Scale Presentation in Online Surveys

AAPOR May 2024

Jamie Atkisson and Andrea Date

The Harris Poll

Striving to Understand Scale Types

Introduction to the Problem

Problem

➢ The digital era significantly revolutionizes the efficiency, accessibility, and methodological accuracy of online surveys with the innovation of the smartphone.

➢ However, due to more limited screen size on these devices, the survey design is a pivotal determinant of respondents' engagement and data quality. It is imperative that we focus on the optimization of scale question display in online surveys across both mobile and desktop devices.

   ➢ About 58% of respondents took this survey on a mobile device

➢ Previous research (Weijters et al., 2020) has shown that while many online survey packages automatically adapt visual presentation of traditional horizontal scales to vertical scales when shown on smaller screens, such as mobile devices, vertically and horizontally displayed scales may not provide equivalent results

Background and Previous Research

➢ Last year, we analyzed standard, banked, and accordion scales using a 4-point agreement scale. We found that regardless of grid type desktop users still had directionally lower estimated marginal means (higher agreement) at all three statements we looked at, however accordion scales appear to produce similar results to standard scales and may be a good alternative.

➢ Expanding on that research, we will now look at Standard, and 2 types of Carousel scales, Card Rating and Card Sort scales to determine which scale type performs the most similar across mobile and desktops.

➢ We also will look to see if straight lining and survey length differs by scale type

Survey Design

Methods

We interviewed 11,469 US adults age 18+, including 356 Spanish speaking Hispanics across thirteen different online opt-in sample provider blends from August 16, 2023, through August 31, 2023.

The sample sizes for each ranged from n=116 to n=858.

Data were RIM weighted in groups by scale and device type to population proportions from the Current Population Survey (CPS) 2022 for:

➢ Education
➢ Age by Gender
➢ Race/Ethnicity
➢ Region
➢ Household Income
➢ Household Size
➢ Marital Status

Individual weights were capped at 5 and 0.2.

Respondents self-selected device type.

➢ In this survey respondents took the survey via mobile device, desktop, or tablet. Tablet users were excluded from device type analysis due to insufficient base sizes.

Respondents were randomly assigned to one of three scale types, sample sizes for each scale ranged from n=1881 to n=1949.

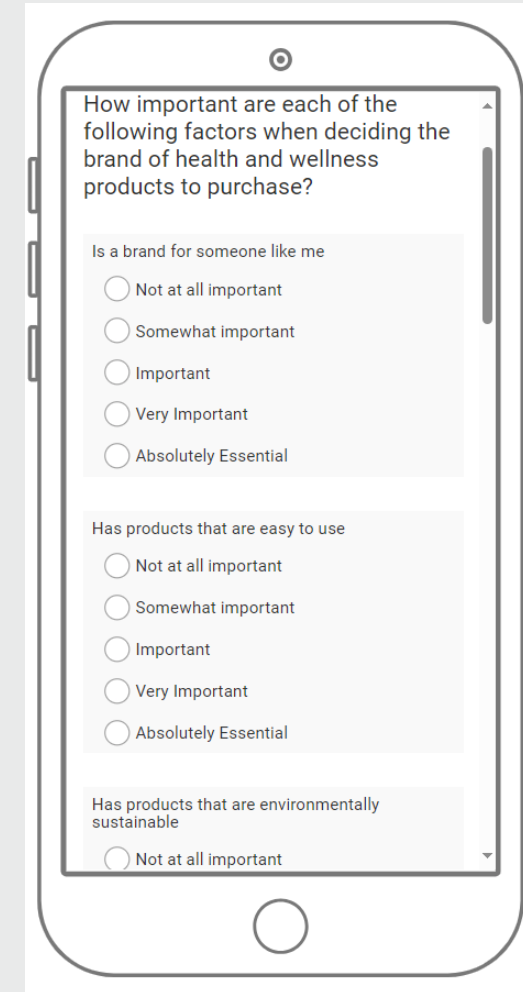The statements were randomized at each scale and a 5-point importance scale with 10 attributes was used.

