Agenda

1. Background and methodology

2. Executive summary

3. The reality of attention

4. The impact of attention

5. In summary
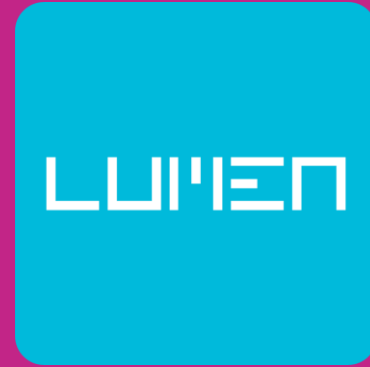
Background **and methodology**

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Background research in context

Dentsu has sponsored the world's largest eye tracking study and revealed substantial differences in attention levels across digital media. **Now there is an opportunity to expand the scope of the research, adding data for radio and podcasts**, not covered by the previous phases of the research.
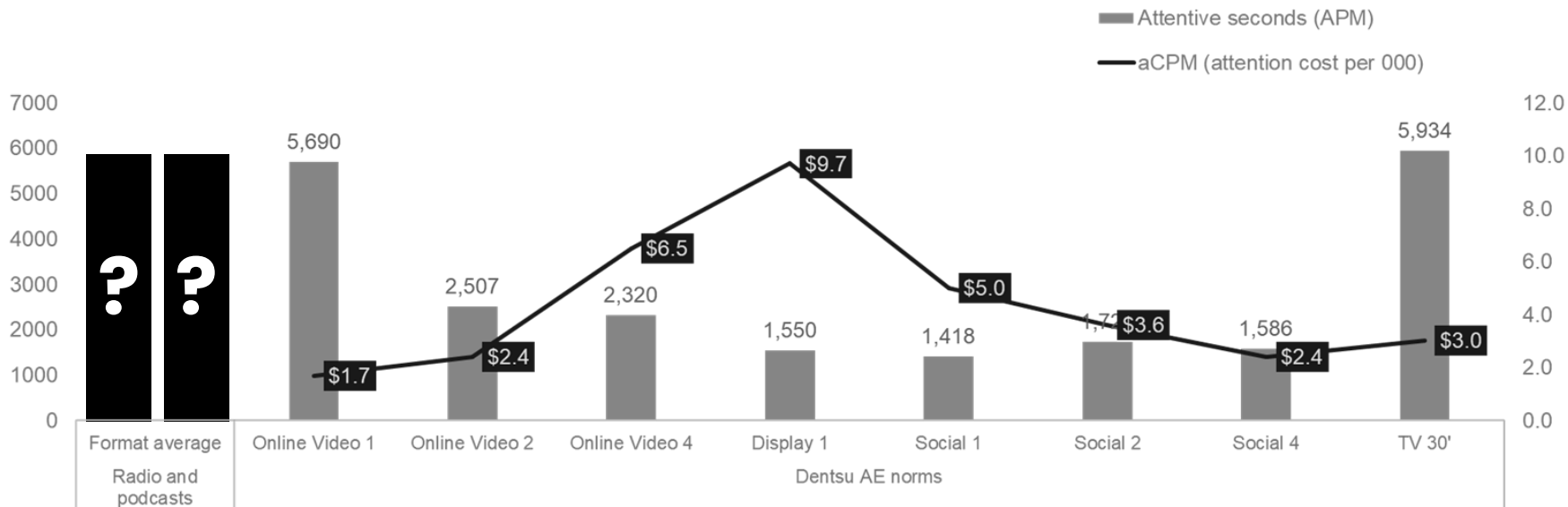
Methodology study flow

I

Lumen ran a 70-minute online study with **400 adults aged 18 and over, from the US, and regular listeners of radio*.** Lumen also ran a ~70-minute online study with **400 adults aged 18 and over, from the US, and regular listeners of podcasts**.** Respondents for both accessed Lumen software via their computer or mobile.

An additional control cell of 250 respondents were recruited based on the same criteria for each study.

The total combined audio study took place among 1,7000 respondents.

II

Test respondents browsed a Radio station player, created by Lumen, on either their mobile or desktop device. During their session they were able to select a single radio station to listen to within which were 15 audio ads from multiple brands, verticals, and audio formats. Each ad was either 15s or 30s long.

For the podcast study, test respondents browsed a Podcast player, created by Lumen, on either their mobile or desktop device. During their session they were able to select a single podcast to listen to within which were 9-10 audio ads from multiple brands, verticals, and audio formats.

III

All respondents then answered a series of questions including, but not limited to, brand recall, brand choice, and brand perceptions.

IV

A full analysis and insights report was created by Lumen in March-April 2023.

Radio methodology research environment

Lumen created a **radio station player for desktop and mobile** in which respondents could listen to 1 radio station of their choice from a variety of 7.

During each radio station there were:

I. Three ~120 second ad breaks with each ad break comprised of 5 advertisers. The ad breaks were made up of either 15s or 30s ads.

II. Participants were able to increase or decrease the volume (until muted).

Ads served were from **several advertisers across different verticals;** Charmin, Hilton, Heineken, Crest, Ashley Homestore, Jack in the Box, Dawn, JCPenney.
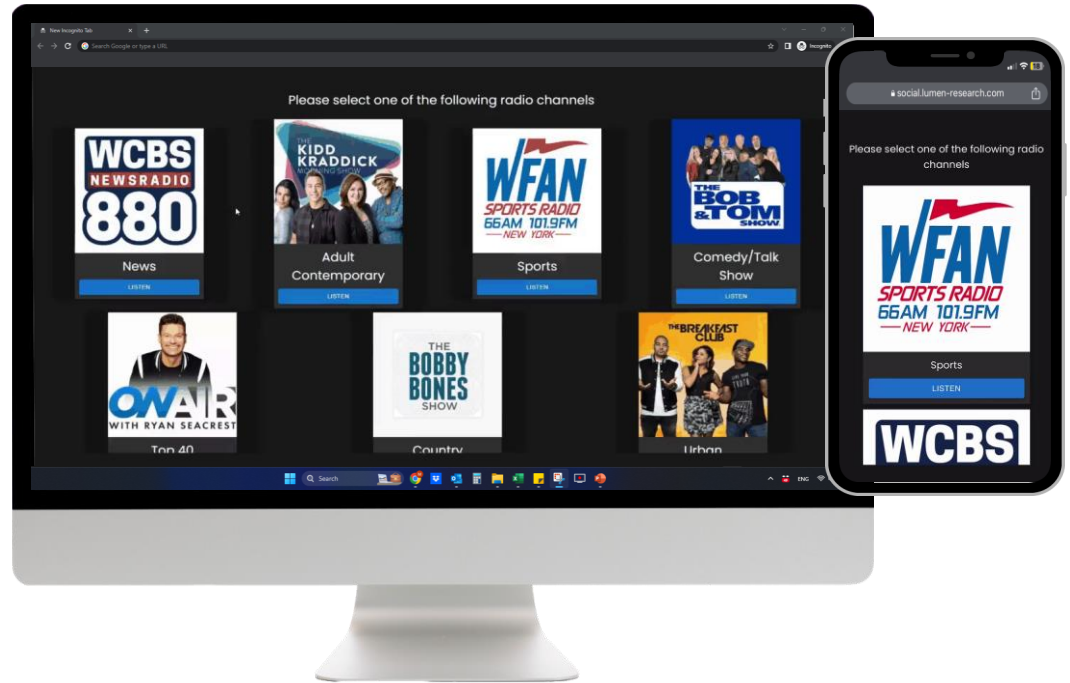
Podcast methodology **research environment**

Lumen created a **podcast player for desktop and mobile** in which respondents could listen to 1 podcast of their choice from a library of 20; representing a range of genres.

