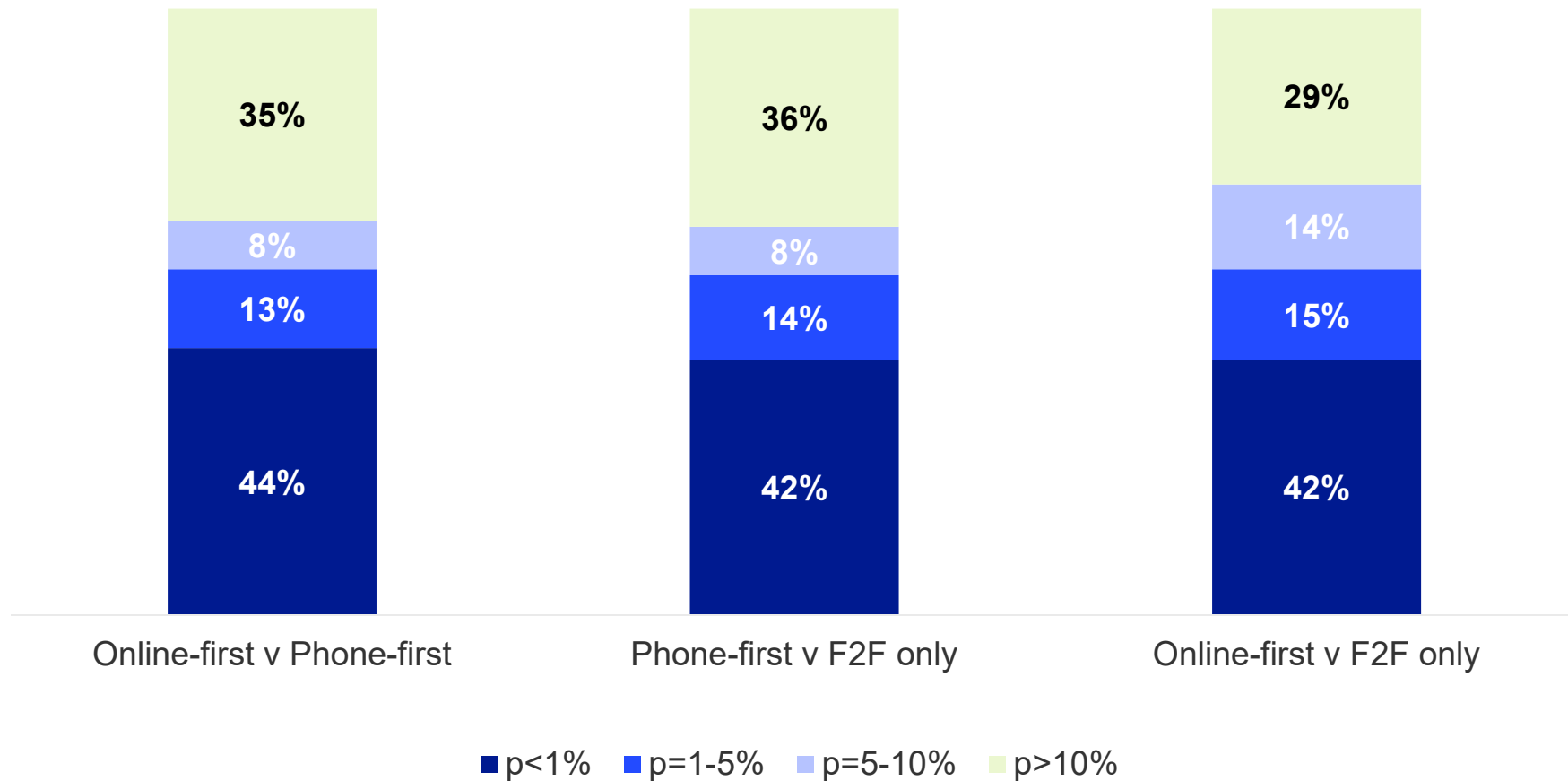
Standard MM sequence: online>phone>face-to-face