Standard Scale Display on Mobile Versus Desktop

Card Rating Display on Mobile Versus Desktop
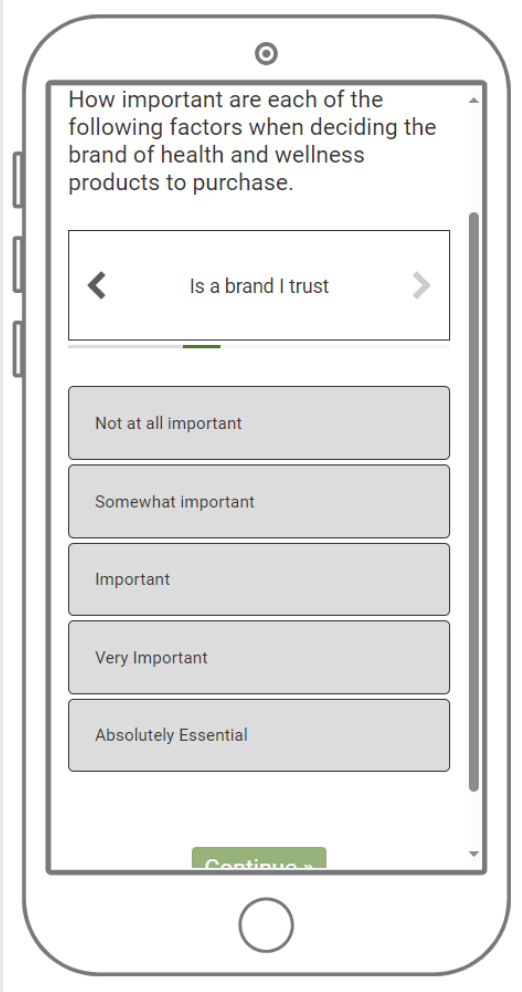
Card Sort Display on Mobile Versus Desktop
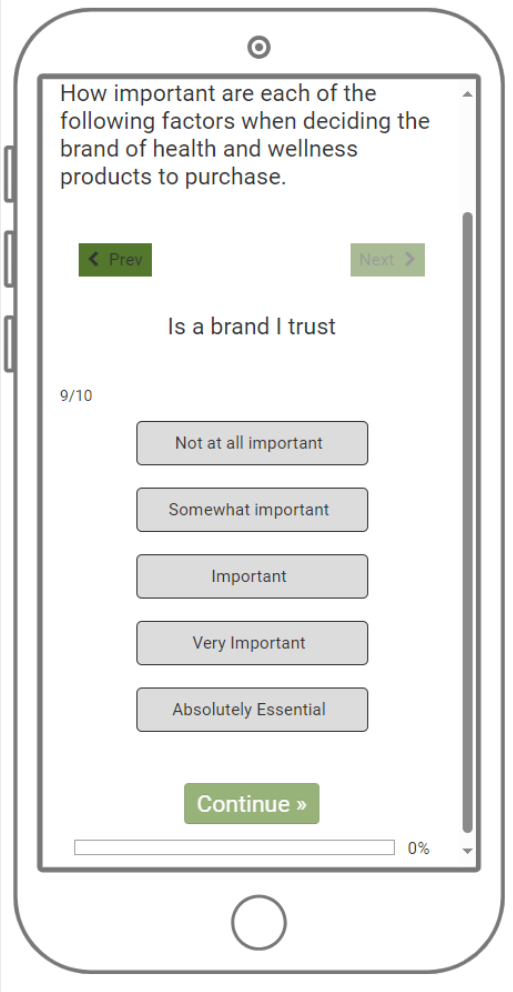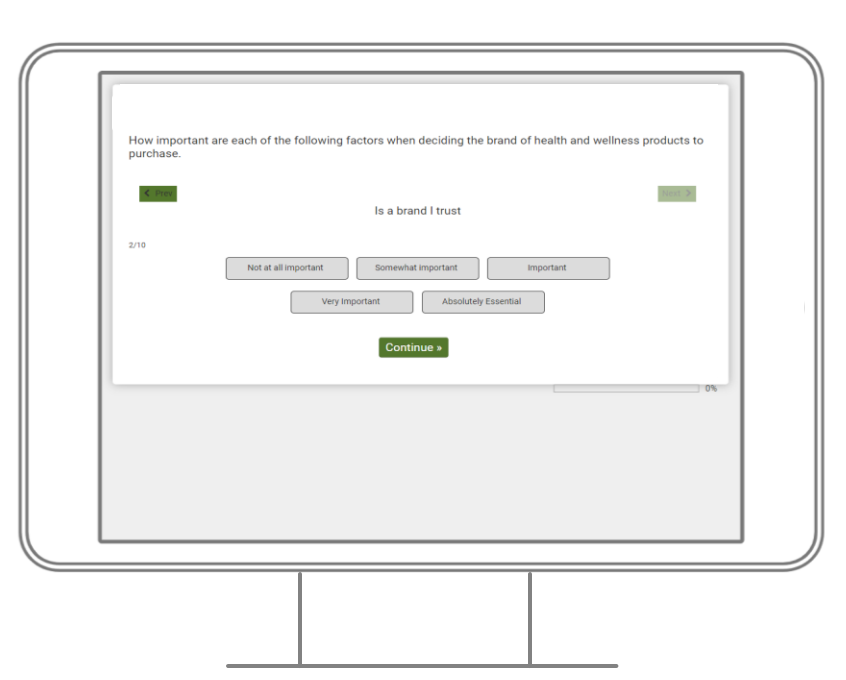
Means by Scale Type

