

NETS 213: CROWDSOURCING
AND HUMAN COMPUTATION

What data can tell us about sex and relationships

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Stanford Speed Dating Experiment

- Linguists at Stanford University got permission to record speed dates, and collect pre-date and post-date surveys
- Participants wore audio recorders on shoulder sashes
- Recorded 2 sides of the conversations for 1100 4-minute dates

Pre-date survey

- Participants self-reported age, height and weight, hobbies and interests, dating background

(17) How interested are you in the following activities? (1=very uninterested, 10=very interested)

| | | | | | | | | | | |
|---------------------------------|---|---|---|---|---|---|---|---|---|----|
| Playing sports/ athletics | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Watching sports | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Body building/exercising | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Dining out | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Museums/galleries | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Art | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Hiking/camping | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Video Gaming | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Dancing/clubbing | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Reading | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Watching TV | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Theater | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Movies | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Going to concerts | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Music | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Shopping | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Yoga/meditation | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

Post-date survey

- Date perceptions and follow-up interest
- Conversational style and intention of their partners

(4) How often did **you behave** in the following ways on this "date"? (1=never, 10=constantly)

| | | | | | | | | | | | | |
|-----------------------------------|-------|---|---|---|---|---|---|---|---|---|----|------------|
| You were <i>friendly</i> | never | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | constantly |
| You were <i>flirtatious</i> | never | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | constantly |
| You were <i>awkward</i> | never | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | constantly |
| You were <i>assertive</i> | never | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | constantly |

(5) How often did the **other person** behave in the following ways on this "date"? (1=never, 10=constantly)

| | | | | | | | | | | | | |
|------------------------------------|-------|---|---|---|---|---|---|---|---|---|----|------------|
| They were <i>friendly</i> | never | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | constantly |
| They were <i>flirtatious</i> | never | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | constantly |
| They were <i>awkward</i> | never | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | constantly |
| They were <i>assertive</i> | never | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | constantly |

Speed date data

- 4-minute sound recording files from each recorder
- Each date was then transcribed
- Transcripts marked words, laughter, filled pauses, speaker overlap, and restarts
- Timestamped the beginning and end of each conversational turn
- Dates averaged 812 words (406 per speaker), taking an average of 93 turns

F: Well what about you, what are you passionate about?

M: Um, I am passionate about probably two things.

F: Uh-huh.

M: Well, many things, but two that come to mind straightaway. One is travel.

F: Okay.

M: I like see different parts of the world-

F: Uh-huh.

M: -experience lots of different things. And I also- recently, I've got into exercise, and, um, just different things, so riding a bike, and swimming, and running.

F: Oh, okay. Uh-huh.

M: I did my first track run on the weekend.

F: Oh, you did? How was it?

M: It was hard.

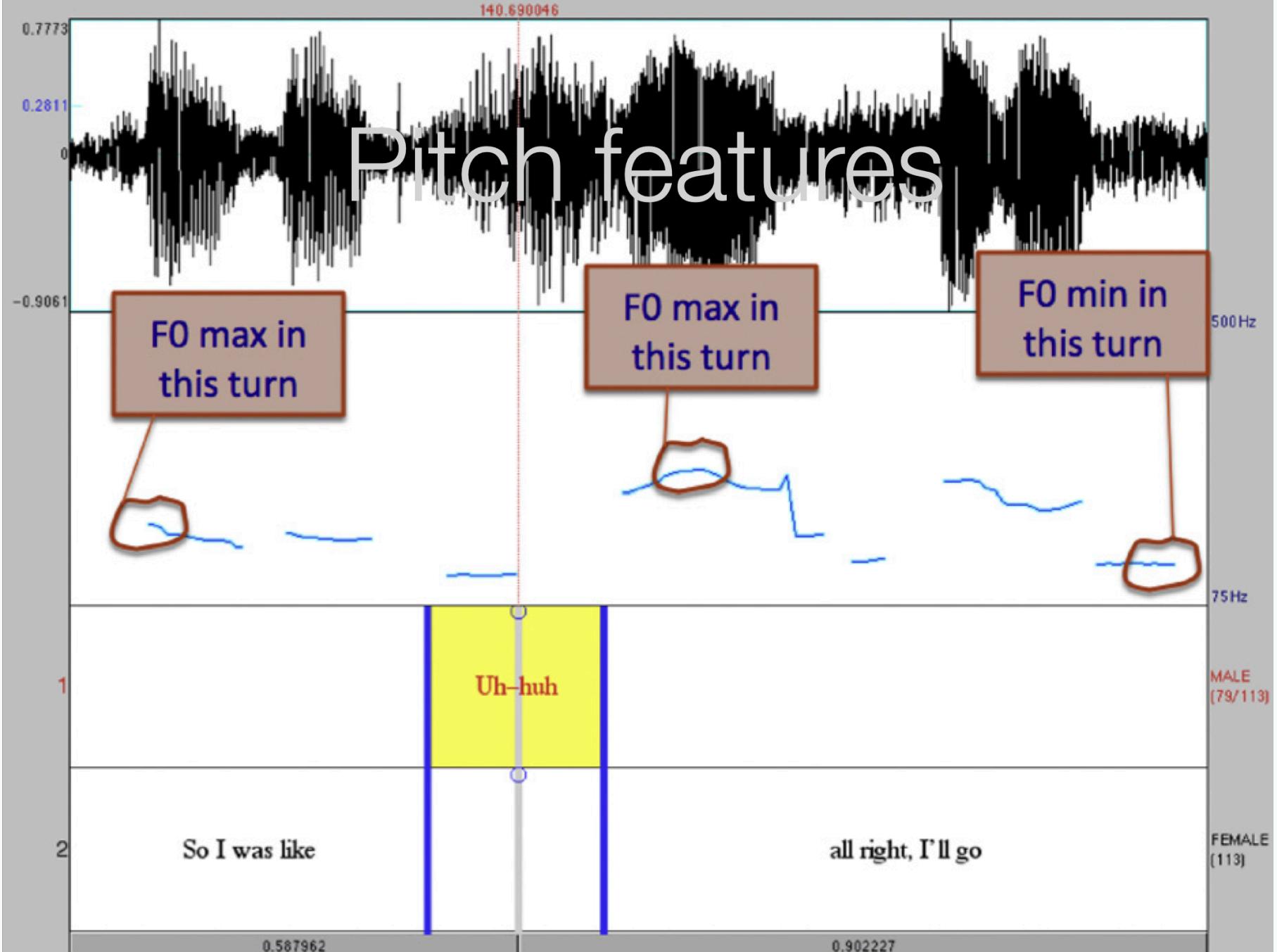
F: [laughter] Yeah, I heard it's really hard.

Prediction tasks

- Build a machine learning classifier to identify friendly, flirtatious, awkward, or assertive speakers
- Build separate classifiers for detecting when characteristics were self-reported or reported by partners
- Build separate classifiers for men and women
- $4 \text{ characteristics} * \text{self-v-partner} * 2 \text{ sexes} = 16$ classifiers (e. g. male self-reported flirtation classifier)

Feature extraction

- Features of the speech files: **pitch, intensity, turn duration** and **rate of speech** (num words per second)
- Lexical features: how often they mentioned **themselves** or the **other person**, word categories like **sex, love, hate, food, swearing**
- Number of **uh and ums, hedges, interruptions, laughters, agreements, questions, expressions of agreement, appreciation, sympathy**
- Rate of **accommodation** (adopting the other person's word usage)



Lexical Features

| | |
|-----------|---|
| I | I'd, I'll, I'm, I've, me, mine, my, myself |
| YOU | you, you'd, you'll, your, you're, yours, you've |
| SEX | sex, sexy, sexual, stripper, lover, kissed, kissing |
| LOVE | love, loved, loving, passion, passions, passionate |
| HATE | hate, hates, hated |
| SWEAR | suck*, hell*, crap*, shit*, screw*, damn*, heck, ass*,... |
| NEG EMO | bad, weird, crazy, problem*, tough, awkward, worry,... |
| NEGATE | don't, not, no, didn't, never, haven't, can't, wouldn't,... |
| FOOD | food, eat*, cook*, dinner, restaurant, coffee, chocolate, cookies,... |
| DRINK | party, bar*, drink*, wine*, beer*, drunk, alcohol*, cocktail,.. |
| ACADEMICS | work*, program, PhD, research, professor*, advisor, finish*,... |