During each podcast there were:

I. Three ~90 second ad breaks with each ad break comprised of 3-4 advertisers. The ad breaks were served as pre-roll, mid-roll, and post-roll.

I. Controls to fast forward 15-seconds and to increase or decrease the volume (until muted).

Podcast methodology **podcast ad forms**

Lumen tested three unique ad formats across the study which were:

I. **30-second**
II. **15-second**
III. **Host reads** (20-70 seconds / av. length 36:40 seconds)

Ads served were from **several advertisers across different verticals;** Charmin, Hilton, Pfizer, Cox, Heineken, Oral B, Ashley Homestore, Jack in the Box, Dawn, Kroger, JC Penny, Grainger, CarMax, Pampers, Polestar, and Saks Fifth Avenue.

Click waveforms below to hear example ads

30-second

15-second

Host read
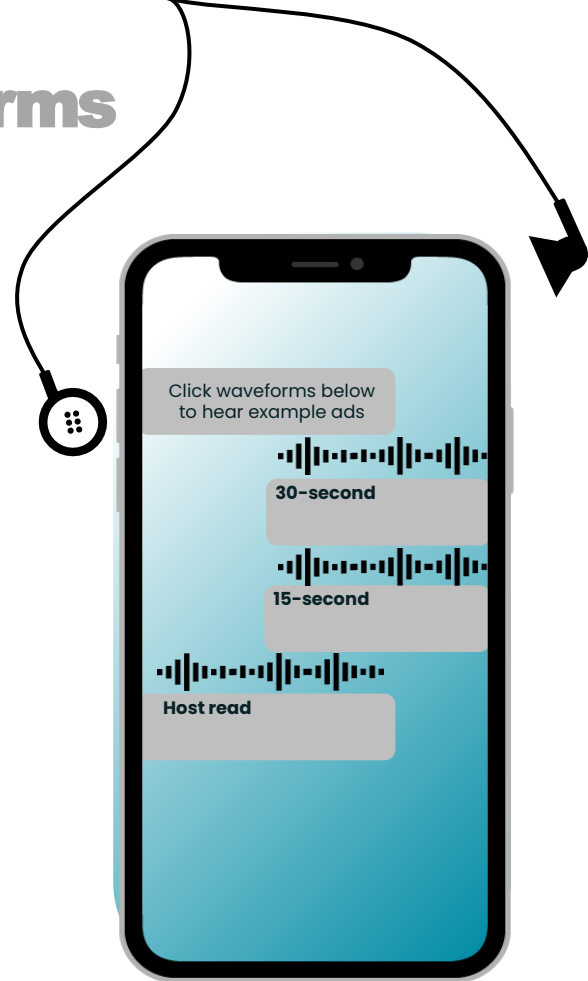
Calculating **audio attention**

To understand audio attention metrics start by looking at visual attention metrics

Data in the funnel is dummy data and not from this study

100% — Impressions served

% viewable | **70%** — % that **COULD** be seen

Av. viewable time | **10s** — Average time could be seen

% viewed | **35%** — % of impressions **ACTUALLY** seen

Av. viewed time | **1.5s** — Av. **DURATION** of engagement

APM
Avg attentive sec per (000) | **525s**

= % viewed
x Av. viewed time
x 1000

Recall and choice | **43%** | **+5%** — % that **REMEMBERED** / **CHOSE** the test brand after exposure

Audio attention is inferred from several factors

Methodology: Multiple imputation using Chained Equations ("mice")

The dataset: 25 Lumen studies, 54 test ads, 5735 Mobile Video ad impressions

Factors that power the attention equivalent scores…

Exposure time

Brand Recall

Choice Uplift

Forced vs. Voluntary*
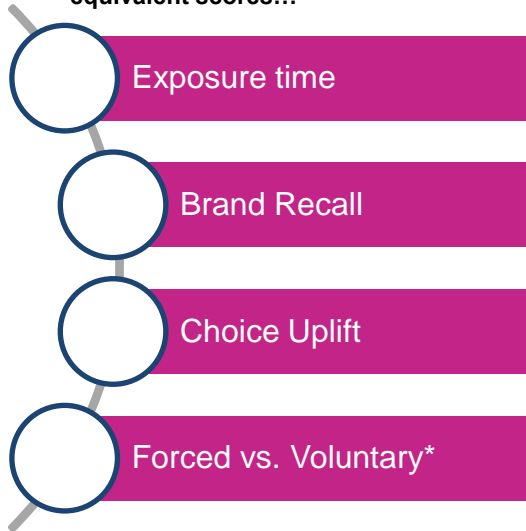
Validation of Methodology

Imputed vs Actual APM

Correlation = 0.79

Imputed

15000 —
10000 —
5000 —
0 —

Actual

0   3000   6000   9000   1200
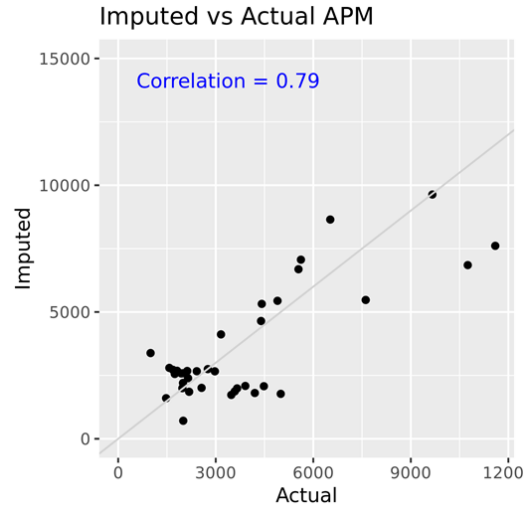
This chart shows the actual Attentive Seconds Per 1,000 Impressions (APM) scores for visual formats and what the model would predict for them. The correlation between these values is strong at 0.79, suggesting our approach is accurate in predicting attention for those formats.

*Forced attention is where the audience has little choice over whether to view the ad, like with a non-skippable pre-roll ad. In comparison Voluntary attention is where the audience has to chose to look, like with an in-article ad.