Standard scale had significantly higher means than card rating and card sort scales at 4 out of 10 statements
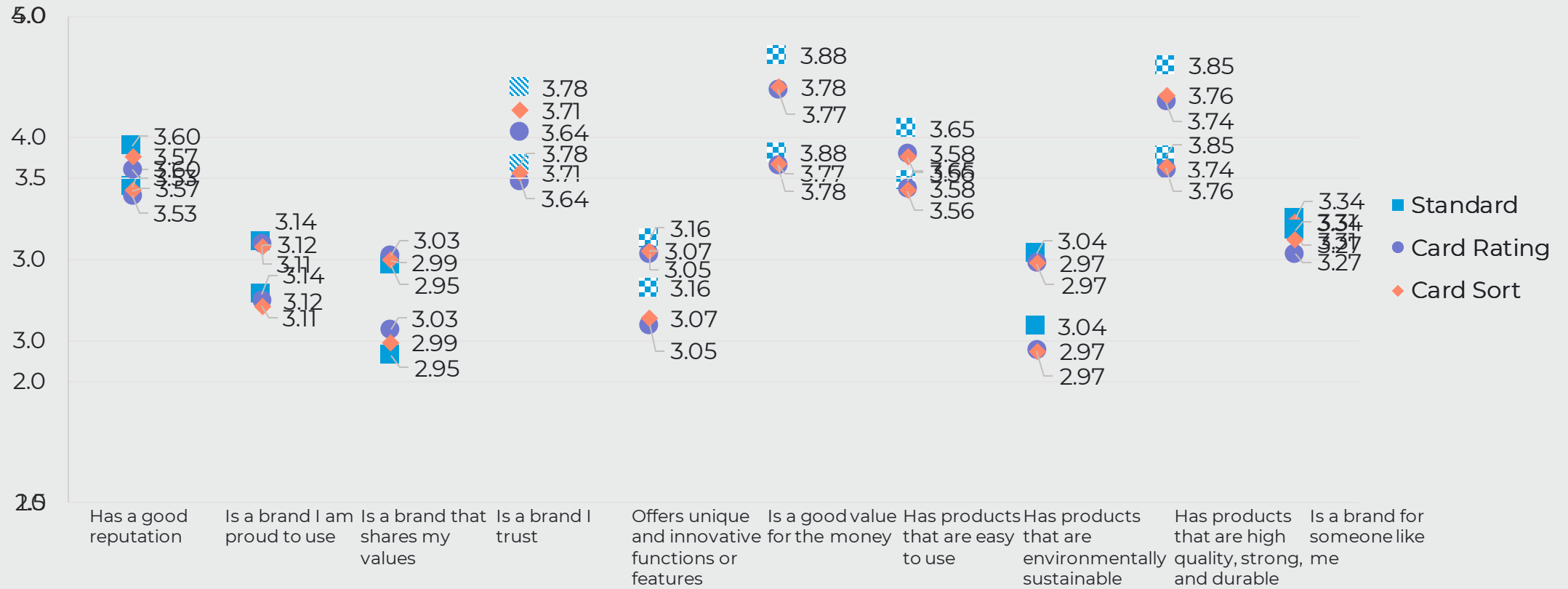
Straight-Lining By Scale Type

