

A NEUROSCIENCE EXPERIMENT TO MEASURE SUBCONSCIOUS REACTIONS TO DATA COLLECTION MATERIALS

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BACKGROUND

- Nielsen collects data on media behavior -- TV and radio
- Large markets – electronic meters
- Small markets – diaries
- Diaries
 - 7-day paper diaries
 - Manual recording
 - Delivered, returned in the mail
 - Monetary incentive included along with diary

RADIO DIARY VS TV DIARY

- Completion rate for radio diary is almost twice as high
- Despite similarities in:
 - Types of markets included
 - Sampling approaches
 - Pre-notifications
 - Recording tasks
 - Incentives offered
- One notable difference. . .

PACKAGING



- Difference in completion rates
 - Implications for data quality, representativeness, costs

NEUROSCIENCE EXPERIMENT

- Can packaging account for observed difference in completion rates?
- Nielsen Neuro
 - Neurofocus founded in 2005
 - Fully acquired by Nielsen in 2011
 - U.S. labs in Atlanta, Chicago, Cincinnati, San Francisco
 - Over 5,000 neuro projects conducted

STUDY DETAILS

- Cincinnati lab
- Fielded in Oct 2014

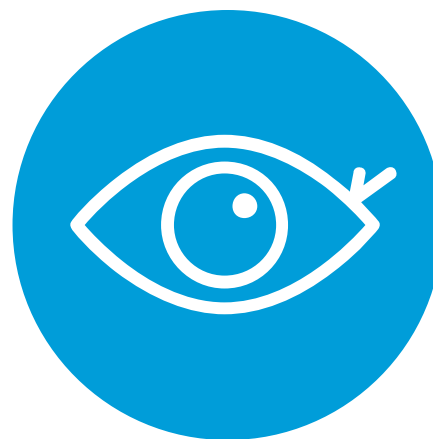
- 57 study participants
 - Ages 21-54
 - 50% male, 50% female
 - Targets to match Cincinnati demographics (from 2012 ACS)

METHODOLOGY



HIGH RESOLUTION DENSE-ARRAY EEG

32 SENSORS COLLECT DATA 500 TIMES
EVERY SECOND TO FULLY CAPTURE
ACTIVITY ACROSS ALL BRAIN REGIONS



EYE-TRACKING

PINPOINTS
HOT ZONES

EEG HEADSET

- Medical grade technology



STIMULI FOR PACKAGE TESTING STUDY (3D VIEW)



- Materials are digitized
- Presented to participants on-screen
- Within-subjects design
 - Each participant gets exposed to both
 - Order of presentation is randomized

STIMULI FOR PACKAGE TESTING STUDY (FRONT VIEW)



POTENTIAL LIMITATIONS

- Addresses initial reactions to packaging
- Doesn't address
 - Reactions to materials, diaries inside
 - Usability of diaries
 - Other issues with completing, returning diaries