Audio is measured using **visual metric equivalents**
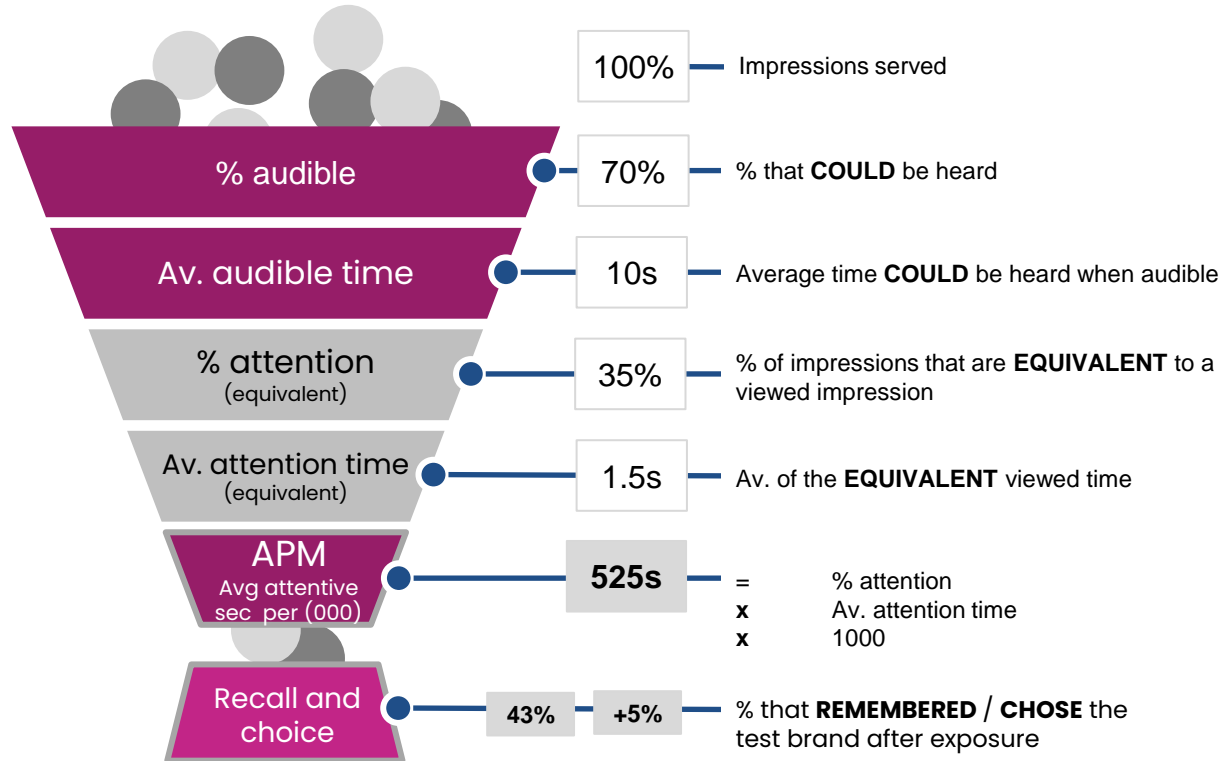
Funnel stage	Value	Description
	100%	Impressions served
% audible	70%	% that **COULD** be heard
Av. audible time	10s	Average time **COULD** be heard when audible
% attention (equivalent)	35%	% of impressions that are **EQUIVALENT** to a viewed impression
Av. attention time (equivalent)	1.5s	Av. of the **EQUIVALENT** viewed time
APM Avg attentive sec per (000)	**525s**	= % attention x Av. attention time x 1000
Recall and choice	43% +5%	% that **REMEMBERED** / **CHOSE** the test brand after exposure

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Attention is directly correlated with outcomes such as sales conversion

Lumen looked at the relationship between the ads that we predict get lots of attention and the ads that actually generated lots of real-world sales.

Predictions don't account for creative or targeting. The basic model assumes averagely attention-grabbing creative served to averagely well-targeted consumers.

Sales conversion VS ad viewed time (s)

Sales conversion per 1000 impressions

50%

0%

0-0.5" 0.5-1.0" 1.0-1.5" 1.5-2.0" 2.0-2.5" 2.5-3.0"

Ad viewed time (based on Lumen model)

LUMEN dentsu
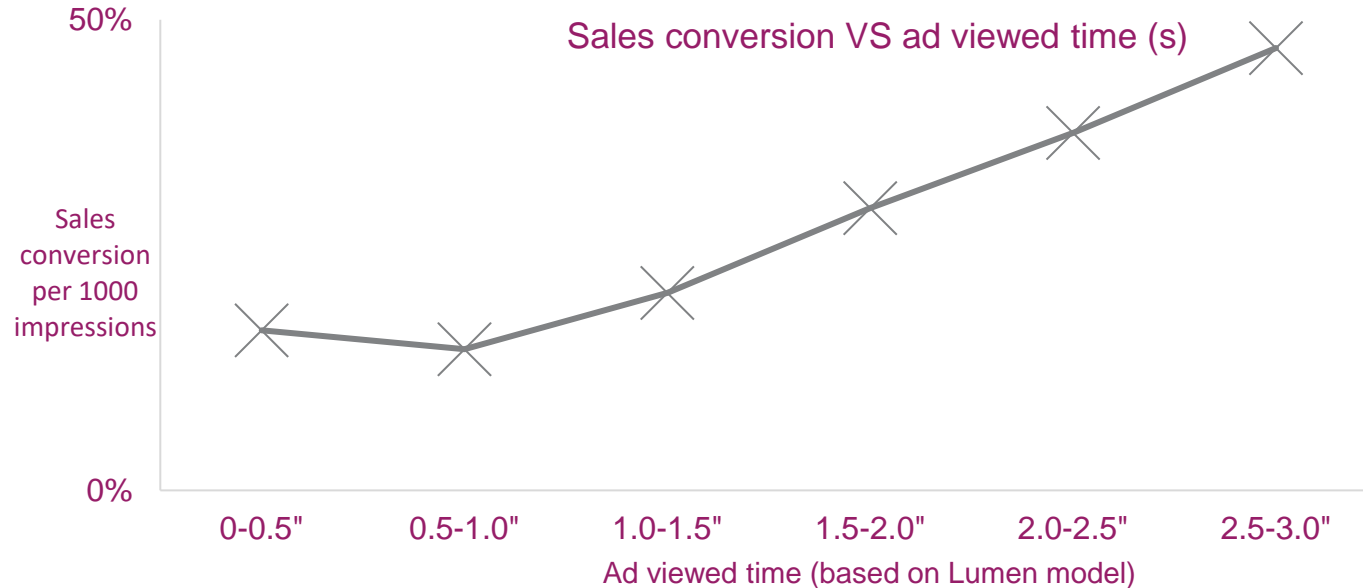
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Executive **summary**