Overall, there are no significant differences in straight-lining by scale type

Standard

14%

86%
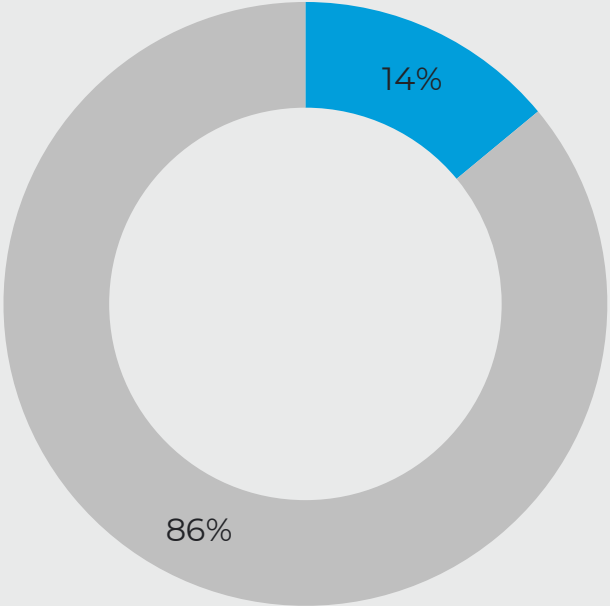
■ Straight-lined ■ Didn't Straight-line

Card Rating

12%

88%
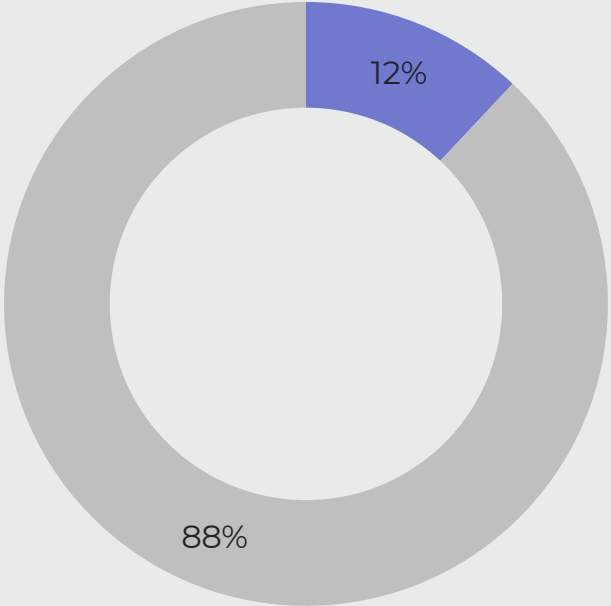
■ Straight-lined ■ Didn't Straight-line

