

Can Digital Face Morphs Influence Attitudes and Online Behaviors?

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Visceral targeting



From Targeted advertising to Visceral targeting

- Increasingly, marketers target consumers with customized offers (*targeted advertising*) by showing consumers to specific products or services.
- However, explicit targeting is often perceived as invasive or creepy, and consumers may even avoid ads they perceive as such (White et. al., 2008)
- But what if individual information was used in *undetectable* manners to *customize the ad itself*, and influence behavior?



103,663 views | Jun 28, 2014, 01:10pm

Facebook Manipulated User News Feeds To Create Emotional Responses



Gregory S. McNeal Contributor

TWEET THIS

Facebook conducted a massive psychological experiment on 689,003 users, manipulating them to assess the effects on their emotions.

The short version is, Facebook has the ability to make you feel good or bad, just by tweaking up in your news feed.

Facebook conducted a massive psychological experiment on 689,003 users, manipulating news feeds to assess the effects on their emotions.

published on Psychology Today. The details of the experiment are available through the link below. Through the link below, you can find a therapist in your area. Find a Therapist (City or Zip)



Pamela B. Rutledge Ph.D., M.B.A. Positively Media



How Cambridge Analytica Mined Data for Voter Influence

Why soliciting personal data with misinformation is a big deal.

Posted Mar 21, 2018



If we look back on the use of social media analytics in Obama's elections, we might well ask, how is what the Trump campaign tried to do with the research firm Cambridge Analytica any different? Is this about Cambridge Analytica's violation of Facebook policy or is this a bigger deal than that?

In January 2013, I wrote about how President Obama effectively used social media in the 2008 and 2012 presidential campaigns, comparing his team's social media savvy to Kennedy's ability to use television. Where Kennedy had a lot of innate talents such as charisma and good hair that allowed him to project well across the lens onto the TV screens at home, Obama's team put social psychology to work using social media. In 2016, Trump's people turned to data.

Business • Analysis

The Facebook ads Russians targeted at different groups

By Dan Keating, Kevin Schaul and Leslie Shapiro

Nov. 1, 2017

Between June 2015 and August 2017, millions of Americans were exposed to Facebook ads and posts generated by Russian operatives who sought to influence and exploit divisions in American society on hot-button issues. A released during the House Intelligence Committee hearing on Russians used Facebook's advertiser tools, as well as free their interests, political leanings, location, age and



Research Agenda

- **Broad**: Can personal information about individuals be used in a subtle and implicit (visceral) fashion for customized, covert influence?
- **Specific**: Can **digital self face morphs** influence **consumer behavior**?

Why would self face morphs work?

- Face morphs: Images digitally created by combining facial pictures of different individuals
 - *Self* face morphs: morph created with a person's own face
- Self face morphs are trusted more (DeBruine, 2002)
- Self face morphs seem more attractive (DeBruine, 2004)
- More prosocial towards self-morph than identical twin-morph (Bressan & Zucchi, 2009)



From attitudes... to behaviors

- **Familiar people are more persuasive** (Bornstein et al., 1987; Weisbuch et al., 2003)
- **Perceived trustworthiness increases purchase intentions** (Priester & Petty, 2003)
- **Perceived attractiveness increases purchase intentions** (Snyder & Rothbart, 1971; Horai et al., 1974)

Self face morphs >> Attitudes (e.g. trust)
>> Behaviors (e.g. purchases)