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Radio ads drive high attention rates cost efficiently

91 - 92% attention
for the 15s (91%) and 30 (92%) radio ads – in the top quarter of all ad formats measured

7.3 – 13.7 seconds
of av. Viewed time for 15s (7.3s) and 30s (13.7s) radio ads, performing most in line with TV norms

9,622 seconds
is the attention per 1,000 impressions for 15s and 30s radio ads (higher than TV and digital platforms measured)

38% brand recall
for :30s radio ads (which is at parity with Dentsu norms)

+9% brand choice
1.5x the Dentsu norm of +6%

$0.40
was the attention cost per (000) impressions (aCPM) calculated for radio, vs. an avg. of $4.30 across Dentsu norms

Podcast ads drive attention and brand outcomes

92% attention
for podcast ads – in the top quarter to all ad formats measured

11.6 seconds
of attention time on average for podcast advertising (13.0s for 30-second ads, 7.5s for 15-seconds, 14.2s for host-read), performing in-line with TV norms

10,630 seconds
is the average attention per 1,000 impressions (higher than TV and digital platforms measured)

33% brand recall
for podcast ads on average. This is similar to most visual advertising.

+7% brand choice
Higher than the Dentsu norm of 6%

$2.80
was the attention cost per (000) impressions (aCPM) calculated for podcasts, vs. an avg. of $4.30 across Dentsu norms
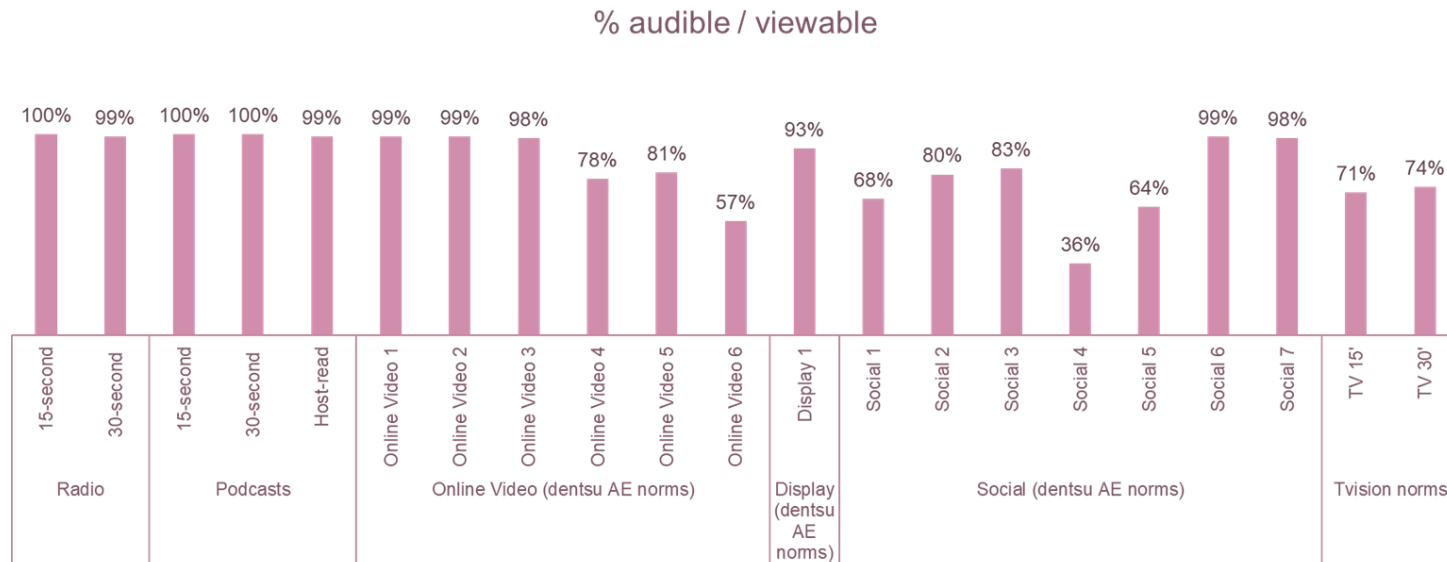
The reality **of attention**

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Radio and podcast ads are always audible

30-second and 15-second radio and podcast ad impressions were always audible with only 1% of impressions not reaching an audible playing time of at least 2 seconds.

This is far higher than most online video, display, social and TV ads that can be skipped past quickly by the user.

% audible / viewable

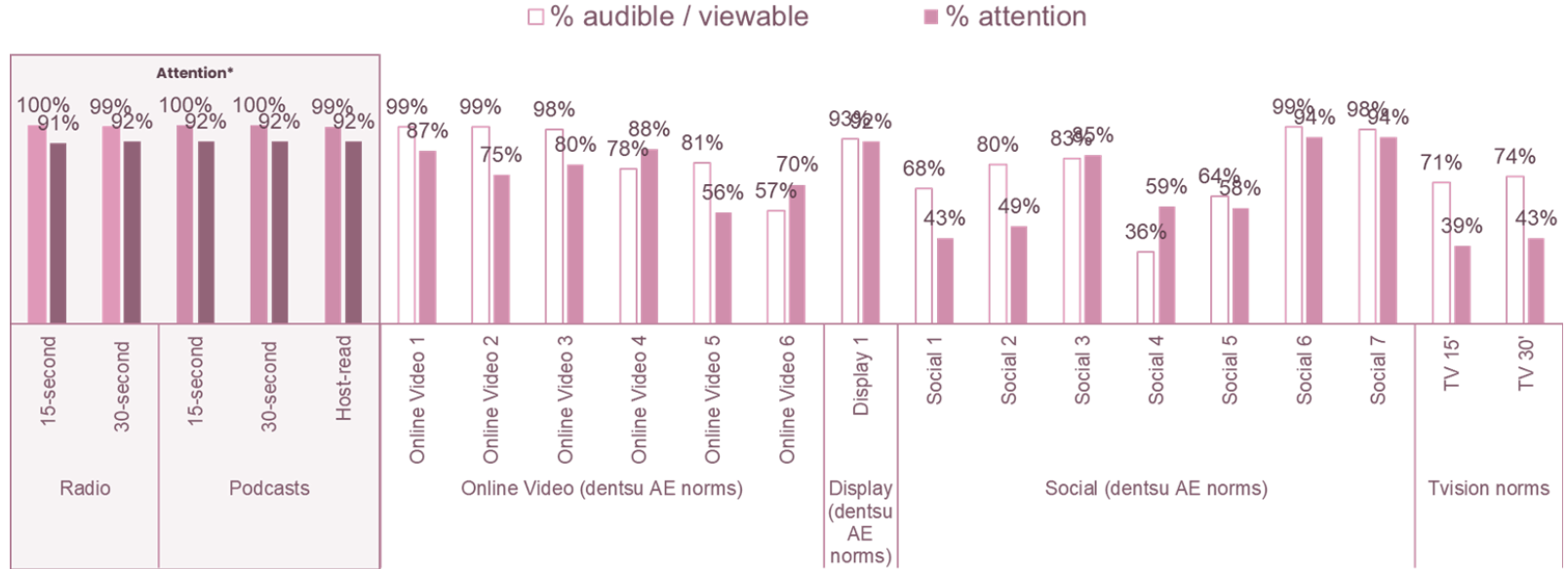|	%	Category
15-second	100%	Radio
30-second	99%	Radio
15-second	100%	Podcasts
30-second	100%	Podcasts
Host-read	99%	Podcasts
Online Video 1	99%	Online Video (dentsu AE norms)
Online Video 2	99%	Online Video (dentsu AE norms)
Online Video 3	98%	Online Video (dentsu AE norms)
Online Video 4	78%	Online Video (dentsu AE norms)
Online Video 5	81%	Online Video (dentsu AE norms)
Online Video 6	57%	Online Video (dentsu AE norms)
Display 1	93%	Display (dentsu AE norms)
Social 1	68%	Social (dentsu AE norms)
Social 2	80%	Social (dentsu AE norms)
Social 3	83%	Social (dentsu AE norms)
Social 4	36%	Social (dentsu AE norms)
Social 5	64%	Social (dentsu AE norms)
Social 6	99%	Social (dentsu AE norms)
Social 7	98%	Social (dentsu AE norms)
TV 15'	71%	Tvision norms
TV 30'	74%	Tvision norms

