ALL THAT GLITTERS IS NOT GOLD: Discussing false promises in neuromarketing

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Specialization in implicit measures of cognition
Trained with Dr. Banaji, co-developer of the IAT, at Harvard University where I received my PhD (and MA)
2013 Rising Star from the Association for Psychological Science for my work with the IAT
SOME SELF DISCLOSURES

Consumer Neuroscience Advisor at Olson Zaltman Associates

Not here to sell a product or company
IMPLICIT ASSOCIATION TESTING
PRIMING
AFFECT MISATTRIBUTION PROCEDURE
STROOP TASK
IMPLICIT ASSOCIATION TESTING

PRIMING

AFFECT MISATTRIBUTION PROCEDURE

STROOP TASK

• Number of associations tested (a few to many dozen)
• Length of study (1 min upward of an hour)
• Type of associations tested
• Combination with traditional, explicit measures
MANY OPTIONS, MANY PROMISES
MANY OPTIONS, MANY PROMISES
Intuitively, we know not everyone is right...
REASONS TO BE SKEPTICAL

Standard of evidence

COI coupled with no independent review

Business outcome promises that are really too good to be true
Weighing What Matters

Scientific merit

Business cases
Goals for Today

Tools for evaluating scientific merit

Tools for evaluating business success claims
ASSUMPTION:

If it is published, it is good and trustworthy.
In the past decade, there has been a tremendous increase in the use of neurophysiological methods to better understand marketing phenomena among academics and practitioners. However, the value of these methods in predicting advertising success remains underresearched. Using a unique experimental protocol to assess responses to 30-second television ads, the authors capture many measures of advertising effectiveness across six commonly used methods (traditional self-reports, implicit measures, eye tracking, biometrics, electroencephalography, and functional magnetic resonance imaging). These measures have been shown to reliably tap into higher-level constructs commonly used in advertising research: attention, affect, memory, and dislikability. Using timeseries data on sales and gross rating points, the authors attempt to relate individual-level response to television ads in the lab to the ads' aggregate, market-level elasticities. The authors show that functional magnetic resonance imaging measures explain the most variance in advertising elasticities beyond the baseline traditional measures. Notably, activity in the ventral striatum is the strongest predictor of real-world, market-level response to advertising. The authors discuss the findings and their significant implications for theory, research, and practice.

Keywords: advertising elasticities, neuroscience, biometrics, implicit measures, market response modeling

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Predicting Advertising Success Beyond Traditional Measures: New Insights from Neurophysiological Methods and Market Response Modeling

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**Predicting Advertising Success Beyond Traditional Measures: New Insights from Neurophysiological Methods and Market Response Modeling**

*Journal of Marketing Research*
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<tr>
<td>What's analyzed</td>
<td>Response latency only</td>
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<td>Foils mixed in</td>
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OR

Positive

OR

Great

OR

Negative

Left Key

Right Key
Indoor
OR
Positive

Great

Outdoor
OR
Negative
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<td>3rd category images mixed in</td>
<td>Foils mixed in</td>
<td>Big NO NO. ruins test validity</td>
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**Conclusion:**
Not a single thing can be learned from this study regarding IAT and ad testing.

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FALSE ASSUMPTION:
If it is published, it is good and trustworthy.

SOLUTION:

Independent replication and validation essential.

- If it ain’t broke, don’t fix it
- There is a documented gold standard and a minimum standard, any use of IAT should fall within this range
Assumption:

All implicit measures are equally good at measuring emotions and functional attributes.
Implicit Response Latency Measures: Association Tasks

- IAT
  - Single Category IAT
  - Go/No-Go Association Task
  - Brief IAT
Question: Which brand is preferred?
Implicit Response Latency Measures: IAT

Question: Which brand is preferred?
Implicit Response Latency Measures:
Go/No-Go Test, Brief IAT

Purpose:
Measure one brand at a time

OR

Good
Implicit Response Latency Measures: Go/No-Go Test, Brief IAT

**Purpose:**
Measure one brand at a time
Independently measure positive and negative associations with a brand

**Problem:**
Numerous studies show it can't reliably measure negative associations!
Implicit Response Latency Measures: Priming Tasks

- Semantic Priming
- Evaluative Priming
- Affect Misattribution Procedure
- Stroop
Implicit Response Latency Measures: Priming Tasks (AMP)

**Question:** How positively is a brand perceived?
Implicit Response Latency Measures: Priming Tasks (AMP)

Particularly focused on activating and measuring emotions.
Priming Tasks are Great with Emotions
But, brands and products are more than just emotions