Card Sort

12%

88%
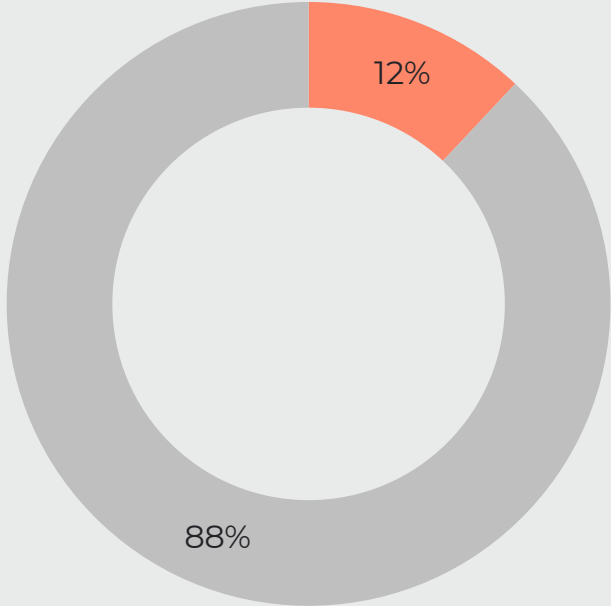
■ Straight-lined ■ Didn't Straight-line

Median Survey Length By Scale Type

Standard scales had significantly longer median survey length than card rating scales

16:05

Standard

15:27

Card Rating

15:43

Card Sort

Standard Scales Means by Device

Desktop users had significantly higher means than mobile users at 6 out of 10 statements
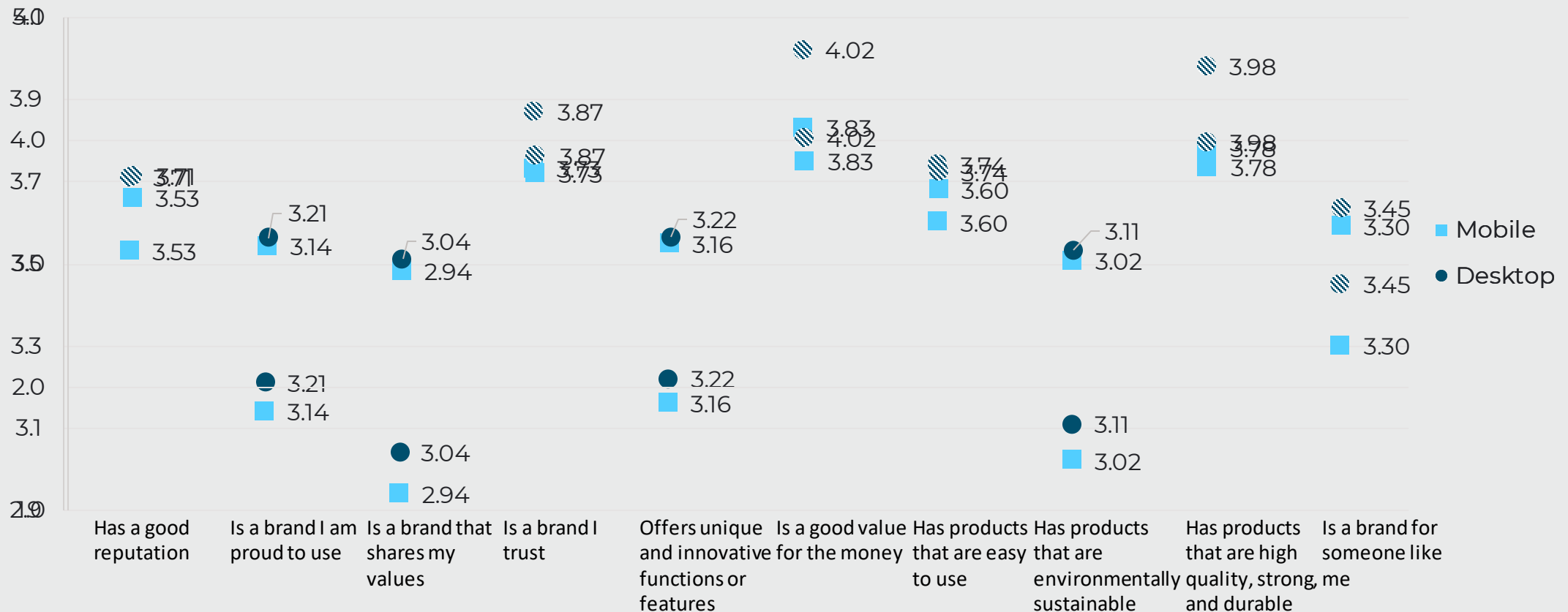
Card Rating Scale Means by Device