Lexical Features

| | |
|----------|---|
| HEDGE | sort of, kind of, I guess, I think, a little, maybe, possibly, probably |
| META | speed date, flirt, event, dating, rating |
| LIKE | the discourse marker like (removing the verb like) |
| I MEAN | the discourse marker I mean |
| YOU KNOW | the discourse marker you know |
| UH | the filled pause uh |
| UM | the filled pause um |

Discourse Features

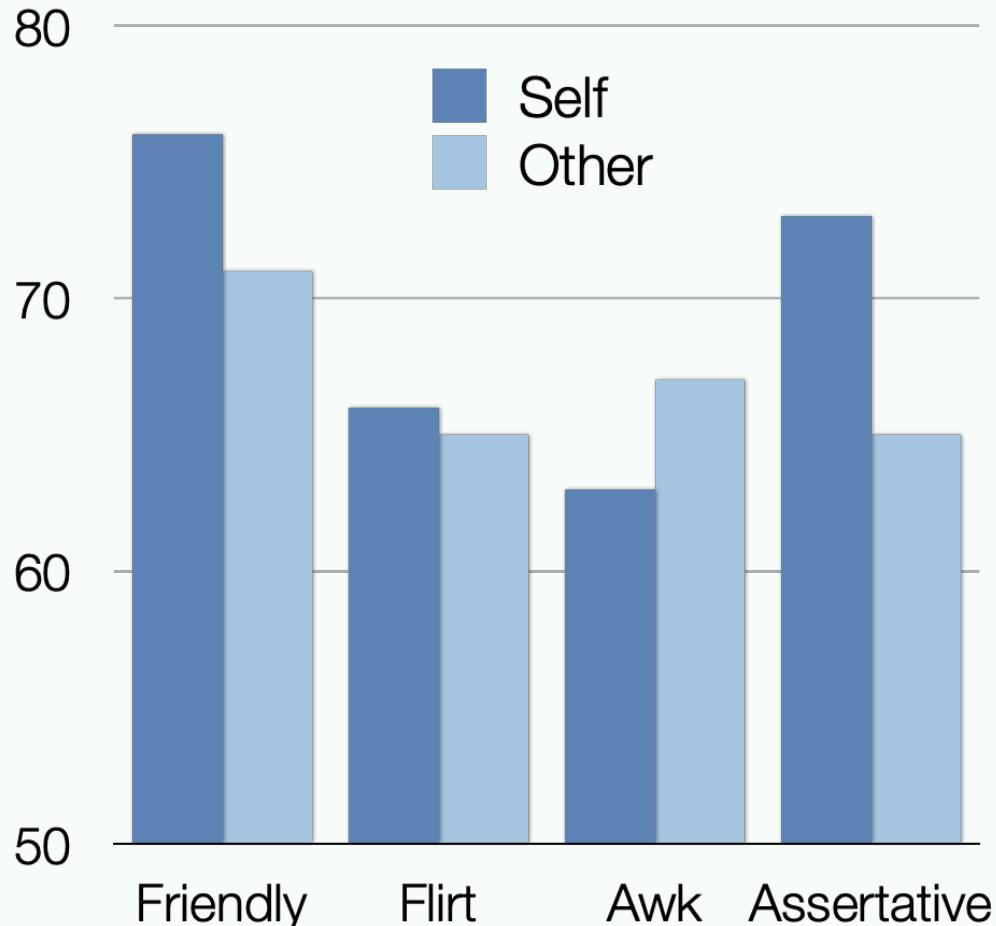
| | |
|----------------|---|
| TOTAL WORDS | total number of words in side |
| QUESTIONS | number of questions in side, clarification question (Excuse me?) number of turns in side which one speaker interrupted the other number of instances of turn-initial or whole-turn laughter in side number of instances of turn-medial or turn-final laughter in side total number of disfluent restarts in conversation side |
| CLARIFICATIONS | clarification question (Excuse me?) |
| INTERRUPTIONS | number turns one speaker interrupted the other |
| LAUGH INITIAL | number of turn-initial or whole-turn laughter |
| LAUGH MEDIAL | number of turn-medial or turn-final laughter |
| RESTART | num disfluent restarts in conversation side |
| APPRECAITONS | num appreciations (Wow, That's true, Great) great |
| SYMPATHY | number of sympathetic negative assessments in side |
| AGREEMENT | num of agreements (That's true, For sure. . .) |

Classification

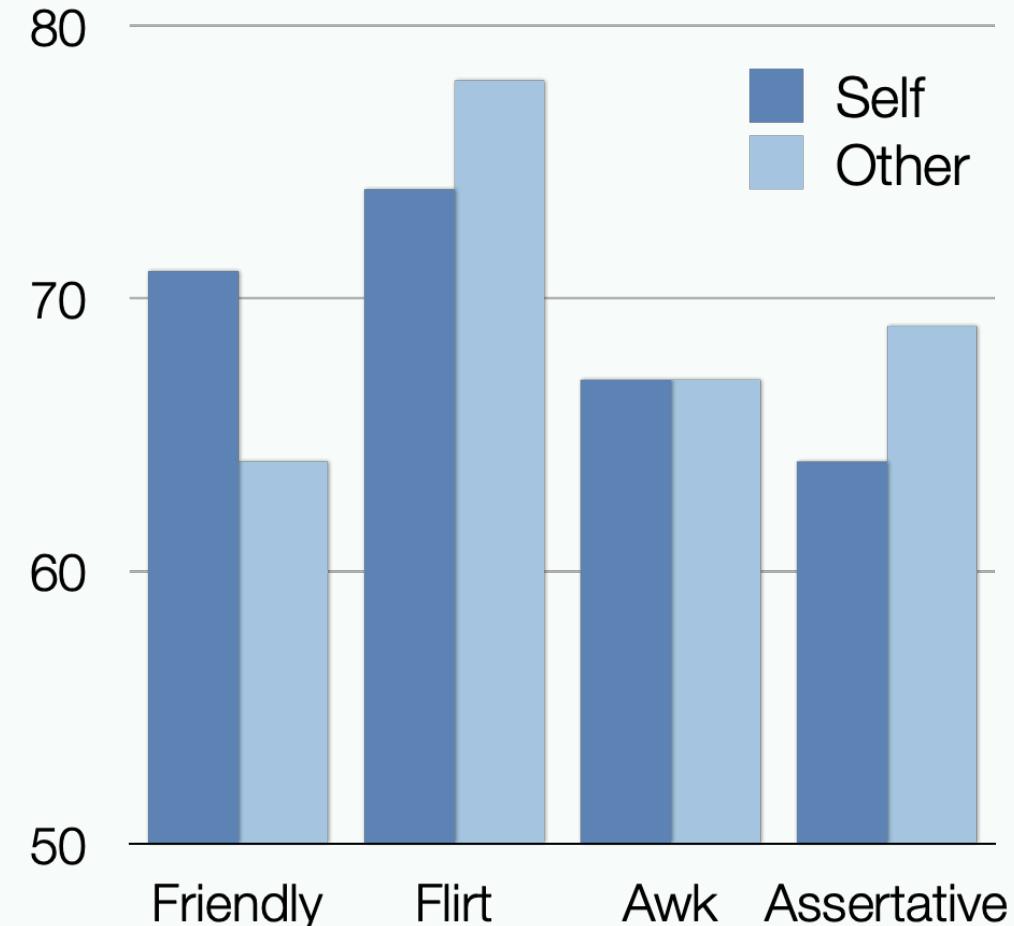
- Trained a Support Vector Machine for each of the 16 experiments
- For training data, took top 10% of data as positive training examples and bottom 10% of data as negative data
- For example, for *self-reported male flirtation*, sort all 1000 dates by self-reported male flirtation score take top 100 and bottom 100
- Since training data was small, did 4 fold cross validation, 30x times w/random order

Classification Accuracy

Men



Women



FEMALE

| FLIRT SELF | | FLIRT OTHER | |
|--------------------|----------|--------------------|----------|
| o_i | -0.00129 | s_question | -0.00210 |
| o_like | -0.00125 | o_loud | -0.00178 |
| o_academic | -0.00124 | s_negemo | -0.00121 |
| o_loud | -0.00114 | s_maxpitch | 0.00130 |
| o_uh | -0.00105 | s_negate | 0.00143 |
| s_rateaccom | 0.00111 | s_ntri | 0.00152 |
| s_love | 0.00116 | s_um | 0.00161 |
| s_midlaugh | 0.00157 | s_i | 0.0016 |
| o_ntri | 0.00159 | o_funcaccom | 0.00180 |
| s_hedge | 0.00204 | s_longturn | 0.00186 |
| o_appr | 0.00251 | s_varinten | 0.00188 |
| s_negate | 0.00261 | o_varinten | 0.00189 |
| s_like | 0.00270 | o_midlaugh | 0.00194 |
| o_funcaccom | 0.00298 | o_meta | 0.00201 |
| s_longturn | 0.00327 | o_appr | 0.00201 |
| o_interrupt | 0.00330 | s_rate | 0.00311 |
| s_i | 0.00370 | s_like | 0.00411 |
| o_rate | 0.00547 | o_interrupt | 0.00459 |
| | | o_question | 0.00549 |
| | | o_rate | 0.00588 |