Radio base; 30-second (*n*=1452), 15-second, (*n*=1438)
Podcast base; 30-second (*n*=1556), 15-second, (*n*=121), host-read (*n*=96)

Audible / Viewable = % of impressions where the ad was audible for at least two seconds / that reach MRC standards of 50% on screen for 1 second if static and 2 seconds if video

Host read ad length: 20-70 seconds / av. length 36:40 seconds

15 & 30 second ads on radio and podcasts generate higher attention than most platforms

These results are more than double the amount of viewers that TV ads achieve where people often look away from the screen as the ads play out.

Legend: □ % audible / viewable   ■ % attention

	% audible/viewable	% attention
Radio 15-second	100%	91%
Radio 30-second	99%	92%
Podcasts 15-second	100%	92%
Podcasts 30-second	100%	92%
Podcasts Host-read	99%	92%
Online Video 1	99%	87%
Online Video 2	99%	75%
Online Video 3	98%	80%
Online Video 4	78%	88%
Online Video 5	81%	56%
Online Video 6	57%	70%
Display 1	93%	92%
Social 1	68%	43%
Social 2	80%	49%
Social 3	83%	85%
Social 4	36%	59%
Social 5	64%	58%
Social 6	99%	94%
Social 7	98%	94%
TV 15'	71%	39%
TV 30'	74%	43%

Attention*

Radio | Podcasts | Online Video (dentsu AE norms) | Display (dentsu AE norms) | Social (dentsu AE norms) | Tvision norms

*this is inferred audio attention based on visual attention using MICE methodology

Podcast base; 30-second (n=1556), 15-second, (n=121), host-read (n=96)

Audible / Viewable = % of impressions where the ad was audible for at least two seconds / that reach MRC standards of 50% on screen for 1 second if static and 2 seconds if video
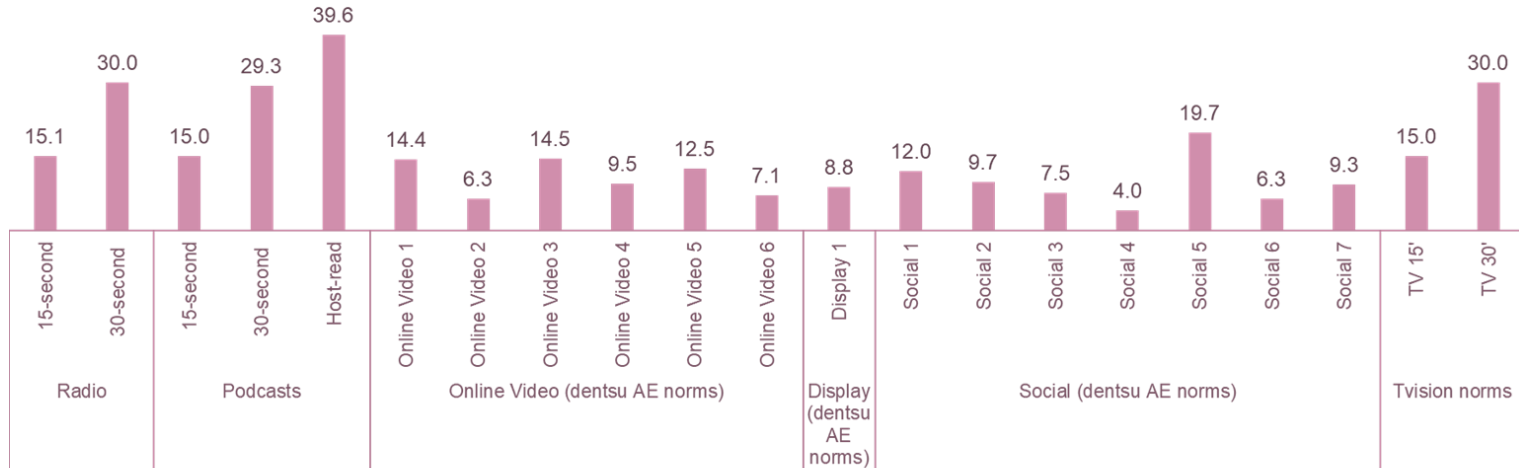
Host read ad length: 20-70 seconds / av. length 36:40 seconds

The audio ads were audible for the entire duration

Within the study there were high levels of audibility, with both the 15/30-second radio ads and the 15/30-second and host-read podcast ads audible for the whole length of the ad.

These exposure times are most like TV 15/30 ads and 'social 5' ads.