Embedded experiment in W4 to test for mode effects

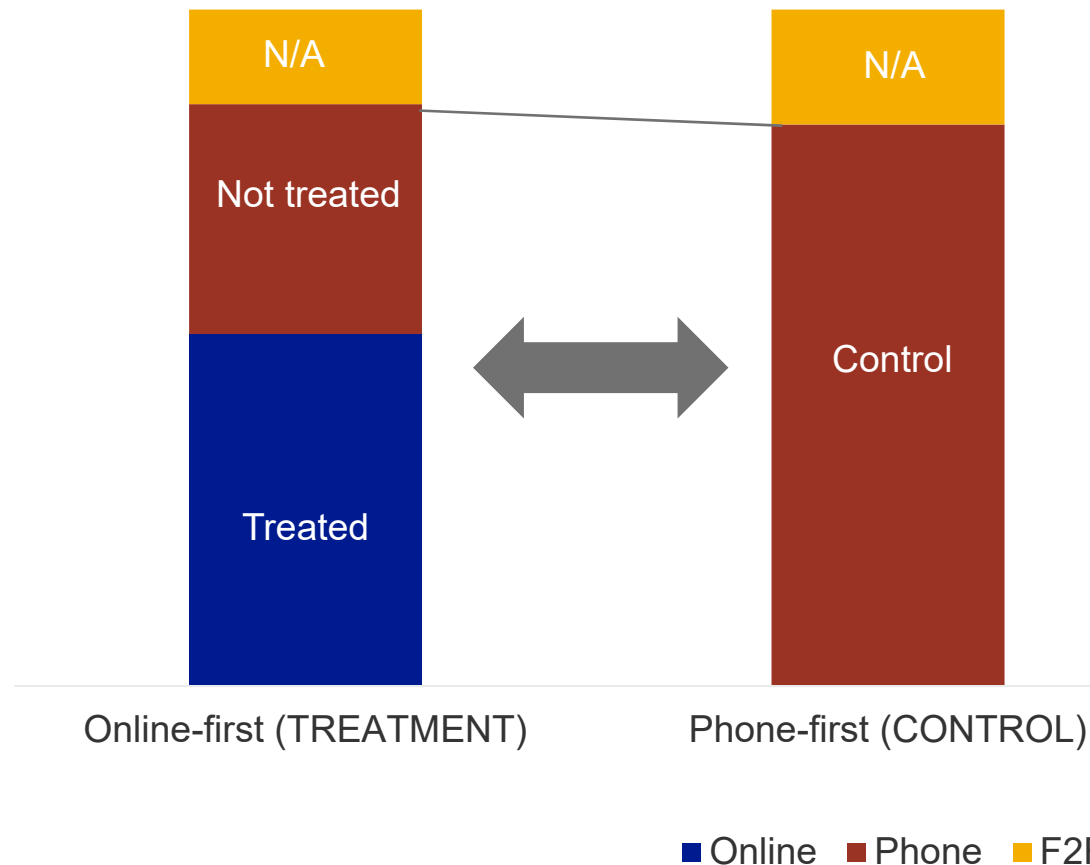
The Wave 4 mode experiment (simplified!)



95 variables with total cohort estimates: *Chi-square tests of distributional equivalence*



Local Average Treatment Effects (LATEs)



ATE estimate subtracts control mean of x from mean of x for those *allocated* to treatment

LATE estimate takes ATE estimate and assumes this is wholly due to treatment on the treated (i.e. no separate 'allocation effect')

$LATE = ATE \text{ divided by } \% \text{ treated among those allocated to treatment}$

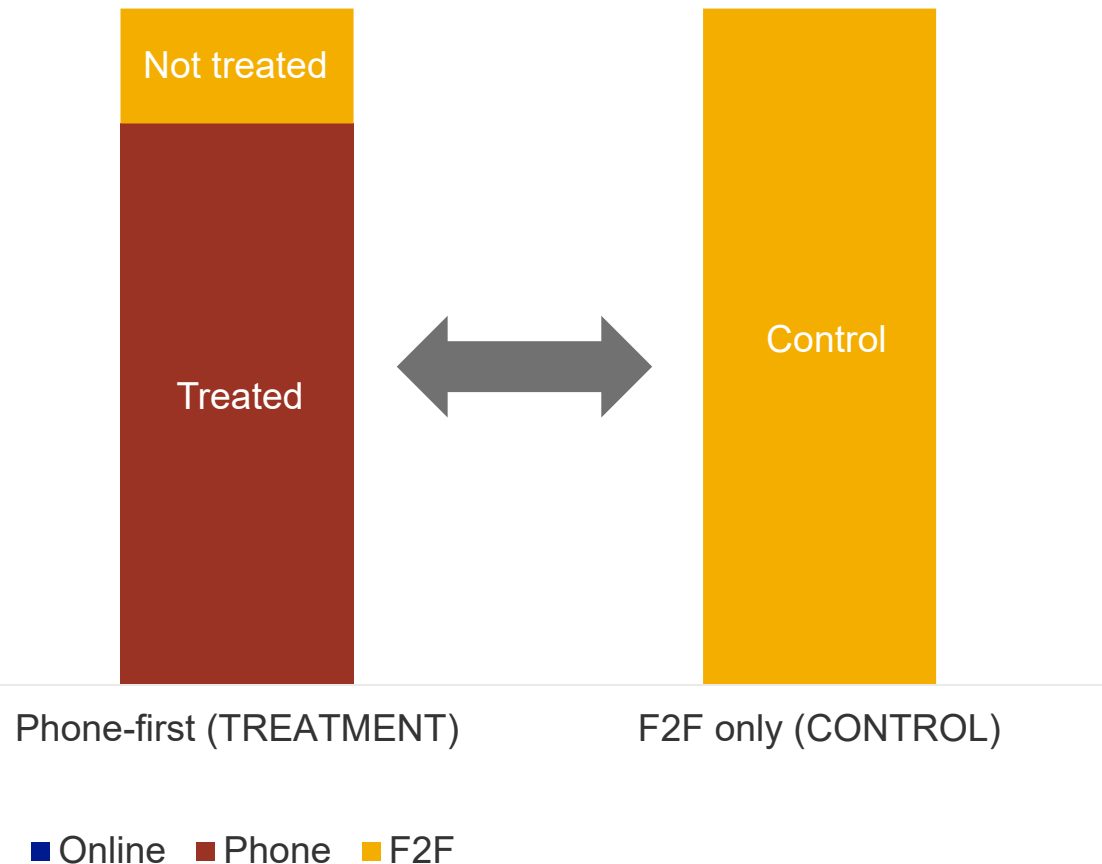
Here, LATE is online v phone for people who would respond online if allocated to online-first