MALE

FLIRT SELF

FLIRT OTHER

| | | | |
|-------------------|----------|-------------------|----------|
| s_academic | -0.00277 | o_midlaugh | -0.00185 |
| s_uh | -0.00237 | o_question | -0.00165 |
| o_academic | -0.00123 | o_food | -0.00132 |
| s_pitchvar | -0.00121 | s_academic | -0.00105 |
| s_negate | -0.00111 | o_imean | 0.00109 |
| o_uh | 0.00117 | o_negemo | 0.00112 |
| s_longturn | 0.00121 | s_you | 0.00117 |
| s_youknow | 0.00125 | o_meta | 0.00124 |
| o_sex | 0.00141 | o_drink | 0.00134 |
| s_varinten | 0.00156 | s_imean | 0.00134 |
| s_swear | 0.00191 | o_appr | 0.00139 |
| s_you | 0.00195 | s_um | 0.00193 |
| s_initlaugh | 0.00200 | s_youknow | 0.00273 |
| o_like | 0.00206 | s_question | 0.00341 |
| o_negemo | 0.00213 | o_longturn | 0.00356 |
| s_hate | 0.00220 | | |
| o_love | 0.00225 | | |
| s_imean | 0.00231 | | |
| s_sympathy | 0.00252 | | |
| s_um | 0.00358 | | |

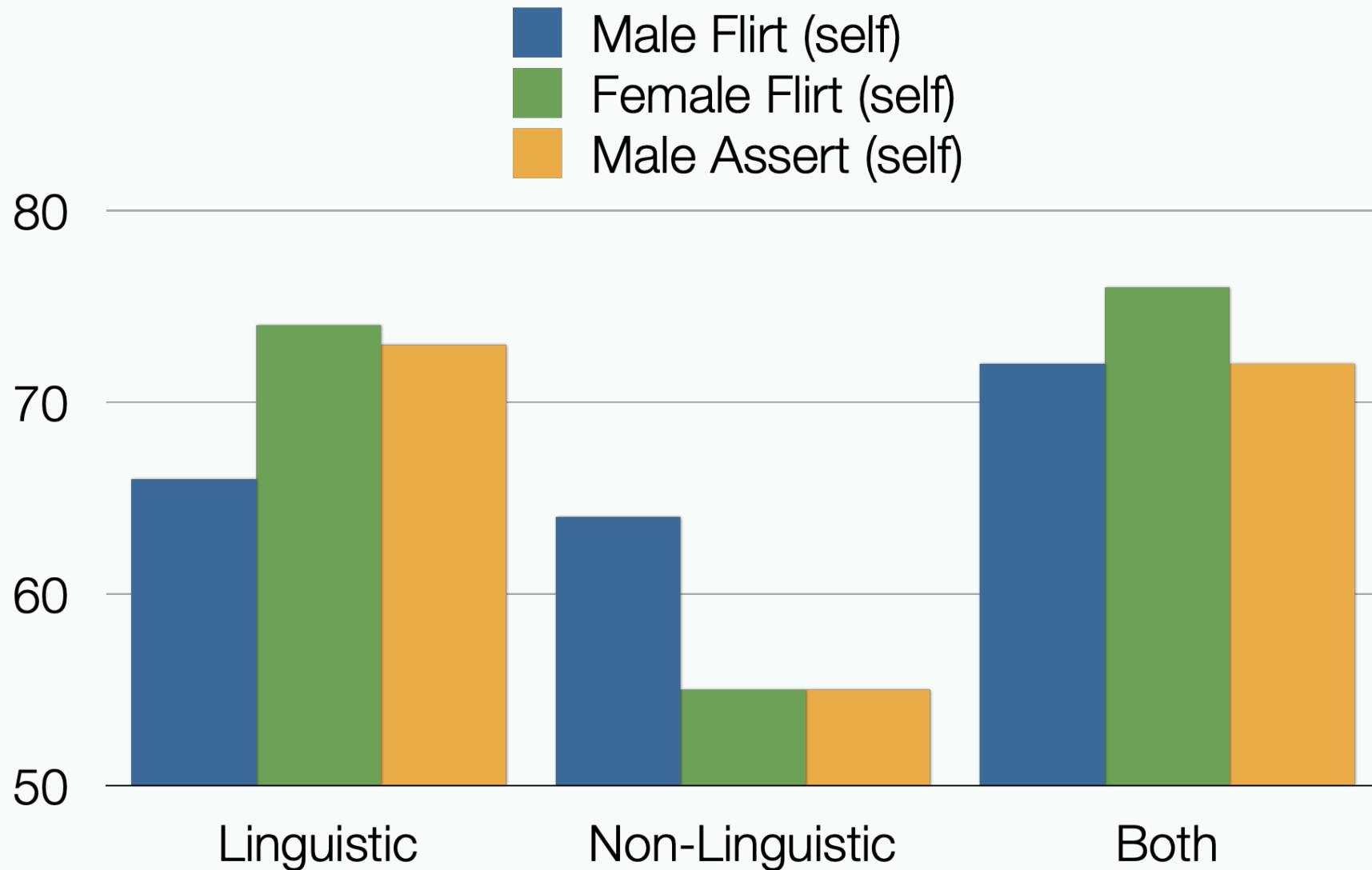
Linguistic v. non-linguistic features

- How good are the linguistic features compared to non-linguistic features?
- Can we predict how well two people will hit it off just based on their appearance or on their shared interests, without observing their interactions?

Non-linguistic Features

| | |
|--------------|--|
| ORDER | Order of the date (nth date the speaker has participated in tonight) |
| HEIGHT | The height of the speaker |
| BMI | The body mass index of the speaker |
| O-HEIGHT | The height of the interlocutor |
| O-BMI | The BMI of the interlocutor |
| AGE DIFF | The age difference between the pair |
| INTEREST SIM | The interest similarity between the pair |

Classification Accuracy



What do you think?

- Do you think that the SVM's accuracy is better or worse than a person's accuracy at predicting whether someone is flirting with them?
- Do you think that 4 minutes of data is sufficient for making accurate predictions?
- Any methodological concerns?
- Could you use data to change your own dating strategies?

Data-driven Sociological Studies

- 3.2 million OKCupid users
- Profile information: age, gender, sexual orientation, location, ethnicity, religion, level of education, income level, height, body type, whether you like kids/pets/drinking/drugs, essays, profile pictures plus attractiveness ratings
- Database of 275,294 match questions
- 776 million answers to those questions

- What's more interesting to you right now? Love or Sex
- How willing are you to meet someone from OkCupid in person?
- Have you smoked a cigarette in the last 6 months?
- Could you date someone who does drugs?
- Would you strongly prefer to go out with someone of your own skin color / racial background?
- About how long do you want your next relationship to last?
- Would you consider sleeping with someone on the first date?
- Are you happy with your life?
- Rate your self-confidence
- How important is religion/God in your life?
- Would you prefer good things happened, or interesting things?
- Do you like horror movies?

This question was posed by another OkCupid user. We'll compare your answer to millions of others to find the best people for you.

— Staff Robot

Regardless of future plans, what's more interesting to you right now?

New

Sex

Love

Answer I'll accept...

Sex

Love

This question is...

Irrelevant

A little important

Somewhat important

Very important

Mandatory

Answer this question privately.