Av. audible / viewable time (s)

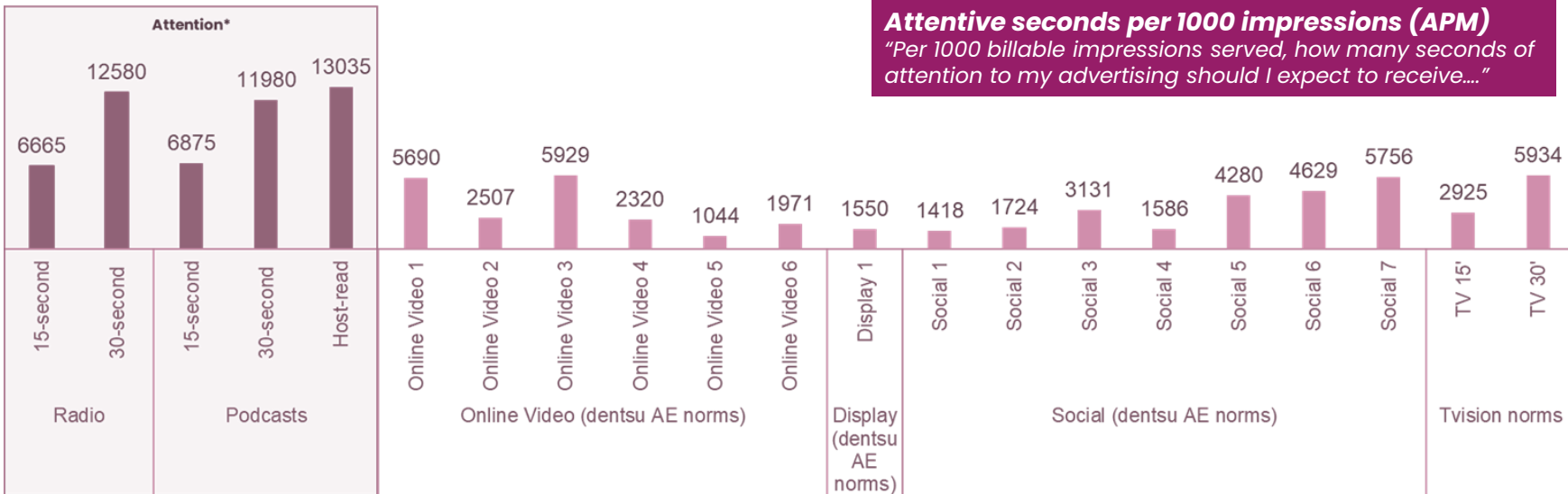|	Value
Radio — 15-second	15.1
Radio — 30-second	30.0
Podcasts — 15-second	15.0
Podcasts — 30-second	29.3
Podcasts — Host-read	39.6
Online Video 1	14.4
Online Video 2	6.3
Online Video 3	14.5
Online Video 4	9.5
Online Video 5	12.5
Online Video 6	7.1
Display 1	8.8
Social 1	12.0
Social 2	9.7
Social 3	7.5
Social 4	4.0
Social 5	19.7
Social 6	6.3
Social 7	9.3
TV 15'	15.0
TV 30'	30.0

Radio base; 30-second (n=1452), 15-second, (n=1438)

Podcast base; 30-second (n=1556), 15-second, (n=121), host-read (n=96)

Audible / Viewable = % of impressions where the ad was audible for at least two seconds / that reach MRC standards of 50% on screen for 1 second if static and 2 seconds if video

Host read ad length: 20-70 seconds / av. length 36:40 seconds

Attentive seconds per 1000 impressions (APM): Radio and podcast ads generate higher attention than digital, social and TV due to higher % attention and audible time

Attention*

Radio		Podcasts			Online Video (dentsu AE norms)						Display (dentsu AE norms)	Social (dentsu AE norms)							Tvision norms	
15-second	30-second	15-second	30-second	Host-read	Online Video 1	Online Video 2	Online Video 3	Online Video 4	Online Video 5	Online Video 6	Display 1	Social 1	Social 2	Social 3	Social 4	Social 5	Social 6	Social 7	TV 15'	TV 30'
6665	12580	6875	11980	13035	5690	2507	5929	2320	1044	1971	1550	1418	1724	3131	1586	4280	4629	5756	2925	5934

Attentive seconds per 1000 impressions (APM)
"Per 1000 billable impressions served, how many seconds of attention to my advertising should I expect to receive…."

*this is inferred audio attention based on visual attention using MICE methodology

Radio base; 30-second (n=1452), 15-second, (n=1438)
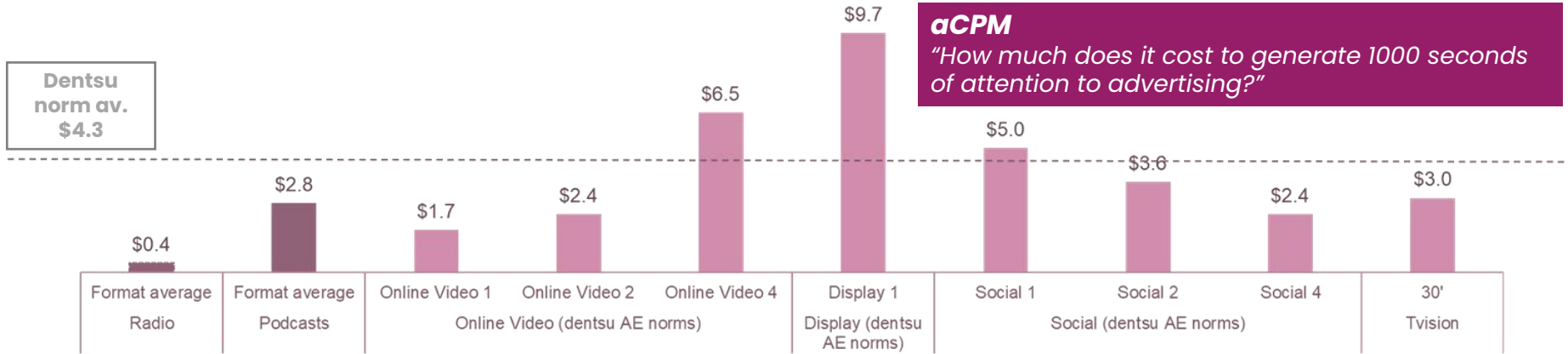Podcast base; 30-second (n=1556), 15-second, (n=121), host-read (n=96)

Audible / Viewable = % of impressions where the ad was audible for at least two seconds / that reach MRC standards of 50% on screen for 1 second if static and 2 seconds if video

Host read ad length: 20-70 seconds / av. length 36:40 seconds

Radio is by far the most cost-effective medium on an attention CPM basis (aCPM)

The aCPM reveals radio to be a cost-effective media for generating attention to advertising.

Podcasts are more efficient than TV and many digital platforms.

aCPM
"How much does it cost to generate 1000 seconds of attention to advertising?"

Dentsu norm av. $4.3

$0.4 — Format average Radio

$2.8 — Format average Podcasts

$1.7 — Online Video 1

$2.4 — Online Video 2

$6.5 — Online Video 4

Online Video (dentsu AE norms)

$9.7 — Display 1

Display (dentsu AE norms)

$5.0 — Social 1

$3.6 — Social 2

$2.4 — Social 4

Social (dentsu AE norms)

$3.0 — 30' Tvision

*this is inferred audio attention based on visual attention using MICE methodology

Radio base; 30-second (n=1452), 15-second, (n=1438)
Podcast base; 30-second (n=1556), 15-second, (n=121), host-read (n=96)

Audible / Viewable = % of impressions where the ad was audible for at least two seconds / that reach MRC standards of 50% on screen for 1 second if static and 2 seconds if video

Host read ad length: 20-70 seconds / av. length 36:40 seconds

The Impact of Attention

Getting attention is the first step **making it work is the next**

Understanding **brand recall**
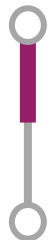
Brand recall is expressed as the percentage of people that **correctly identified the brand post-exposure.**

Respondents are presented with a choice of 10 brands from the same category, one of which is a test brand, and told to select which brands they remember. If they do not remember seeing a brand from that category, they can select 'none of these'.