Local Average Treatment Effects (LATEs)

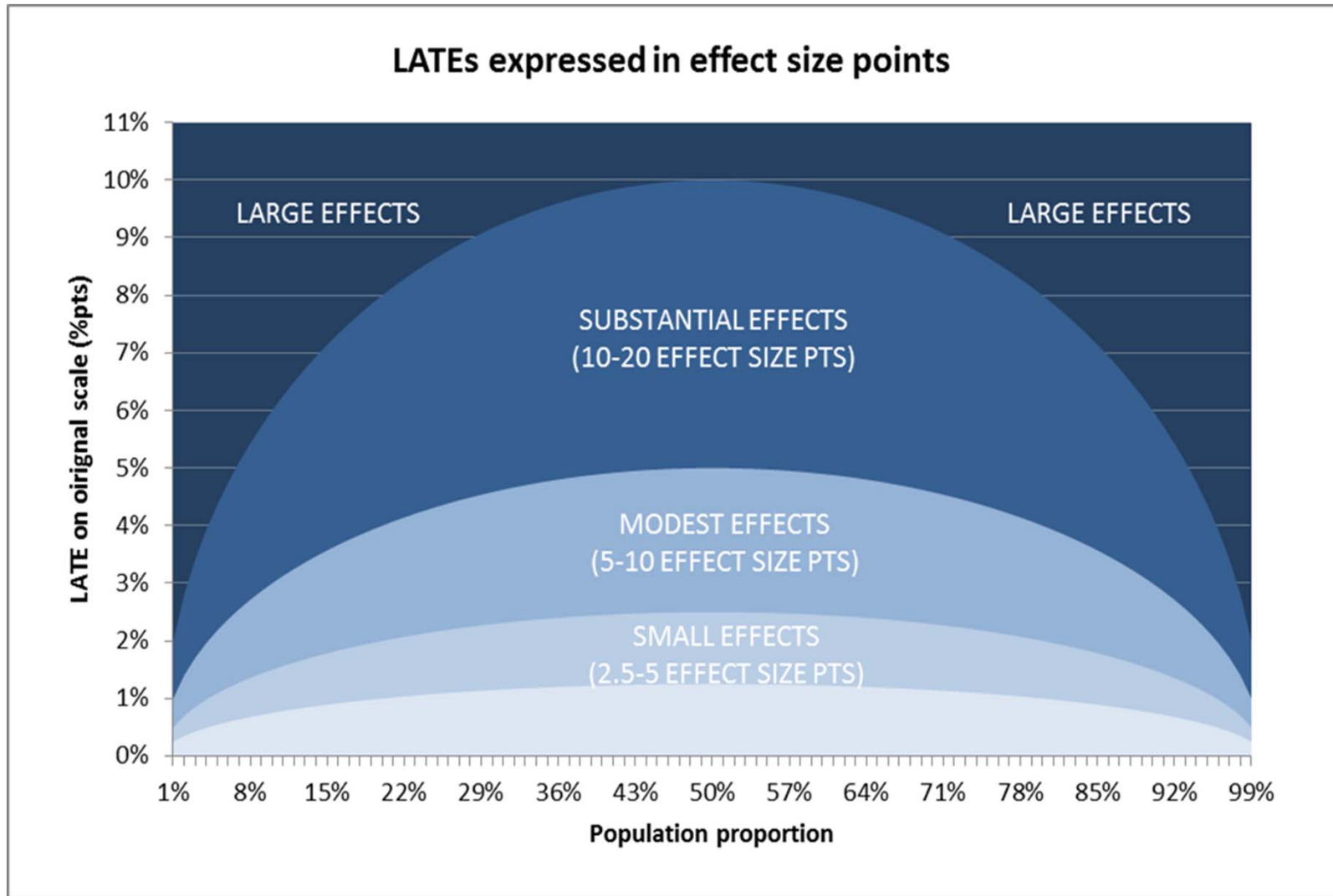
Here, LATE is phone v F2F for people who would respond by phone if allocated to phone-first

LATE for online v F2F can be estimated by summing the online v phone and phone v F2F LATEs