Explain your answer (optional)

The Best Questions on a First Date

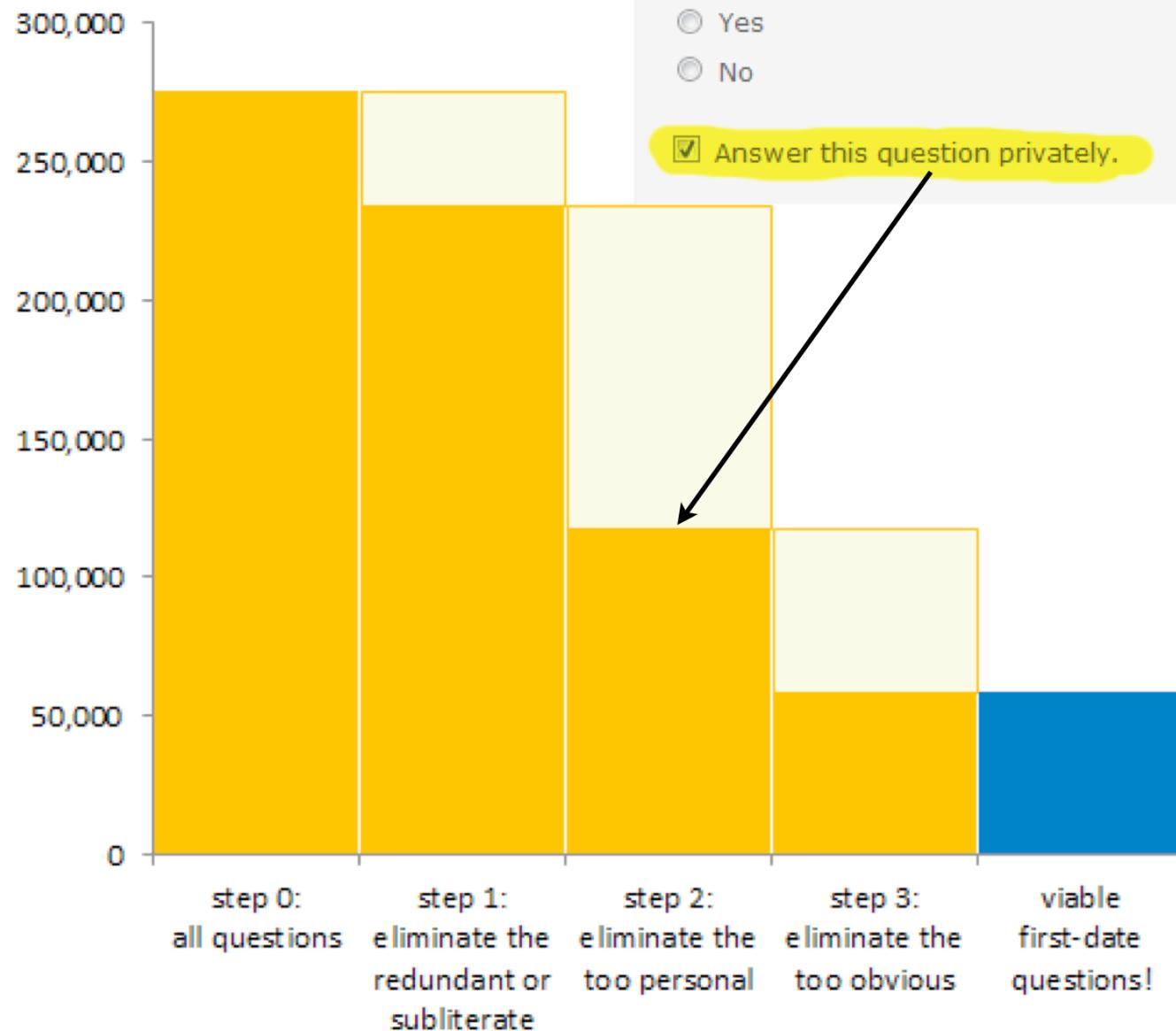
- You would like to learn about your date, some important things that you would like to know are awkward to ask directly
- Find questions that correlate with what you want to know, but which people are more free about answering publicly

Are you looking for a partner to have children with?

Yes

No

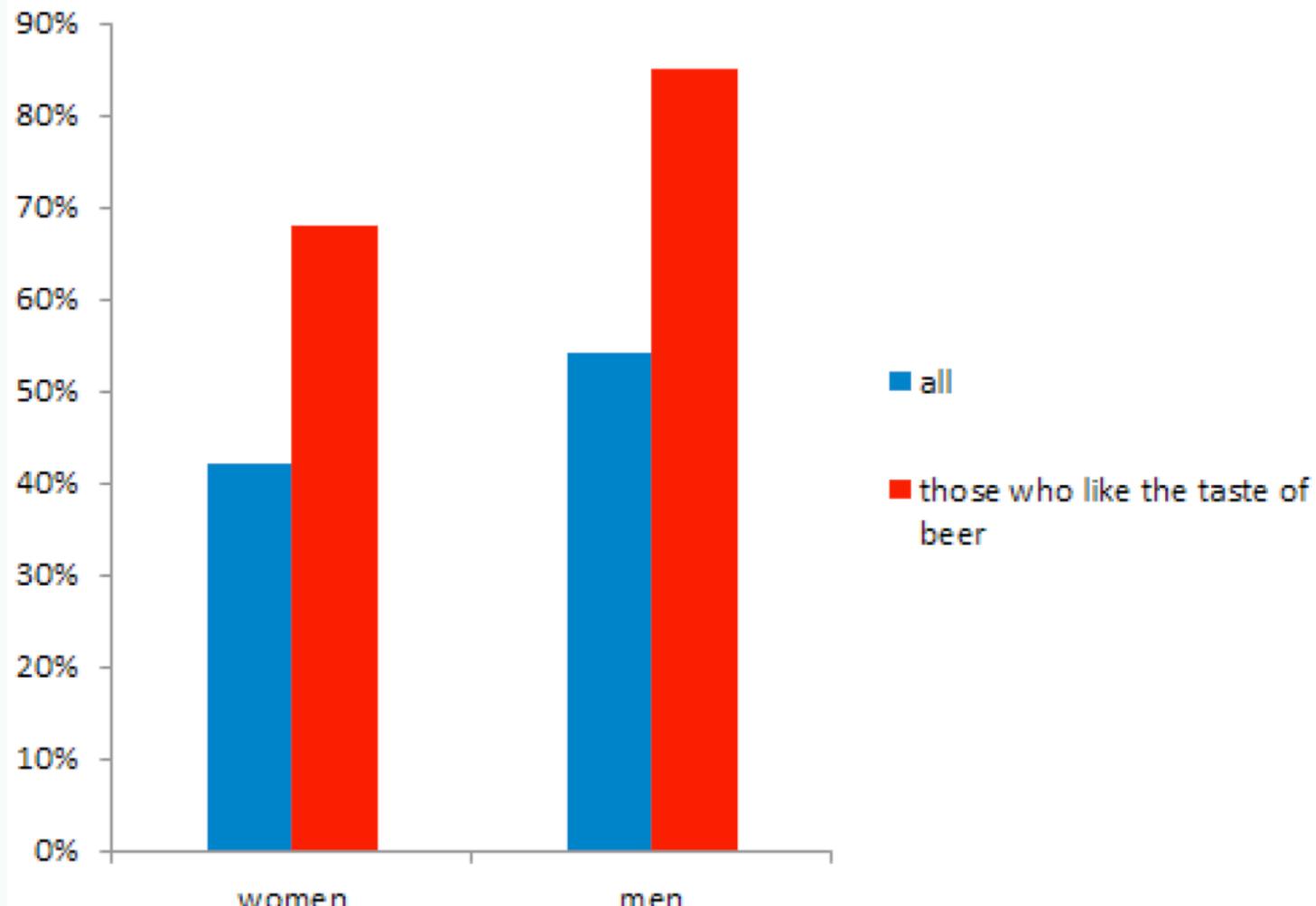
Answer this question privately.





Would you consider sleeping with someone on the first date?