11. Did any of these companies/products have ads in the session you just experienced? *

- ☐ Hilton
- ☐ Hyatt
- ☐ Sheraton
- ☐ Wyndham
- ☐ Holiday Inn
- ☐ Intercontinental
- ☐ Days Inn
- ☐ Embassy Suites
- ☐ Ramada
- ☐ Radisson
- ☐ None of these

Brand recall was 38% for :30 radio ads

This average is at parity with Dentsu norms across platforms
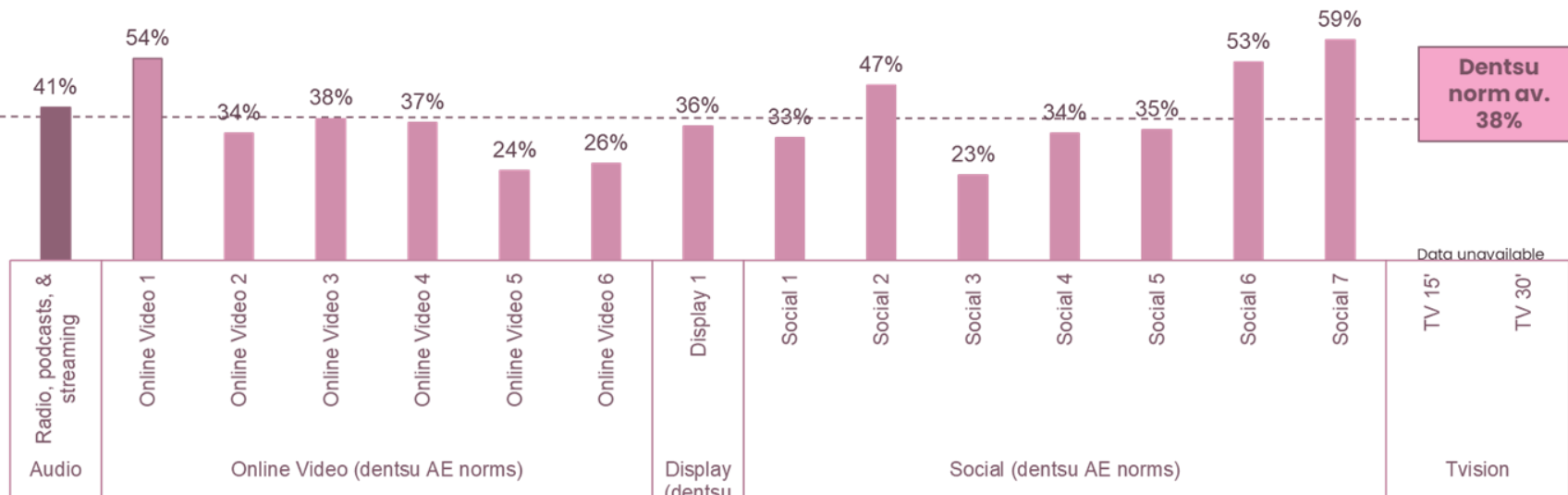Recall for 30-second ads were 1.5x higher than 15-second ads.

Brand recall was 33% for podcast ads – consistent with many social and online video platforms.

Ad format		Brand recall
Radio average		**32%**
Ad format	30s	38%
	15s	26%

Ad format		Brand recall
Podcast average		**33%**
Ad format	30s	33%
	Host-read	34%

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Recall for audio ads **outperforms the benchmark**

% brand recall

41%	54%	34%	38%	37%	24%	26%	36%	33%	47%	23%	34%	35%	53%	59%	

Dentsu norm av. 38%

Data unavailable

Radio, podcasts, & streaming | Online Video 1 | Online Video 2 | Online Video 3 | Online Video 4 | Online Video 5 | Online Video 6 | Display 1 | Social 1 | Social 2 | Social 3 | Social 4 | Social 5 | Social 6 | Social 7 | TV 15' | TV 30'

Audio | Online Video (dentsu AE norms) | Display (dentsu | Social (dentsu AE norms) | Tvision

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Advertising memories fade: The more recently the ads were heard, the higher the prompted brand recall

Prompted recall was highest within 30 minutes from exposure
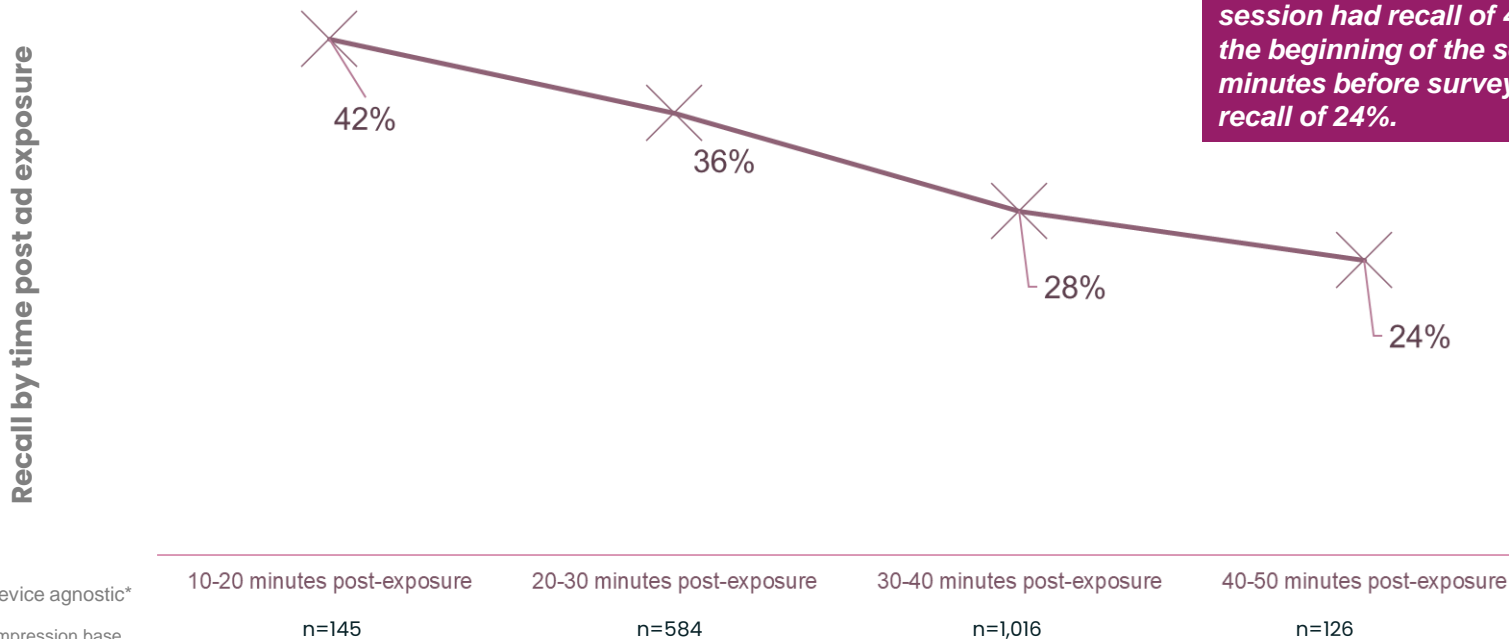
Recall by time post ad exposure