KEY METRICS



ATTENTION

DEGREE OF COGNITIVE INTEREST



EMOTIONAL ENGAGEMENT

AFFECTIVE RESPONSE



MEMORY ACTIVATION

DEGREE OF MEMORY SYSTEM ACTIVATION



NEUROLOGICAL EFFECTIVENESS

EEG RESULTS -- EFFECTIVENESS SCORES

	TV DIARY AVERAGE	RADIO DIARY AVERAGE
OVERALL	6.9	7.2
FRONT VIEW	7.1	7.3
3D VIEW	6.7	7.0
MEN	7.3	7.2
WOMEN	6.6	7.2

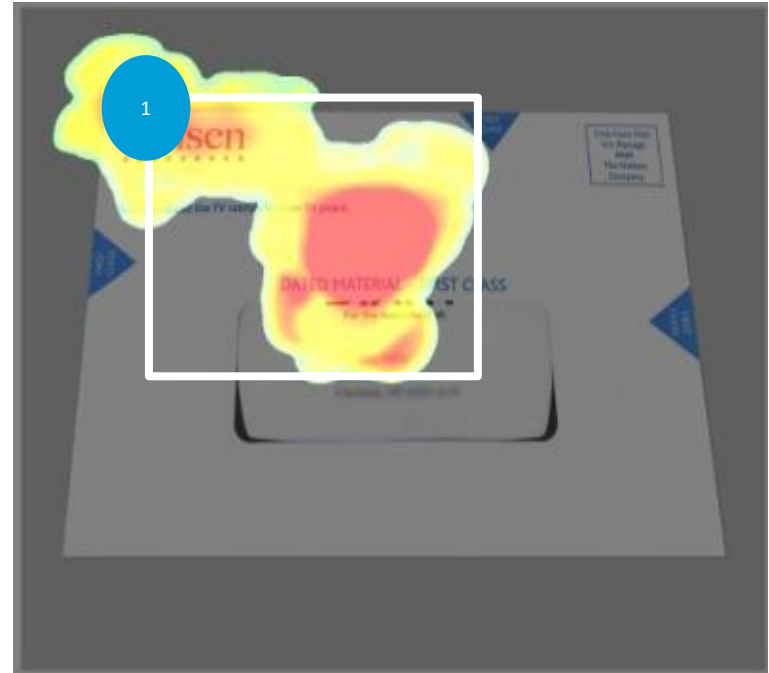
EFFECTIVENESS SCORE COMPONENTS

	TV DIARY AVERAGE	RADIO DIARY AVERAGE
OVERALL	6.9	7.2
ATTENTION	6.6	5.9
EMOTIONAL ENGAGEMENT	6.7	7.1
MEMORY ACTIVATION	7.5	7.6

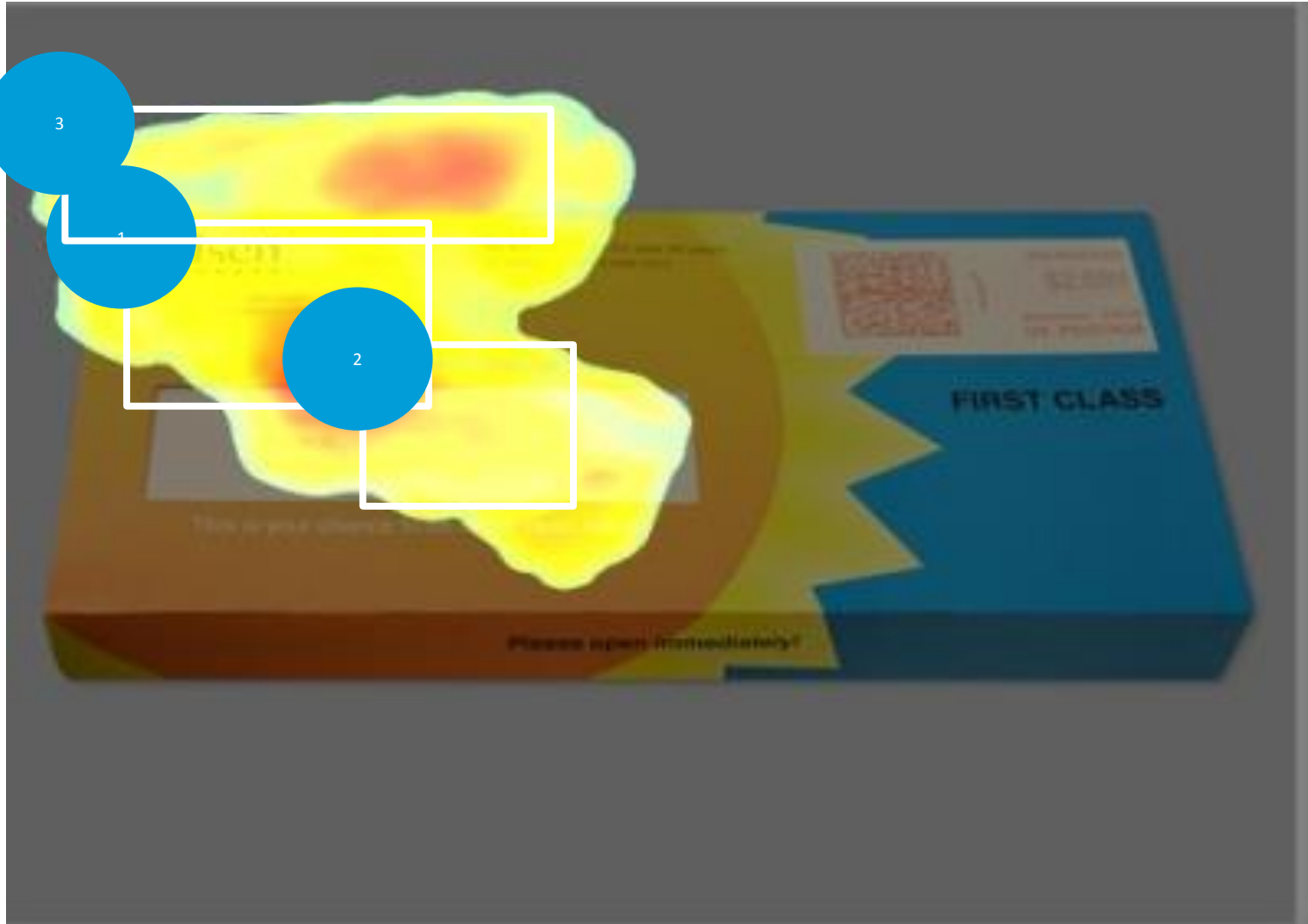
EFFECTIVENESS SCORE COMPONENTS

	MEN		WOMEN	
	TV DIARY	RADIO DIARY	TV DIARY	RADIO DIARY
EFFECTIVENESS	7.3	7.2	6.6	7.2
ATTENTION	6.1	6.0	7.0	5.7
EMOTIONAL ENGAGEMENT	7.1	7.0	6.3	7.3
MEMORY ACTIVATION	7.6	7.2	7.3	8.0