- % answering yes -



Other questions to ask

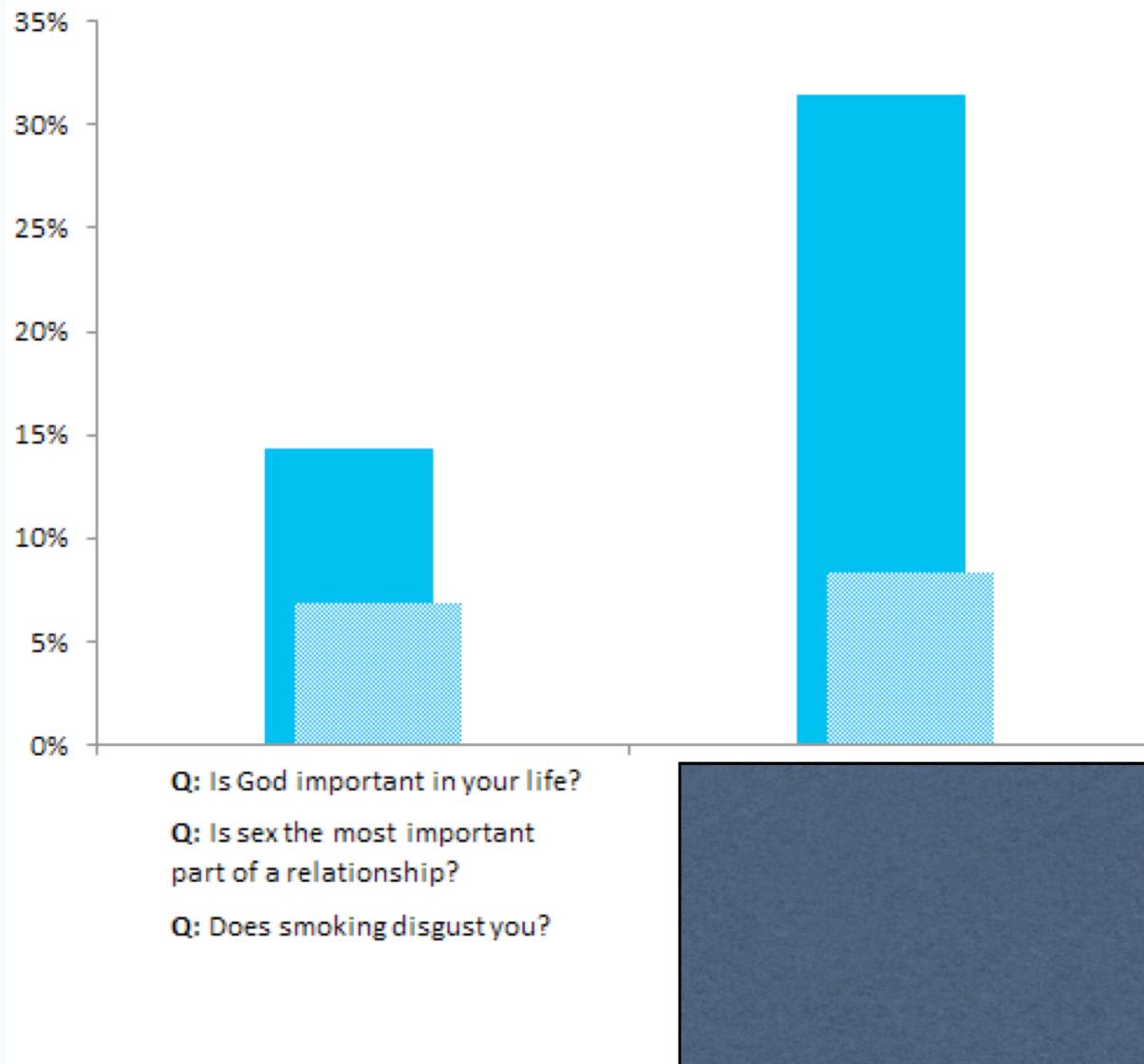
| predictive question | implied odds of first-date sex |
|--|-----------------------------------|
| Q: In a certain light, wouldn't nuclear war be exciting? | yes → 83% |
| Q: Assuming you were in the position to do so, would you launch nuclear weapons under any circumstances? | yes → 82% |
| Q: Could you imagine yourself killing someone? | yes → 82% |

LTRs

- If you're interested in a long term relationship, you can use this methodology too
- When someone deletes their OkCupid account, the option of giving a reason
 - One is 'I met somebody on OkCupid,' they can report their significant other's username
 - 34,000 such pairs exist

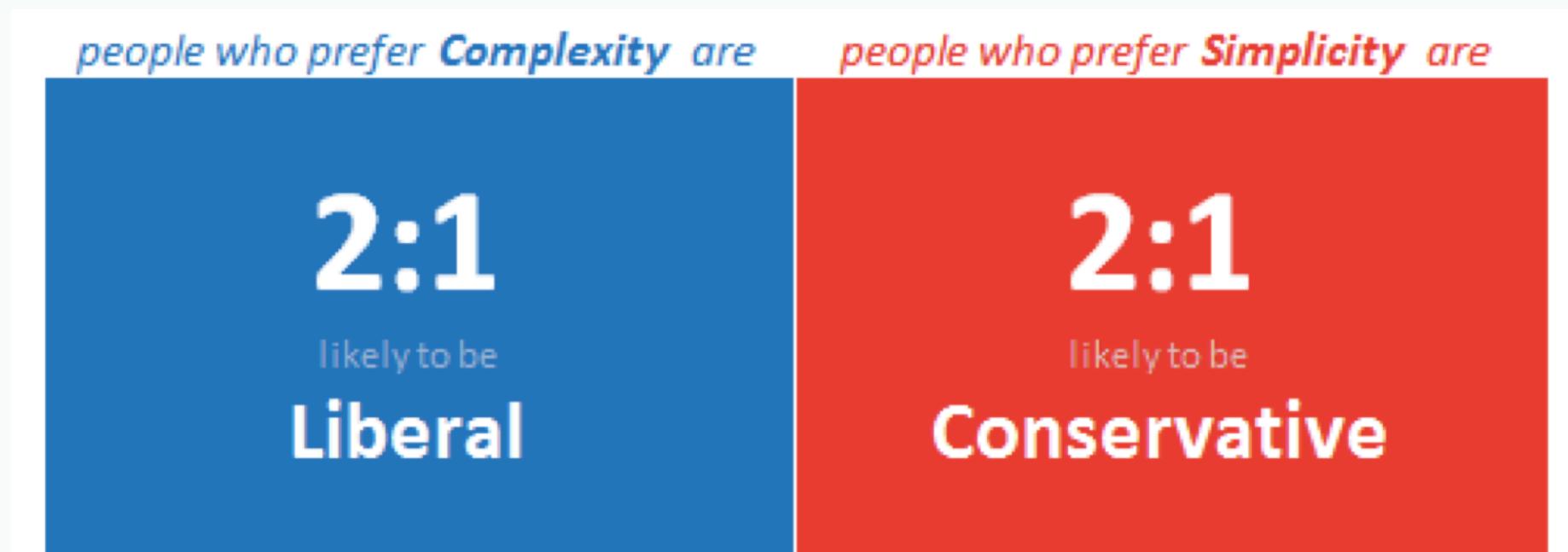
■ % of long-term couples who agree on all three questions
◆ % agreement expected from pure chance

top 3 user-rated match questions our 3 recommended questions



Politics

- If you want to know: *Do my date and I have the same politics?*
- Ask: *Do you prefer the people in your life to be simple or complex?*



Politics

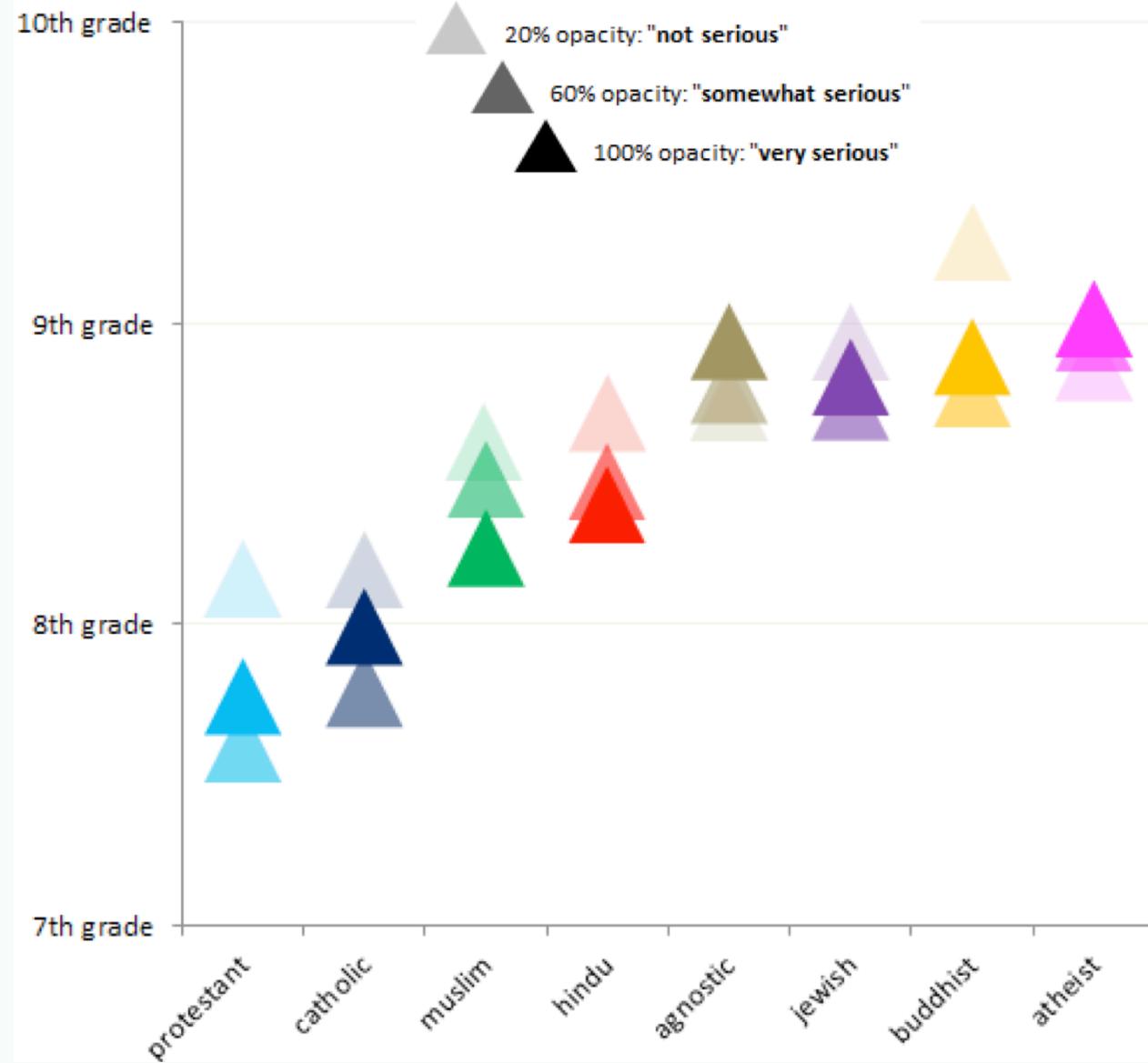
- People who prefer complexity are 65-70% likely to give the Liberal answer. Those who prefer simplicity in others are 65-70% likely to give the Conservative one:
 - Should burning your country's flag be illegal?
 - Should the death penalty be abolished?
 - Should gay marriage be legal?
 - Should Evolution and Creationism be taught side-by-side in schools?