42%

36%

28%

24%

Device agnostic*	10-20 minutes post-exposure	20-30 minutes post-exposure	30-40 minutes post-exposure	40-50 minutes post-exposure
*Impression base	n=145	n=584	n=1,016	n=126

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Understanding **brand choice**

Brand choice is expressed as the percentage point **increase in the likelihood of choosing the brand as a result of ad exposure.**

Respondents are presented with a choice of 5 brands from the same category, one of which is a test brand, and told that if all things were equal, including price and convenience, which brand would they choose. An unexposed control group are asked exactly the same question.

The 'choice uplift' is the difference between the % who chose the brand after ad exposure ads and the expected level of choice based on the baselines from the control group.

Assuming all the following brands/products were available at the same price, and you had a need for a **Hotel**, which brand/product would you choose?

Hilton	Wyndham	Holiday Inn	Hyatt	Sheraton
○	○	○	○	○

Brand choice uplift for radio was +9% vs. +6% Dentsu norms

That is a 9-percentage point increase in the likelihood of choosing the brand as a result of viewing the ads.

Brand choice uplift for podcasts was +7% vs. +6% Dentsu norms. 7% increase in the likelihood of choosing the brand as a result of viewing the ads.
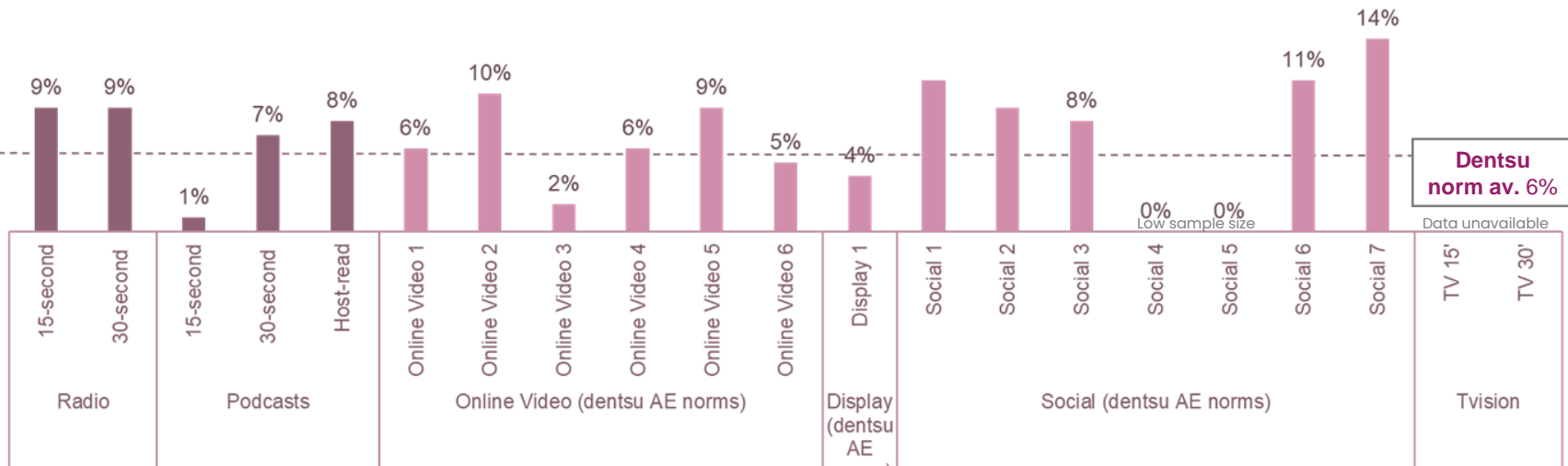
Ad format		Choice uplift
Ad format	30s	+9%
	15s	+9%

Ad format		Choice uplift
Podcast average		+7%
Ad format	30s	+7%
	Host read	+8%

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Radio and podcast brand choice uplifts in line with online video and social ads

% choice uplift

While host-read ads typically perform the best, this was a study among general podcast listeners, not regular listeners of the podcast shows.

9%	9%	1%	7%	8%	6%	10%	2%	6%	9%	5%	4%			8%	0%	0%	11%	14%
15-second	30-second	15-second	30-second	Host-read	Online Video 1	Online Video 2	Online Video 3	Online Video 4	Online Video 5	Online Video 6	Display 1	Social 1	Social 2	Social 3	Social 4	Social 5	Social 6	Social 7	TV 15'	TV 30'

Low sample size

Dentsu norm av. 6%

Data unavailable

Radio | Podcasts | Online Video (dentsu AE norms) | Display (dentsu AE | Social (dentsu AE norms) | Tvision

Radio base; 30-second (n=1452), 15-second, (n=1438), US Dentsu AE Norms and TVision norms 2022

Host read ad length: 20-70 seconds / av. length 36:40 seconds

Podcast Base; 30-second (n=3392), 15-second, (n=242), host-read (n=192), US Dentsu AE Norms and TVision Norms 2022

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In **summary**

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Radio ads drive high attention rates cost efficiently

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Podcast ads drive attention and brand outcomes

91 - 92% attention
for the 15s (91%) and 30 (92%) radio ads – in the top quarter of all ad formats measured

7.3 – 13.7 seconds
of av. Viewed time for 15s (7.3s) and 30s (13.7s) radio ads, performing most in line with TV norms

9,622 seconds
is the attention per 1,000 impressions for 15s and 30s radio ads (higher than TV and digital platforms measured)

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+9% brand choice
1.5x the Dentsu norm of +6%

$0.40
was the attention cost per (000) impressions (aCPM) calculated for radio, vs. an avg. of $4.30 across Dentsu norms

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for podcast ads – in the top quarter to all ad formats measured

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of attention time on average for podcast advertising (13.0s for 30-second ads, 7.5s for 15-seconds, 14.2s for host-read), performing in-line with TV norms

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for podcast ads on average. This is similar to most visual advertising.

+7% brand choice
Higher than the Dentsu norm of 6%

$2.80
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