Our Approach

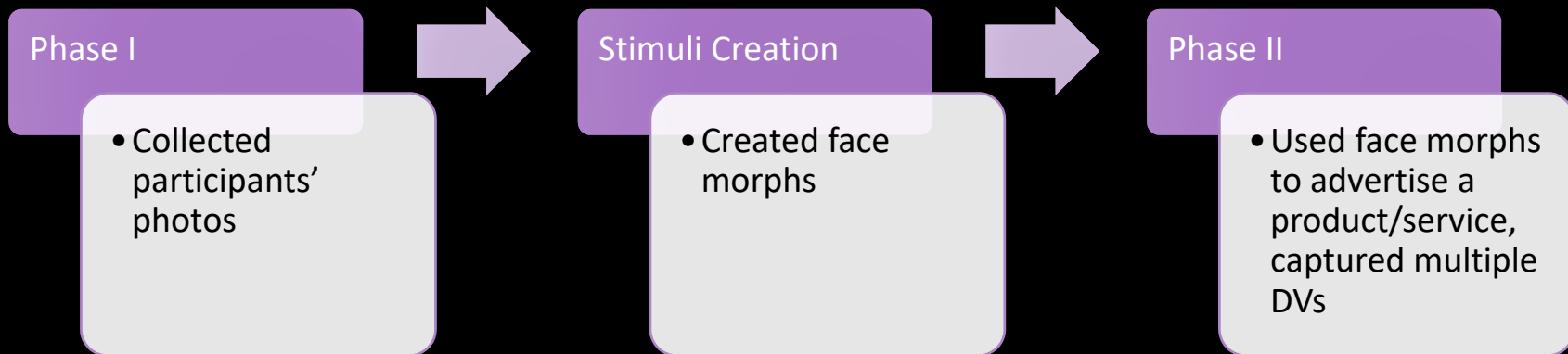
- 1) Collect **publicly available** facial images (e.g., from online social networks), and
- 2) Use them in self face morphs to covertly influence attitudes and **behaviors**

Studies

- 1) Study 1: Can self face morphs impact hiring/service purchase intentions?
- 2) Study 2: Can self face morphs impact self-disclosure?
- 3) Study 3: Large-scale replication study

Spoiler Alert: Why did we end up with a replication study?

Experimental Design: Overview



Phase 1 (Studies 1 & 2)

~10K MTurk Ps asked to
provide link to FB profile

41% provided links

20% had usable
public pictures

Stimuli creation (example)



60%



40%

A speech bubble with a grey background and a white border. The text inside reads: "What makes grand prix headphones better than any other headphones is the use of ground-breaking technology packed with incredible comfort, giving you the best audio experience ever!". In the background of the speech bubble, there is a small, semi-transparent portrait of the man in the blue polo shirt.

"What makes grand prix headphones better than any other headphones is the use of ground-breaking technology packed with incredible comfort, giving you the best audio experience ever!"

Study 1: Can self-morphs impact hiring/purchase of services?

- Online experiment with MTurk male participants (N = 188)
- Morphs based on publicly available Facebook photos
- Focus: Choosing and hiring a private music instructor online
- Primary DV: Hiring/service purchase intentions
- Secondary DVs: Other measures traditionally captured in face morph studies (e.g. perceived trustworthiness)

Study 1: Design

- Participants asked to imagine looking to hire an instructor to learn how to play an instrument of their choosing
- Shown two images of private instructors found in online searches
- Instructors reported to have similar experience and rates
- Participants asked to indicate which instructor they would personally choose to hire
- One of the instructors' images was a self-morph (self photo + randomly selected stock photo), while the other was a morph of two unfamiliar persons (other participant's photo + randomly selected stock photo)

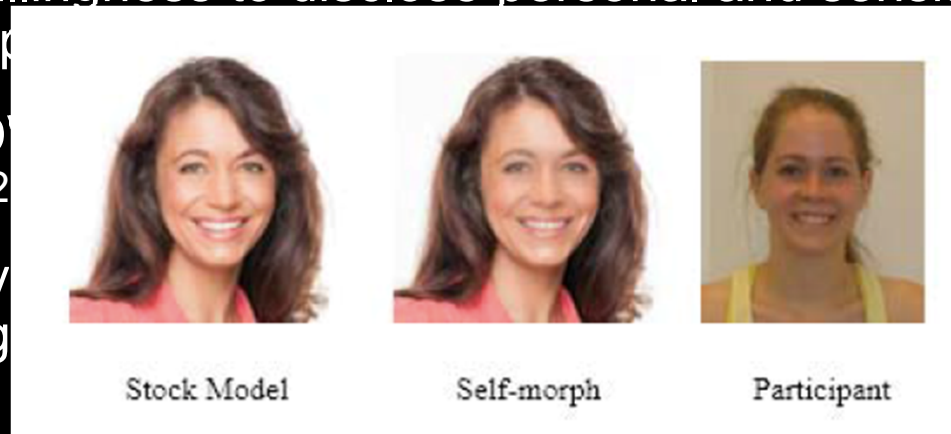
Study 1: Results

49% chose to hire the self-morph vs. 51% for the other
($p = 0.84$)