Desktop users had significantly higher means than mobile users at all 10 statements

Legend:
- Mobile (square marker)
- Desktop (circle marker)

Statement	Desktop	Mobile
Has a good reputation	3.75	3.42
Is a brand I am proud to use	3.25	3.07
Is a brand that shares my values	3.16	2.99
Is a brand I trust	3.84	3.53
Offers unique and innovative functions or features	3.22	2.97
Is a good value for the money	3.94	3.68
Has products that are easy to use	3.78	3.46
Has products that are environmentally sustainable	3.08	2.94
Has products that are high quality, strong, and durable	3.88	3.64
Is a brand for someone like me	3.50	3.15

Y-axis values: 2.9, 3.0, 3.1, 2.0, 3.3, 3.5, 3.7, 3.9, 4.0, 5.0

Card Sort Scale Means by Device

Mobile users had significantly higher means than desktop users at 3 out of 10 statements
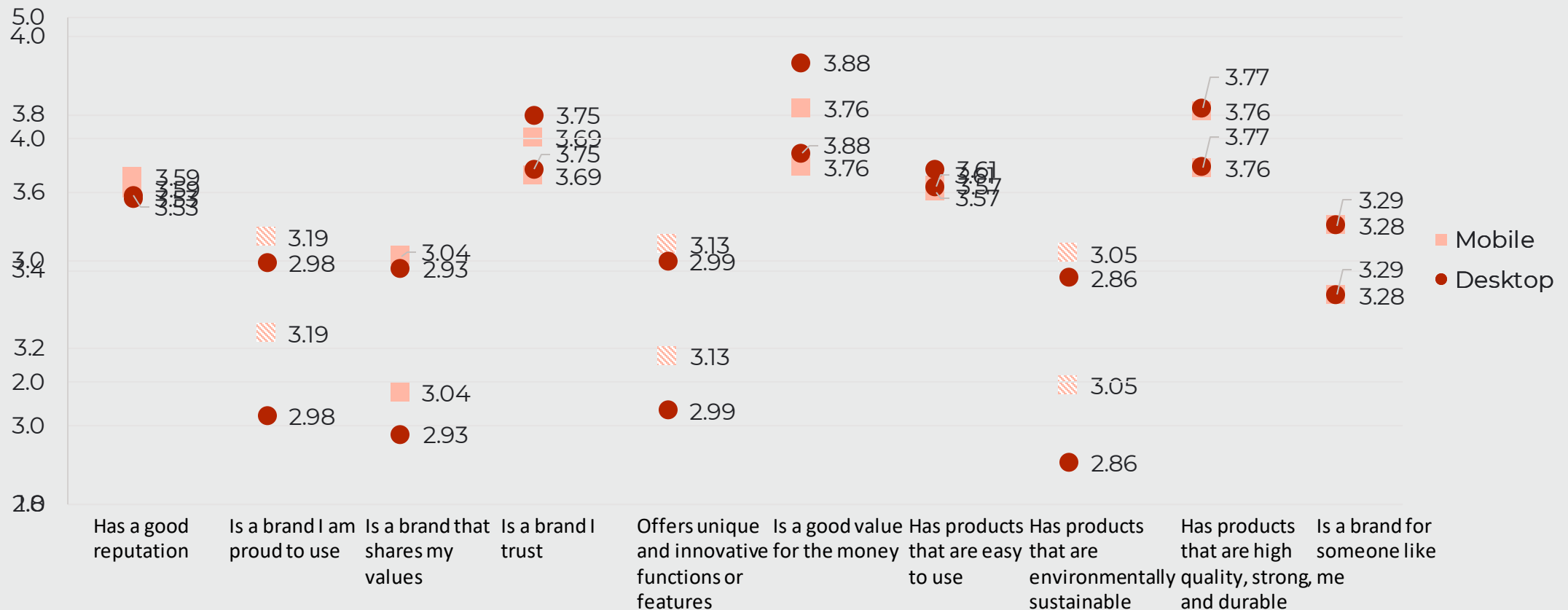
Straight-Lining By Device and Scale Type