Example: “Beauty Bar” Mind Map

- Emotions
- Psychosocial Outcomes
- Functional Consequences
- Attributes

**Accomplished**

**Joyful**

**Grateful, feel positive about life**

**Confident, empowered**

**Motivated, enthusiastic**

**Calm, Relaxed**

**Be myself**

**Productive**

**Feel young**

**At my best**

**Feel sexy, pretty**

**Focused, alert**

**Energized**

**Feel young**

**Healthy skin**

**Gentle Application**

**Soft Skin Skin**

**Refreshed Scent**

**Clean Skin**

**At my best**

**Lather**

**Moisturizing**

**Smooth/Creamy**

**Made for women**

**Lather**

**Moisturizing**

**Smooth/Creamy**

**Made for women**
The Affect Misattribution Procedure: Ten Years of Evidence on Reliability, Validity, and Mechanisms

Keith Payne* and Kristjen Lundberg

University of North Carolina at Chapel Hill
The Affect Misattribution Procedure: Ten Years of Evidence on Reliability, Validity, and Mechanisms

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• Only measures brand affect if you use a neutral object after
• Priming occurs in both directions – means it’s less clear what drives a response if you DON’T USE a neutral character.
• Only measures brand affect if you use a neutral object after
• Priming occurs in both directions – means it’s less clear what drives a response if you DON’T USE a neutral character.
• Largest priming effects found when participants report rating the primes
• Consequence – unless you are weeding out all those participants, this type of procedure will effectively be tapping explicit, NOT implicit responses
FALSE ASSUMPTION:
All implicit measures are equally good at measuring emotions and functional attributes.

SOLUTION:
Methods should follow from questions. Use AMP procedures for emotions, select IAT procedures for broader applications.
Weighing What Matters

Scientific merit

Business cases
MANY FALSE CLAIMS

- Neuro measures are necessarily implicit
- Specific neural signatures for a brand
- You can tell whether something will be stored in long term memory at the point of encoding
- Implicit is more real/important than explicit
- Single formula for combining S1 and S2 thinking to predict behavior
SUMMARY

- Let the research question guide the appropriate method
- Too many black boxes being sold
- Need unbiased expertise to help identify false promises
- Need a solid methodological and statistical foundation to weed through the junk science
Thank you!

Implicitly, explicitly

LIKE

Dr. Andrew Baron
Associate Professor of Psychology
Affiliate, National Core for Neuroethics
& Consumer Neuroscience Advisor
at Olson Zaltman
www.olsonzaltman.com
Appendix
<table>
<thead>
<tr>
<th>Dimensions of difference</th>
<th>Evidence for true implicit</th>
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<tr>
<td>You are in control!</td>
<td></td>
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<tr>
<td>Awareness level</td>
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GUIDE TO SELECTING METHODS

Methods should follow from questions:

Based on what someone wants to understand, what methods are appropriate?

How to decide among methods
Think about importance of loved one.

Now think about the brand of your cell phone.

- No neural signature for that loved one.
- None for a brand either. And for that matter, very scant evidence of any lexical signatures (word concepts).
KINDS OF NETWORKS

A centralized network.

A distributed network.
LIMITS OF KNOWING WHERE

Positive or negative?
Liking or surprise?
Dislike, disgust, or fear?
Implicit is more important than explicit

Neuro measures are necessarily implicit
TOP TIPS FOR THOSE LOOKING TO COMMISSION AN IMPLICIT TOOL

- Expertise in identifying correct language
- Transparency is essential
- Fit with research goal – implicit tools are not interchangeable
NAVIGATING MANY OPTIONS: CAUTIONARY FLAGS

- Is the method proprietary or different from those used in rigorous academic studies?
- What’s the evidence this version of a tool predicts behavior?
  - Small deviations to an academic method actually disrupts the reliability and validity of the tool.
- Is the analytic process opaque?
  - The academic field regularly updates “best practices” for trusted methods.
LIMITS OF KNOWING WHEN

Increased arousal (heart rate, skin conductance, etc.)
LIMITS OF KNOWING WHEN

Excitement? Co-creating experience of proposal?
Or, as a vegan, disgusted by their choice of entrées?
LIMITS OF KNOWING WHAT
familiarity
preference
novelty
fear?
FACIAL EMOTIONS
CAN'T REVEAL THE SOURCE OR MAGNITUDE OF EXPRESSED EMOTION
Is this print ad effective at curbing drinking & driving?
Why is this ad effective?

Men in the Czech Republic consume the most beer in all of Europe. Unfortunately, the beer changes many of them into aggressors upon arriving home.

In order to stop this domestic violence, we redesigned the trademark beer mugs of our client Bernard Brewery to preventively warn its beer drinkers not to lose control over their drinking.
Why is this ad effective?
Why is this ad effective?

Men in Czech Republic consume the most beer in all of Europe. Unfortunately, the beer changes many of them into aggressors upon arriving home.

In order to stop this domestic abuse, we redesigned the trademark beer mugs of our client Bernard brewery to preventively warn its beer drinkers to not lose control over their drinking.
BUY BUTTON?

(amyg)
(vSTR)
(dLPFC)