Religion

- If you want to know: *Is my date religious?*
- Ask: *Do spelling and grammar mistakes annoy you?*
- If your date is okay with bad grammar and spelling then the odds of him or her being at least moderately religious is slightly better than 2:1

Religion & Writing Proficiency Level

Triangle opacity indicates seriousness of belief, as reported by the users.



Ethnicity

- What is it that makes a culture unique? How are whites, blacks, Asians, or whoever different from everybody else? What tastes, interests, and concepts define an ethnic group?
- Analyzed 500,000+ profiles with self reported race, looking at 280M words worth of profile essays
- Analyze words that are statistically distinct from other racial groups (everyone likes sushi, only Asians list sashimi).

White people

tom clancy van halen
golfing harley davidson
ghostbusters phish
the big lebowski
soundgarden brew boating
nofx groundhog day hockey
jeep **blazing saddles the red sox**
the dropkick murphys megadeth
grilling ccr robert heinlein
boats **skiing zappa nascar**
motorcycles **software dark tower**
the hitchhiker's guide to the galaxy breaking bad
band of brothers burn notice coen brothers
michael crichton **bad religion tenacious d**
mostly rock i'm a country boy building things
queens of the stone age **mountain biking i can fix anything**
the offspring a few beers apocalypse now
lock, stock, and two smoking barrels **hunting and fishing**
most sports **world war z guitar**

**the red sox jodi picoult
boating nascar mascara
ireland nicholas sparks
horseback riding bonfires
flea markets a country girl
nora ephron waitress ray lamontagne
i'm blond yankees kenny chesney
decorating getting dressed up skiing
when harry met sally baths
my red hair horses summertime wine
dmb historical fiction cookbooks
flip-flops my girlfriends
the time traveler's wife country music
diet coke dirty dancing coffee
thunderstorms midwest tim mcgraw
new recipes patricia cornwell mom
carrie underwood nursing school
eat pray love yoga pilates my toes
animal lover baking**

Black people

men

soul food i am cool

espn playing basketball

menace to society

tall, dark, and handsome

god-fearing mos def

rapping lupe fiasco **nas**

gucci mane **calm** the roots

kanye west basketball **boondocks**

holla **u are** nfl **tryna** trey songz

ladies alicia keys **a tribe called quest**

jay z **outkast** african **wwe** chillin'

more money denzel **if ur** god and family

xbox 360 playstation **jamaican**

making music **tryin' to** a good woman **my god**

talib kweli **busta rhymes** football **bible**

no kids **hitch** stationed **laid-back guy** 2pac

women

soul food

the color purple

god-fearing gospel

alicia keys neo soul

lip gloss the coldest winter ever

zane the lord **soca** my god

tyler perry the bluest eye **god's plan**

african **musiq** hip-hop **r & b**

maya angelou **my church** coming to america

maxwell bible **jamaican** basketball

luther Vandross sexy **christ** india arie

god and family trey songz **my man** pretty woman

god's love self-help **justin timberlake** church

shopping romance novels **i attend** soft rock

in nursing singing and dancing **writing poetry**

to church **faith in god** very down **law & order** blessings



Asians

taiwan i'm a simple guy

korea asians singapore
pho korean

software developer mandarin
playing basketball noodle vietnam

cricket freakonomics

mechanical engineer the rock
trying out new things a foodie

an engineer tom clancy

calvin & hobbes bay area muay thai
surfing the net tennis badminton gadgets
entourage asian food the bay

entrepreneur sashimi l.a. confidential

analyst snowboarding swingers

malcolm gladwell finance china accountant
vancouver pursuing my investing gladiator
electrical engineering cantonese investment
currently studying different cultures computer games

coz chocolates

i'm a simple girl a foodie
surfing the net love story

alicia keys serendipity
asian food romantic comedy

different places the xx
tuesday's with morrie

the time traveler's wife bossa nova
sashimi jolly different cultures china

music jason mraz noodle

food network cheerful good heart
trying out new things petite mom's

michael buble my cellphone r & b
my passport malcolm gladwell u are
norah jones anthony bourdain

a walk to remember gossip girl pls
badminton slumdog millionaire pop rock
food new recipes asian cooking and baking
sleepless in seattle lip balm pho cookbooks

Indians

men

cricket hindi a software engineer

shantaram india idiots indian food
bollywood veg i'm a simple guy mba
every moment a foodie cuisines an engineer
bhangra gandhi finance the kite runner tamil
the prestige developer freakonomics
different cultures exams slumdog millionaire
happy go lucky loving guy soft rock
red hot chili peppers investment the namesake u are
trading serendipity tennis ayn rand shahrukh khan
explore new things kumar analyst the alchemist
innovative maths seinfeld r.e.m. entourage
entrepreneur making friends consultant

women

bhangra the namesake shantaram

a thousand splendid suns
bollywood residency
the kite runner jhumpa lahiri
interpreter indian food my passport
my couch thai food slumdog millionaire
i heart a foodie spices monsoon wedding
bridget jones vegetarian frnds new yorker
my parents neighborhoods social justice
different cultures physician soca
when harry met sally be silly norah jones
paradiso anna karenina tapas funny the alchemist
dance floor my mom's exotic destinations
the unbearable lightness of being discovering new things
gandhi dark chocolate analyst jane austen coffee
vivacious great conversation salman rushdie
god of small things