Desktop users assigned a standard scale had significantly more straight-lining than those who were assigned a card sort scale, regardless of their device type

Mobile

Desktop

50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%

17%   13%   15%   11%   11%   12%

Standard   ## Card Rating   ## Card Sort

The Harris Poll

13
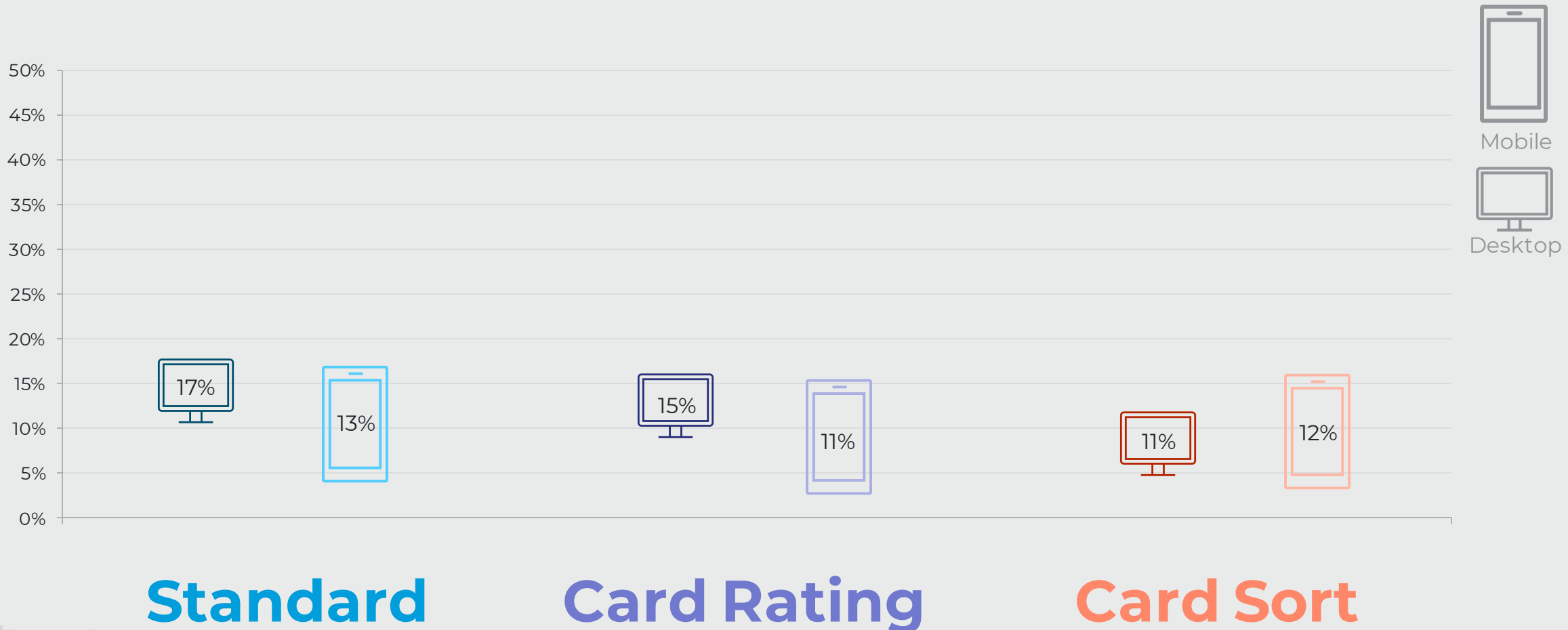
Median Survey Length by Device & Scale Type