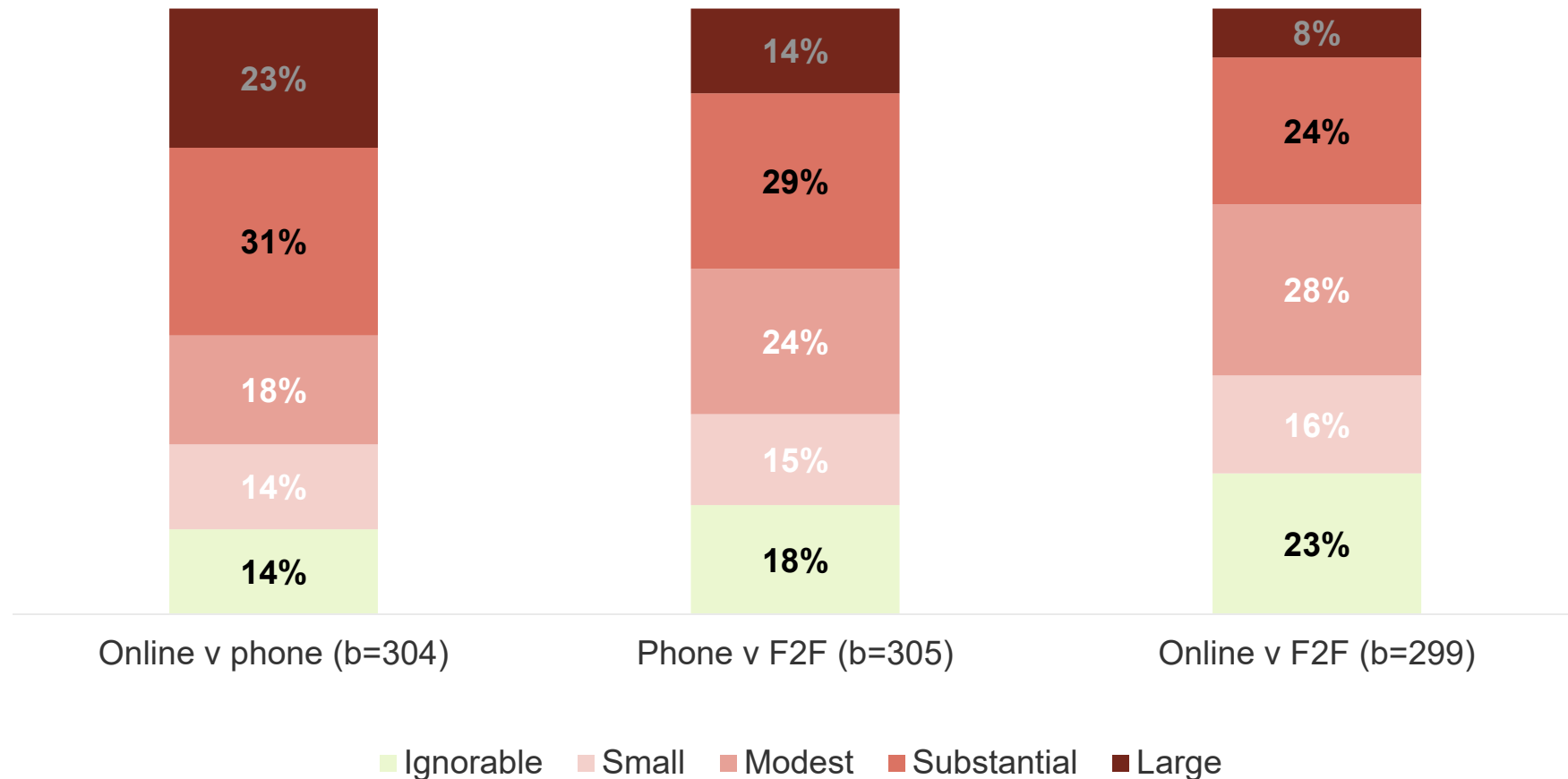
Population of inference is unclear (possibly those who would respond online *or* by phone if allocated to 3-mode sequence?)