Middle Easterners

men

arabia studying

arabic iran

i'm a simple guy arab

egypt tel aviv **arabian**

lebanese **persian**

mechanical engineering **the soprano**

turkish **my physique** cairo israel

squash **dubai** faculty maths khalil

electronic music lounges **groundhog day**

a good heart **nickelback** soccer cultured

gladiator engineer trading investing

playstation **finance** accountant

electrical engineering richard dawkins

palestinian the kite runner **different cultures**

friends **discovering new things** i am cool

forrest gump be loved work seafood very funny

the net

women

different cultures

petite **my friends**

scarves **the kite runner**

cat power **big eyes** new wave

vogue nina simone

the unbearable lightness of
being

baudelaire **sexier** alicia keys

bagels manu chao **impromptu**

fireplace **eat pray love**

elizabeth gilbert **hairstylist** coffee
chocolate injustice

a thousand splendid suns girlfriends

innocence persepolis **jewish** aesthetics

i love nature grape leaves **strong**

darjeeling **M.F.A.** egypt **exhibit** tolstoy

archery buddhism **curly hair** damien rice

political science quirky

Match % By Race

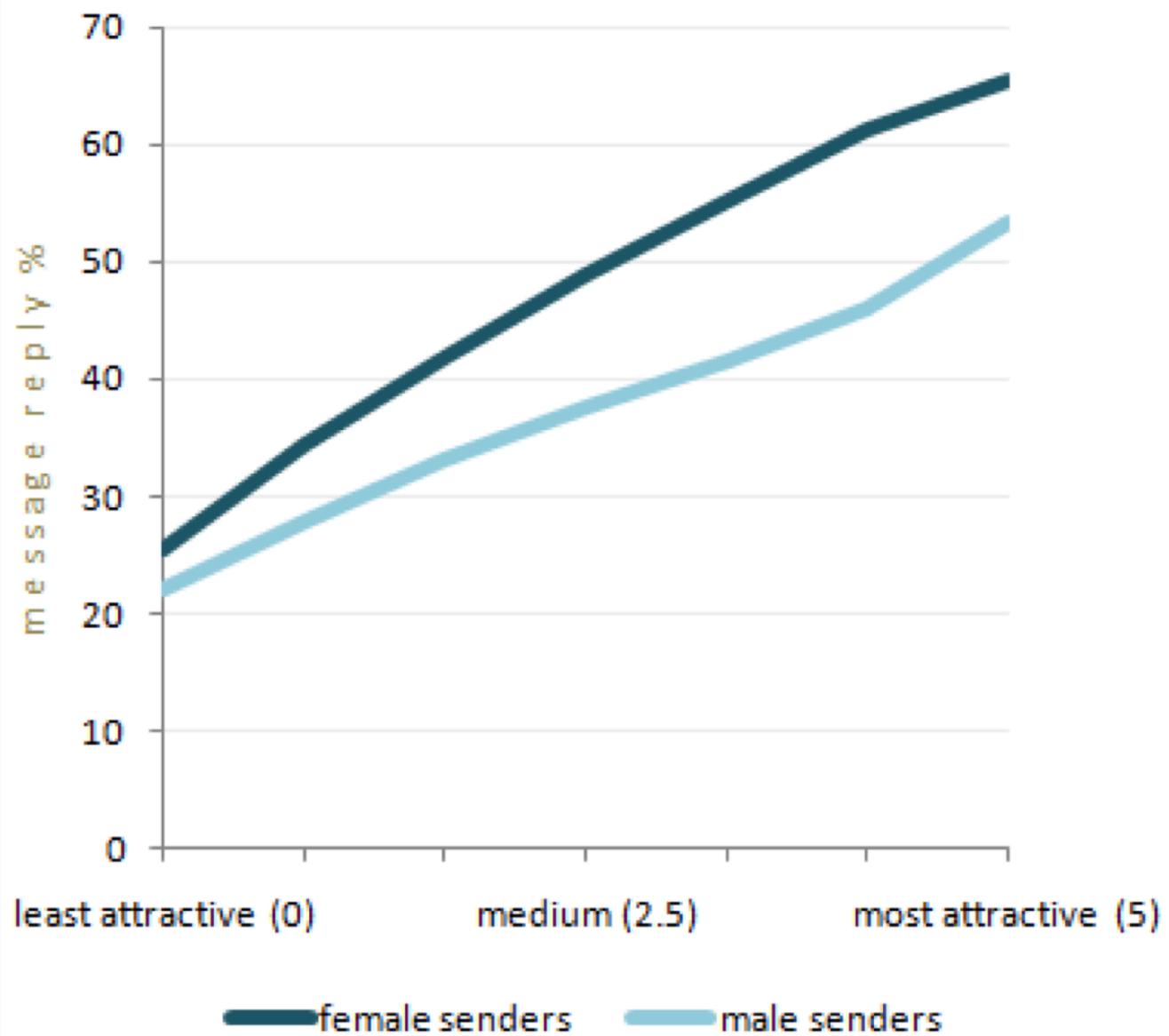
| | Asian-female | Black-female | Hispanic/Latin-female | Indian-female | Middle Eastern-female | Native American-female | Other-female | Pacific Islander-female | White-female | |
|-----------------------|--------------|--------------|-----------------------|---------------|-----------------------|------------------------|--------------|-------------------------|--------------|------|
| Asian-male | 59 | 60 | 59 | 60 | 60 | 60 | 60 | 61 | 61 | 60.5 |
| Black-male | 58 | 59 | 58 | 57 | 56 | 59 | 58 | 56 | 59 | 58.7 |
| Hispanic/Latin-male | 58 | 60 | 59 | 60 | 60 | 60 | 60 | 59 | 60 | 59.9 |
| Indian-male | 57 | 59 | 58 | 57 | 58 | 59 | 57 | 58 | 59 | 58.8 |
| Middle Eastern-male | 58 | 60 | 58 | 56 | 58 | 58 | 58 | 57 | 60 | 59.1 |
| Native American-male | 58 | 59 | 60 | 59 | 61 | 60 | 59 | 59 | 61 | 60.3 |
| Other-male | 59 | 59 | 60 | 58 | 60 | 60 | 59 | 59 | 60 | 60.2 |
| Pacific Islander-male | 58 | 61 | 59 | 61 | 56 | 60 | 57 | 59 | 60 | 60.0 |
| White-male | 59 | 60 | 60 | 60 | 61 | 61 | 61 | 60 | 62 | 61.6 |
| | 59.1 | 60.0 | 60.0 | 59.8 | 60.7 | 60.7 | 60.3 | 59.8 | 61.5 | 60.3 |

Reply Rate By Race

male sender

| | Asian - Female | Black - Female | Hispanic/Latin - Female | Indian - Female | Middle Eastern - Female | Native American - Female | Other - Female | Pacific Islander - Female | White - Female | |
|-------------------------|----------------|----------------|-------------------------|-----------------|-------------------------|--------------------------|----------------|---------------------------|----------------|------|
| Asian - Male | 22 | 34 | 22 | 18 | 27 | 31 | 30 | 23 | 21 | 22.2 |
| Black - Male | 17 | 28 | 19 | 21 | 21 | 27 | 24 | 25 | 21 | 21.7 |
| Hispanic/Latin - Male | 20 | 31 | 24 | 25 | 25 | 29 | 27 | 24 | 22 | 23.1 |
| Indian - Male | 20 | 34 | 19 | 18 | 23 | 27 | 28 | 24 | 20 | 20.8 |
| Middle Eastern - Male | 26 | 37 | 23 | 24 | 23 | 36 | 29 | 28 | 25 | 25.7 |
| Native American - Male | 26 | 34 | 26 | 27 | 32 | 35 | 32 | 29 | 27 | 27.8 |
| Other - Male | 25 | 32 | 26 | 21 | 23 | 34 | 32 | 22 | 26 | 26.8 |
| Pacific Islander - Male | 21 | 39 | 21 | 33 | 32 | 32 | 35 | 30 | 23 | 24.6 |
| White - Male | 29 | 38 | 30 | 30 | 28 | 34 | 33 | 29 | 29 | 29.2 |
| | 25.7 | 34.1 | 27.1 | 25.1 | 27.0 | 33.0 | 31.4 | 27.0 | 27.3 | 27.6 |

Message Reply Rates Earned vs. Sender's Attractiveness



Reply Rates By Race
female sender

| | Asian - Male | Black - Male | Hispanic/Latin - Male | Indian - Male | Middle Eastern - Male | Native American - Male | Other - Male | Pacific Islander - Male | White - Male | |
|---------------------------|--------------|--------------|-----------------------|---------------|-----------------------|------------------------|--------------|-------------------------|--------------|------|
| Asian - Female | 48 | 55 | 49 | 50 | 53 | 49 | 50 | 46 | 41 | 43.7 |
| Black - Female | 31 | 37 | 36 | 37 | 40 | 41 | 41 | 32 | 32 | 34.3 |
| Hispanic/Latin - Female | 51 | 46 | 48 | 45 | 50 | 45 | 48 | 48 | 40 | 42.5 |
| Indian - Female | 51 | 51 | 43 | 55 | 51 | 45 | 36 | 44 | 40 | 42.7 |
| Middle Eastern - Female | 51 | 55 | 54 | 63 | 56 | 63 | 52 | 48 | 47 | 49.5 |
| Native American - Female | 45 | 50 | 47 | 47 | 47 | 44 | 47 | 52 | 40 | 42.3 |
| Other - Female | 52 | 52 | 43 | 54 | 52 | 51 | 47 | 50 | 42 | 44.4 |
| Pacific Islander - Female | 51 | 57 | 49 | 35 | 60 | 53 | 50 | 46 | 44 | 46.0 |
| White - Female | 48 | 51 | 47 | 48 | 49 | 48 | 48 | 47 | 41 | 42.1 |
| | 47.3 | 46.9 | 46.4 | 48.2 | 49.7 | 47.3 | 47.5 | 46.2 | 40.5 | 42.0 |