Mobile users who are assigned a standard scale had significantly longer median survey length than those who were assigned a card rating scale

Standard

16:58
15:57

Card Rating

16:29
15:06

Card Sort

17:26
15:17
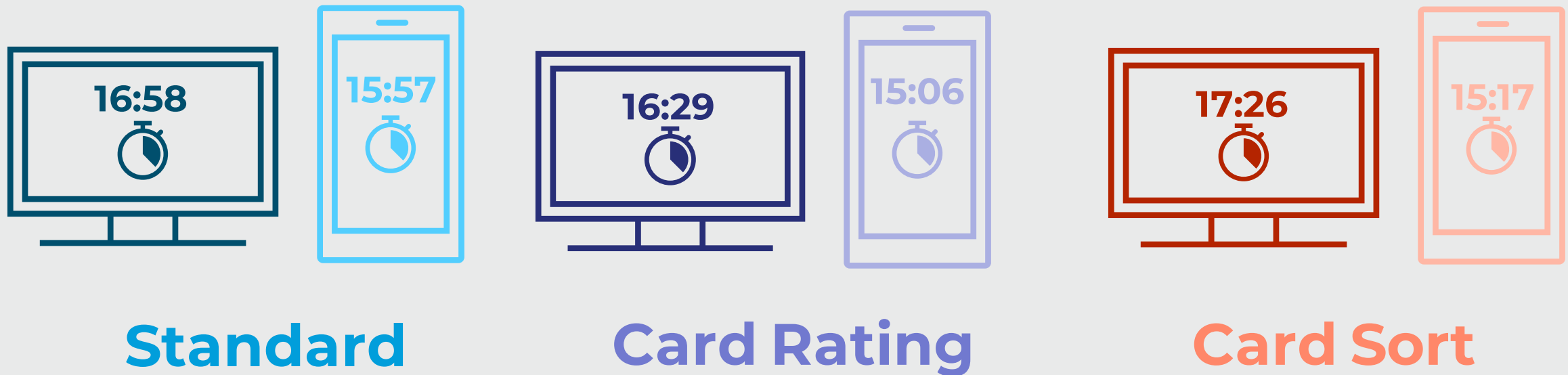
Findings and Future Research

Overall Findings

➢ Card Rating and Card Sort Scales produce very similar results

➢ Standard Scales had directionally higher means across nine out of ten statements (higher importance), significantly higher than both other scale types at four out of ten statements

➢ There were no significant difference in straight lining across the different scale types

Device Type Findings

➢ All scale types had some significant differences based on device used

➢ We saw the least significant differences at card sort scale and the most significant differences at the card rating scale

  ➢ It is important to test surveys on all types of devices to ensure that the scale you are using is optimized to all screen and device sizes

➢ We saw significantly more straight-lining for desktop users who were assigned standard scales than respondents who were assigned card sort scales, regardless of their device used

Future Research and Limitations

➢ This research could be extended into a larger scale question as larger scales tend to be more burdensome to the respondents

➢ We only looked at one type of questions, a fully anchored 5 pt importance scale. These results may differ depending on the scale used

15

Thank You

For more information, visit

theharrispoll.com

Jamie.Atkisson@harrispoll.com

Andrea.Date@harrispoll.com

in /harris-poll

f /theharrispoll

🐦 @harrispoll

The Harris Poll