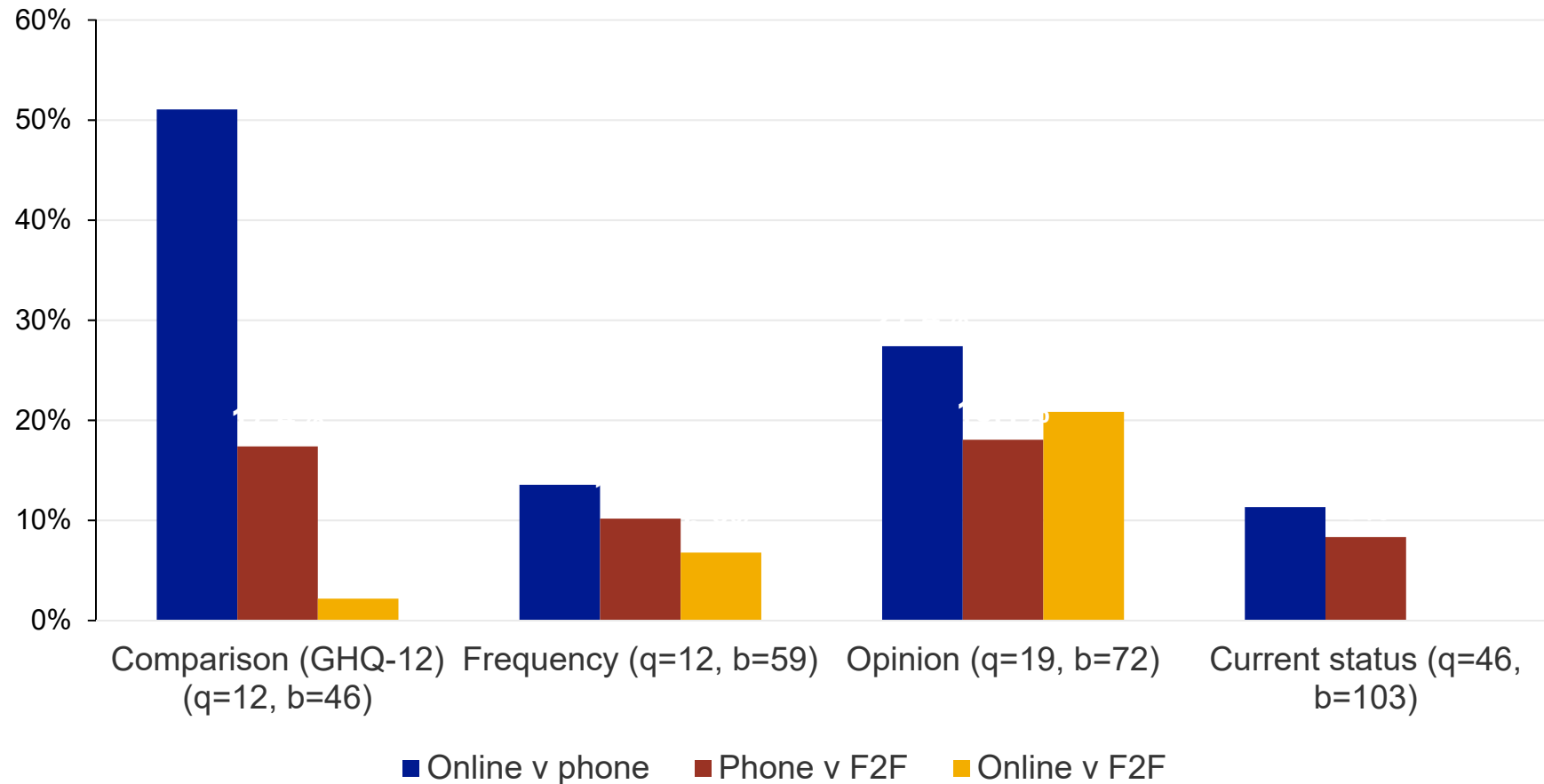
Local Average Treatment Effects (LATEs) standardised



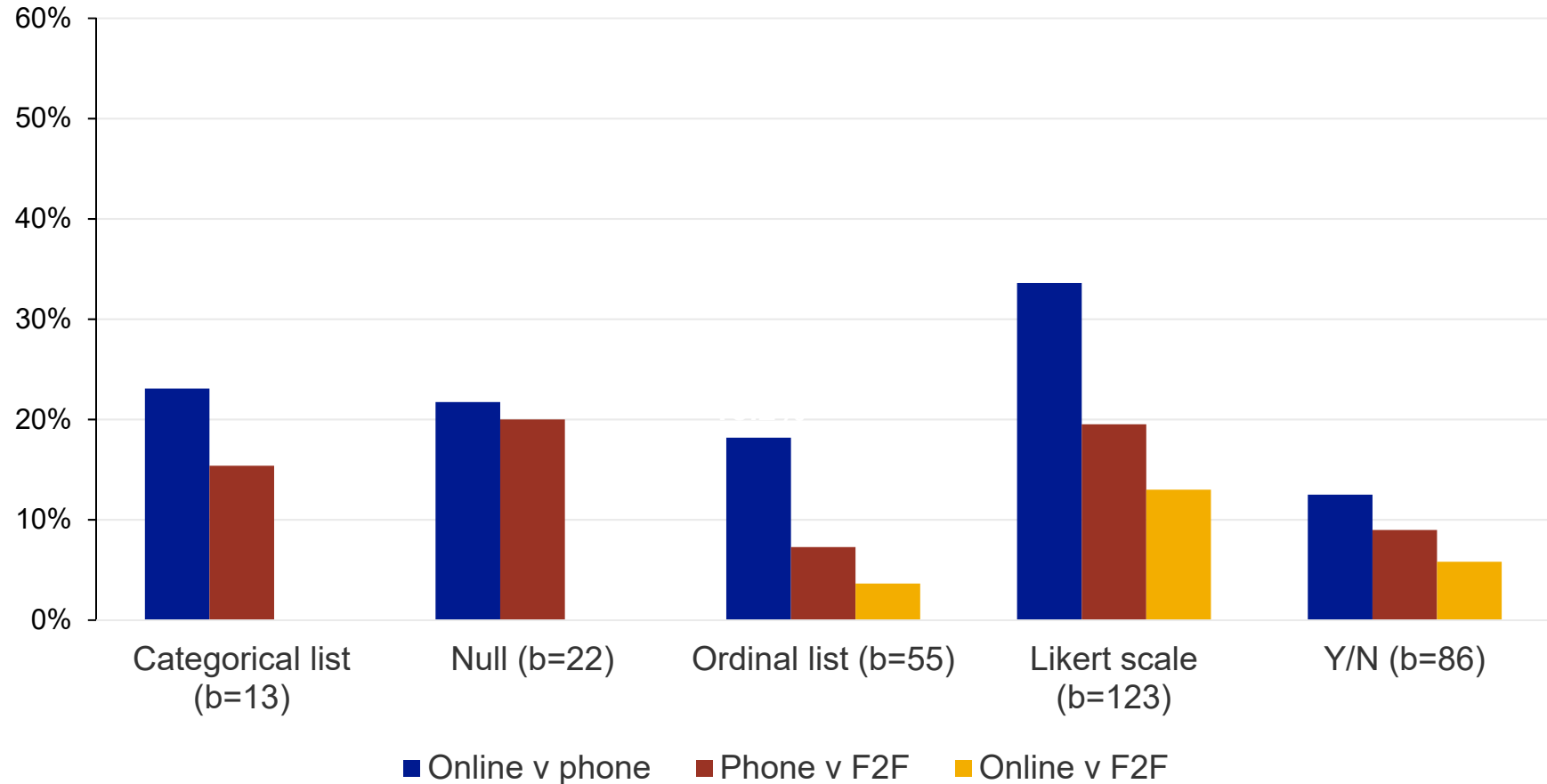
**c.300 response options* across 95 variables:
*Distribution of LATEs expressed in effect size bands***