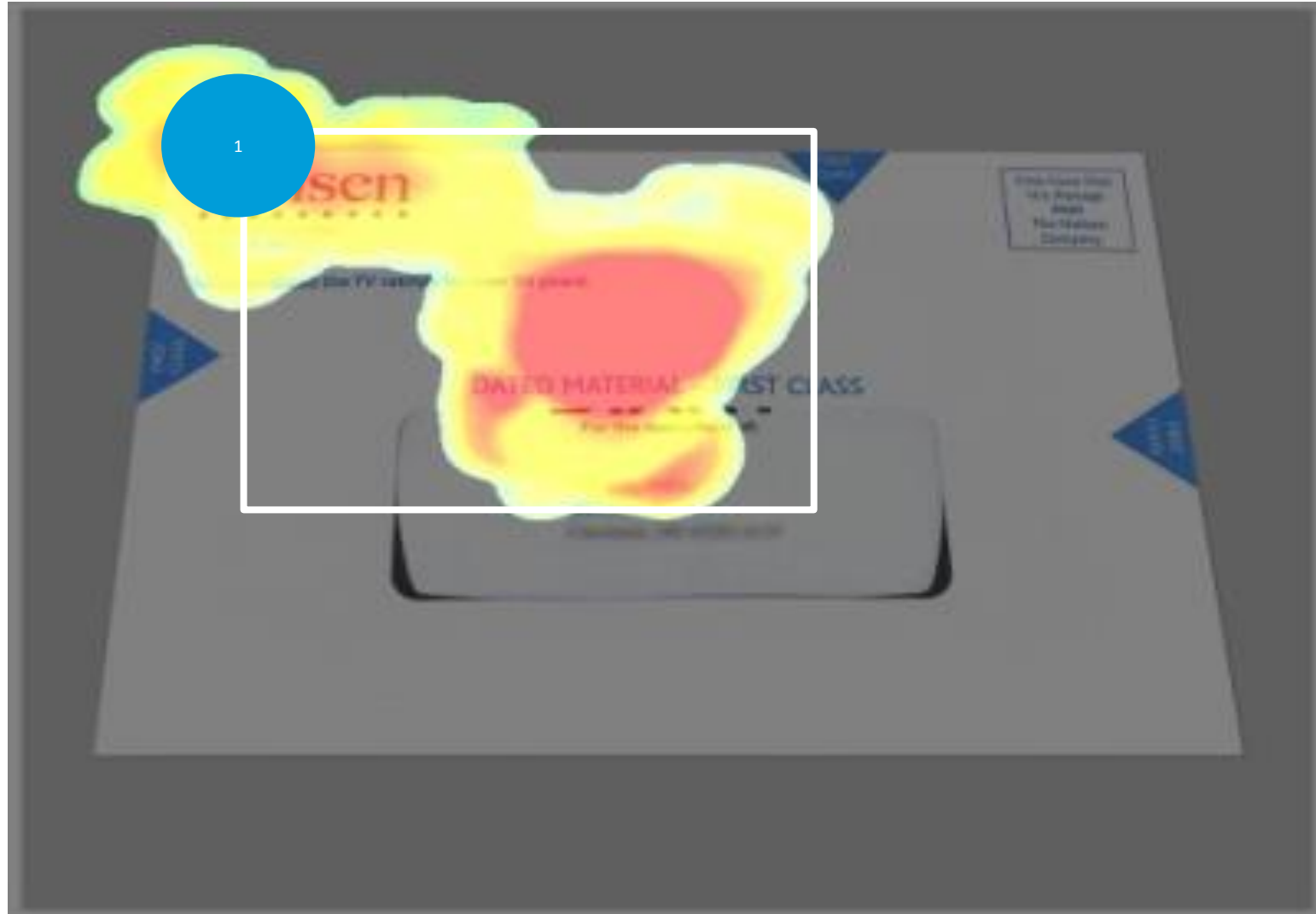
EYE-TRACKING RESULTS -- HEAT MAPS



EYE-TRACKING RESULTS -- HEAT MAPS



EYE-TRACKING RESULTS -- HEAT MAPS



SUMMARY

- Neuroscience results slightly favor radio box
- Eye-tracking results slightly favor radio box
- Differences between radio box and TV envelope are small
- Difference in packaging does not seem to account for difference in completion rates

THANK YOU FOR ATTENDING!

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