DV	Mean (SD)		t	p	Cohen's d
	Other	Self			
Trustworthy	5.07(1)	5.01(1.1)	-0.47	0.64	-0.09
Attractive	5.44(1)	5.35(1.1)	-0.93	0.36	-0.17
Knowledgeable	4.32(1.3)	4.55(1.2)	1.74	0.09	0.32
Like	4.81(1)	4.70(1)	-1.12	0.27	-0.21
Identify	4.12(1.3)	4.14(1.3)	0.18	0.86	0.03
Similar	4.28(1.2)	4.19(1.3)	-0.65	0.52	-0.12
Overall judgments*	4.66 (0.8)	4.67 (0.8)	-0.21	0.83	-0.04

Study 2: Can self-morphs impact self-disclosure?

- Online experiment with female MTurk participants (N = 310)
- Morphs based on publicly available Facebook photos
- Focus: Willingness to disclose personal and sensitive information to a therapist
- Primary DV: Willingness to disclose sensitive information (Loewenstein 2002)
- Secondary DVs: Willingness to disclose sensitive information (e.g., name, address, phone number, email address, date of birth, Acquisti, and Loewenstein 2004)



Study 2: Results

No statistically significant differences in AAR between self vs. other conditions (M = 2.91 vs. 3.08, $p = 0.346$)

DV	Mean (SD)		<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	Other	Self			
Trustworthy	5.29(1.1)	5.25(1.2)	0.30	0.76	0.03
Attractive	5.27(1.2)	5.28(1.1)	-0.10	0.92	-0.01
Knowledgeable	4.81(1.2)	4.69(1.1)	0.89	0.37	0.10
Like	5.28(1.2)	5.11(1.1)	1.31	0.19	0.15
Good	5.22(1.2)	5.04(1.3)	1.29	0.20	0.15
Identify	4.10(1.4)	4.10(1.4)	-0.05	0.96	-0.01
Similar	4.20(1.3)	4.10(1.4)	0.61	0.54	0.07
Overall judgments*	4.88 (0.9)	4.80 (0.9)	0.77	0.44	0.09

Study 3: Large Scale Replication

- Lab experiment
 - Participants recruited via CBDR experiments list and CMU Data Truck
- Male and female participants (N = 495)
- Morphs based on high quality lab photos
- Focus: Replication (“Study on images”)
- DVs: Perceived trustworthiness (and other measures traditionally captured in morph studies)

Study 3: Results

No statistically significant differences between self vs. other conditions

DV	Mean		<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	Other	Self			
Trustworthy	4.46 (1.2)	4.59 (1.2)	1.202	0.23	0.11
Attractive	4.16 (1.3)	4.22 (1.4)	0.457	0.65	0.04
Knowledgeable	4.40 (1.0)	4.46 (1)	0.650	0.52	0.06
Like	3.96 (1.2)	4.17 (1.3)	1.972	0.05	0.18
Identify	3.16 (1.4)	3.26 (1.5)	0.804	0.42	0.07
Similar	3.41 (1.5)	3.51 (1.4)	0.835	0.41	0.08
Overall judgments*	3.92 (1.0)	4.03 (1.0)	1.279	0.20	0.12

Why failed replication?

Gender effects?

Quality of images?

Morphing procedure?

Sample size?

Choice of DVs?

Findings (and Implications)

Self face morphs did *not* seem to affect attitudes or behaviors in our studies

Research implication: Face morphs effects currently reported in the literature may be quite sensitive to experimental conditions, and possibly not robust

Policy implication: Nevertheless, this research attempts to bring a potential form of visceral nudge to the attention of policy makers and the public

Open question: Can the industry, with more resources and stronger incentives, find ways to use these (or other related) forms of visceral influence to secretly affect individuals' behavior?

25 de Abril Día Internacional de la Lucha Contra el Maltrato Infantil

A veces el **maltrato infantil** solo es visible para el niño que lo sufre.



Sometimes child abuse is only visible to the child suffering it

Fundación ANAR

JCDecaux

25 de Abril Día Internacional de la Lucha Contra el Maltrato Infantil

A veces el **maltrato infantil** solo es visible para el niño que lo sufre.

Si alguien te ha hecho daño, llámanos y te ayudaremos

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If somebody hurts you, phone us and we'll help you

Fundación ANAR

Thank you! Questions?

This work was supported by NSF Grant Award Number
1012763 and NSF Grant Award Number 1327992