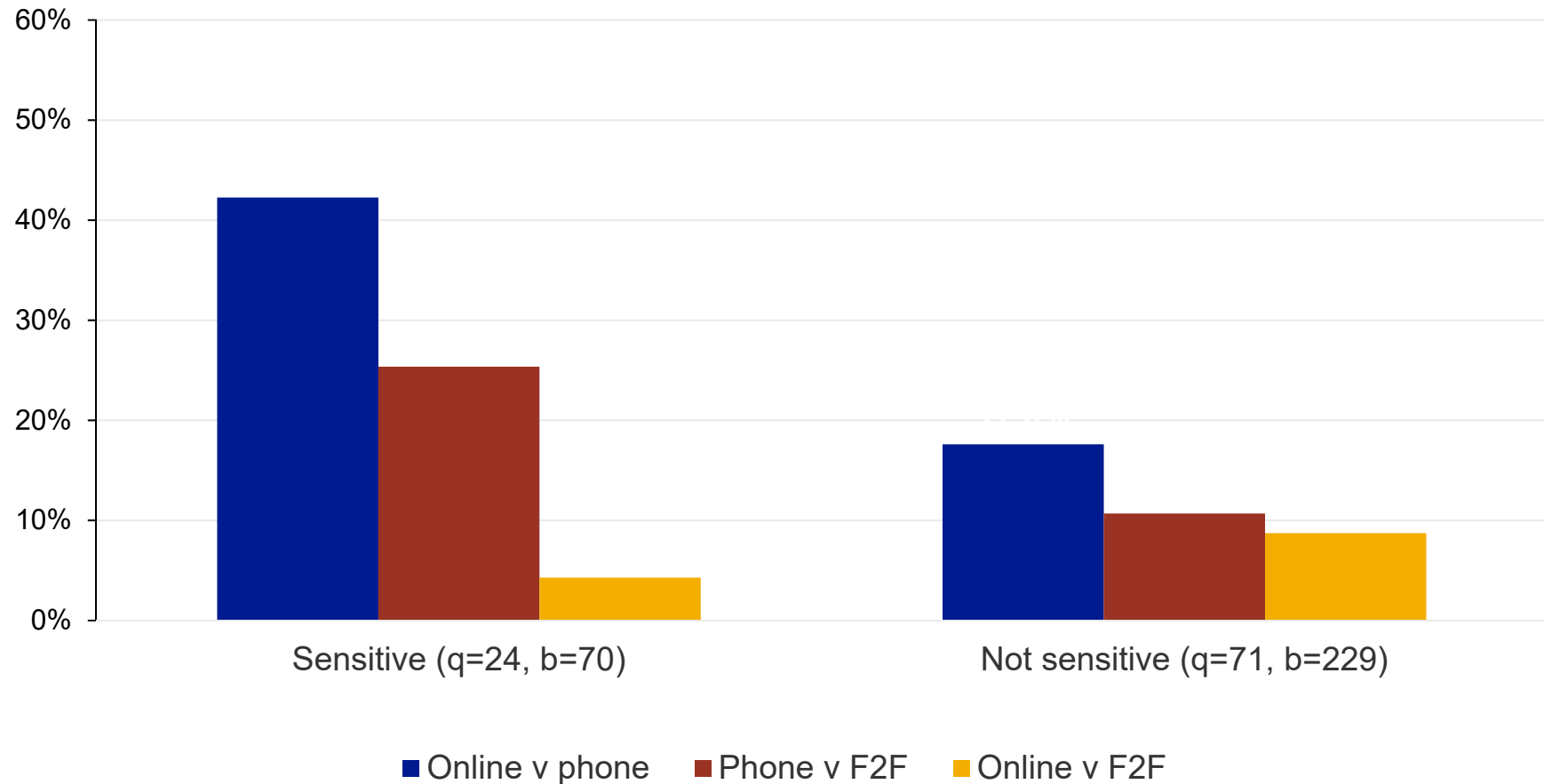
% of LATEs that are 'large' (>20 effect size pts) by Question type



% of LATEs that are 'large' (>20 effect size pts) by *Response option type*

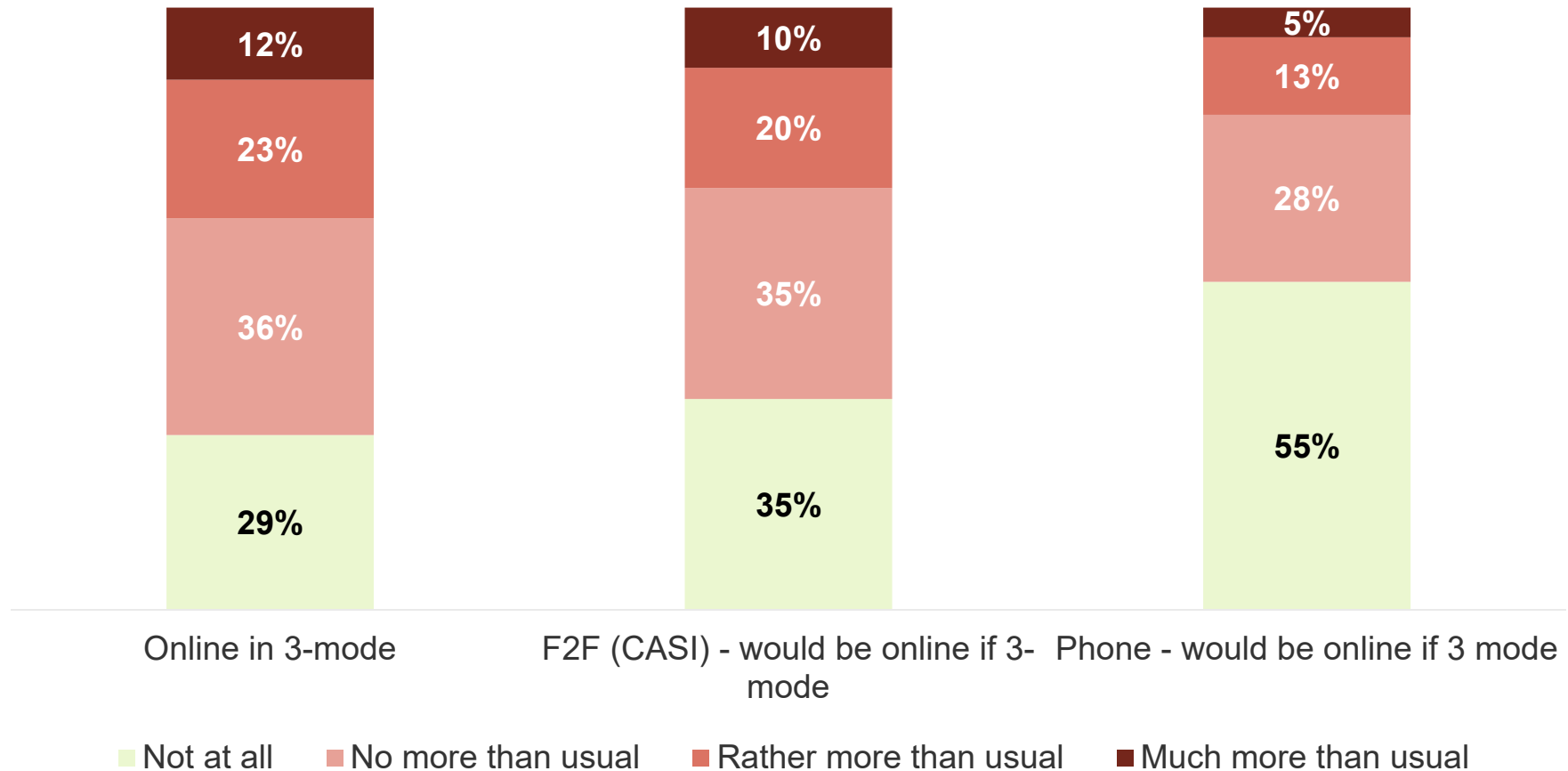


% of LATEs that are 'large' (>20 effect size pts) by *Sensitivity of question*



Example large LATE: *Item from the GHQ-12*

Has YP recently been feeling **unhappy or depressed**?



Smartphones in *Our Future*

Only 27% of online responders in W4 (2016)

Increased to 45% by W6 (2018)

No obvious device effects other than usual small ones

Not wrong to treat 'online' as a single mode

Degree of cognitive effort correlated with mode effect size?

Implications for the future

Implications for the future

Only small concern about device-level diffs in data quality

Phone looks a poor partner for online (albeit practical)

Online & (targeted) CAPI/CASI might be better value

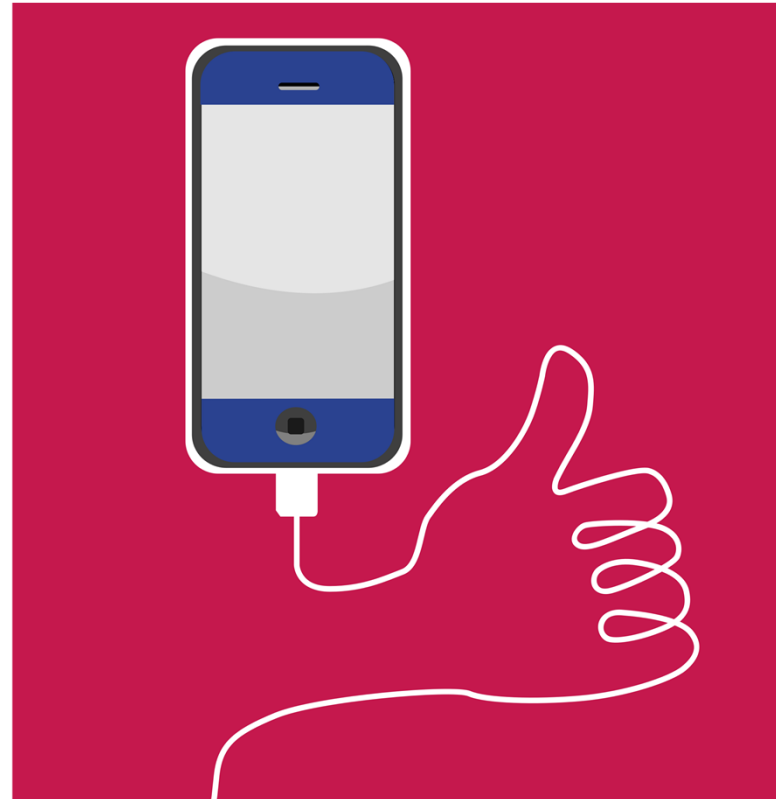
Response scales are highly problematic with MM surveys

Standard method of compensating for mode effects?

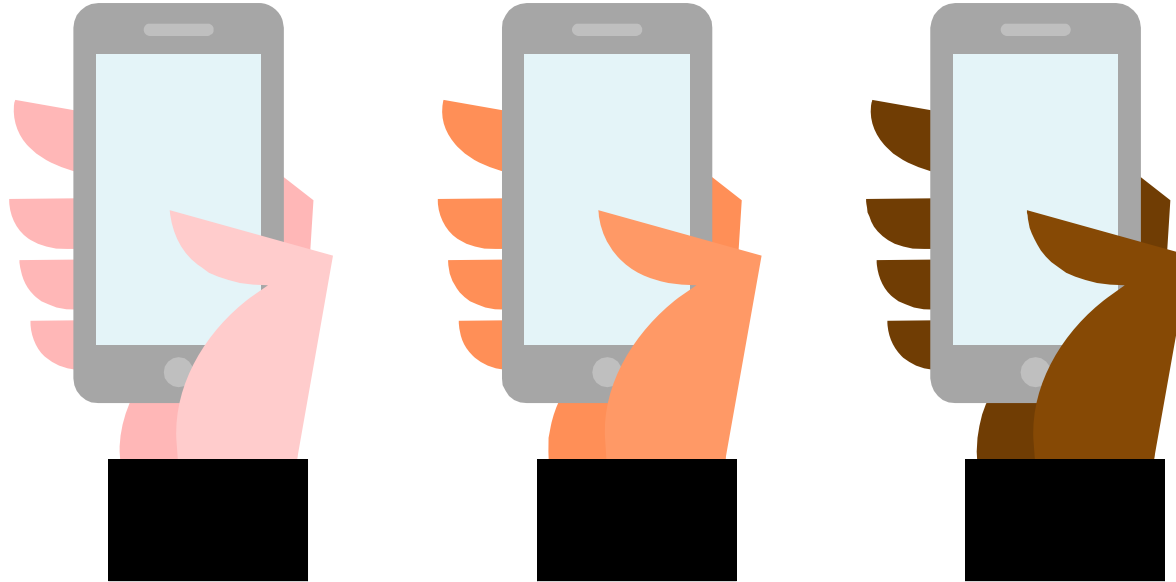
Thank you!

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