Do you think interracial marriage a bad idea?

| | Yes | No | Yes % | No % |
|------------|--------|---------|-------|------|
| Females | 8,432 | 128,367 | 6% | 94% |
| Males | 15,054 | 225,346 | 6% | 94% |
| Whites | 20,458 | 262,708 | 7% | 93% |
| Non-Whites | 3,028 | 91,005 | 3% | 97% |
| Everyone | 23,486 | 353,713 | 6% | 94% |

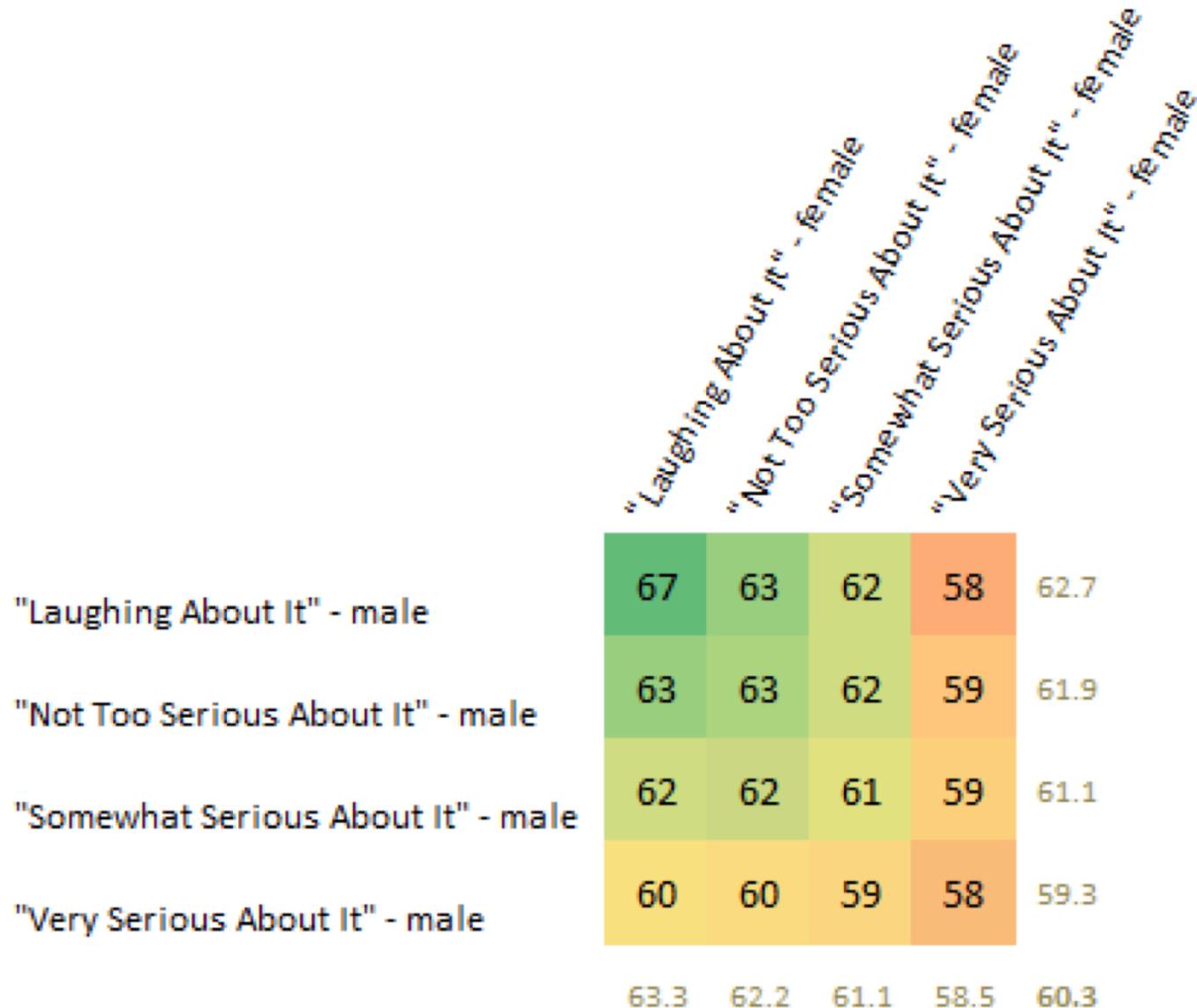
Would you strongly prefer to date someone of your own racial background?

| | Yes | No | Yes % | No % |
|------------|---------|---------|-------|------|
| Females | 177,544 | 210,597 | 46% | 54% |
| Males | 216,491 | 422,211 | 34% | 66% |
| Whites | 337,955 | 410,324 | 45% | 55% |
| Non-Whites | 56,080 | 222,484 | 20% | 80% |
| Everyone | 394,035 | 632,808 | 38% | 62% |

Match % By Religion

| | Agnostic - female | Atheist - female | Buddhist - female | Catholic - female | Protestant - female | Hindu - female | Muslim - female | Jewish - female | |
|-------------------|-------------------|------------------|-------------------|-------------------|---------------------|----------------|-----------------|-----------------|------|
| Agnostic - male | 69 | 69 | 65 | 61 | 59 | 61 | 53 | 68 | 63.7 |
| Atheist - male | 70 | 70 | 65 | 60 | 57 | 65 | 52 | 68 | 62.6 |
| Buddhist - male | 66 | 66 | 64 | 59 | 57 | 59 | 57 | 66 | 61.3 |
| Catholic - male | 61 | 59 | 59 | 61 | 61 | 61 | 57 | 62 | 60.6 |
| Protestant - male | 59 | 56 | 57 | 61 | 61 | 59 | 57 | 60 | 59.9 |
| Hindu - male | 56 | 57 | 55 | 57 | 55 | 52 | 54 | 55 | 55.8 |
| Muslim - male | 49 | 47 | 49 | 53 | 53 | 53 | 59 | 48 | 51.2 |
| Jewish - male | 68 | 68 | 64 | 61 | 60 | 62 | 60 | 68 | 63.4 |
| | 64.2 | 63.1 | 61.4 | 60.6 | 59.6 | 60.7 | 55.1 | 63.9 | 60.3 |

Match % By Religious Attitude



band of brothers poker
cars my boat
saving private ryan hunting
fishing my buddies **golf**
sports **the right woman**
ping pong **a few beers**
engineering **rock** working out
playing pool burn notice
a country boy law enforcement
can fix anything breaking bad
tom clancy computers **building thing**
tall dark and handsome **apocalypse now**
coen brothers **queens of the stone age**
all metal jacket **guitar** van halen **my band** taxi driver
ufc

my girlfriends lip gloss
pretty woman nicholas sparks
dressed up a country girl **wine**
love stories **medical field** eat pray love
new recipes yoga **independent**
my passport **my couch** romance novels
nursing school close with my mom
in nursing flip flops **in education**
jane austen **dirty dancing** high heels
my church baking **reading** horseback riding
self-sufficient laughing **mr. right**
i love children **country music** gone with the wind
jane eyre

Gay People

men

the devil wears prada

britney spears **mean girls**

kelly clarkson

the color purple project runway

drop dead gorgeous

running with scissors **m.i.a.**

imogen heap **a boyfriend** lily allen

lady gaga the theater **katy perry**

buffy the vampire slayer **tori amos** joni mitchell

owl city the right guy **david sedaris**

american idol **harry potter** angels in america

modern family the perks of being a wallflower

came out maroon 5 **mr. right** gossip girl

moulin rouge x men **six feet under** the theatre

justin timberlake nina simone **black eyed peas**

michael buble **ella fitzgerald** sufjan stevens

all american rejects the xx **final fantasy** the club

rocky horror picture show cuddling **panic at the disco**

jason mraz **fiona apple** kill bill

women

**the L
word**

tegan and sara

ani difranco piercings

the color purple social justice **cat power**

a girlfriend **running with scissors**

the perks of being a wallflower

buffy the vampire slayer my girl

harold and maude law & order svu **tori amos**

writing poetry **riko kiley** janis joplin **bitch** if ur

imogen heap my animals **the used** cuddling

damien rice drop dead gorgeous **came out** my puppy

mean girls lily allen **tea** obsession **the xx** mom

favorite color **rocky horror picture show** **finding nemo** random

katy perry listening **the giver** beauty **friends**



Misconceptions about Gay People

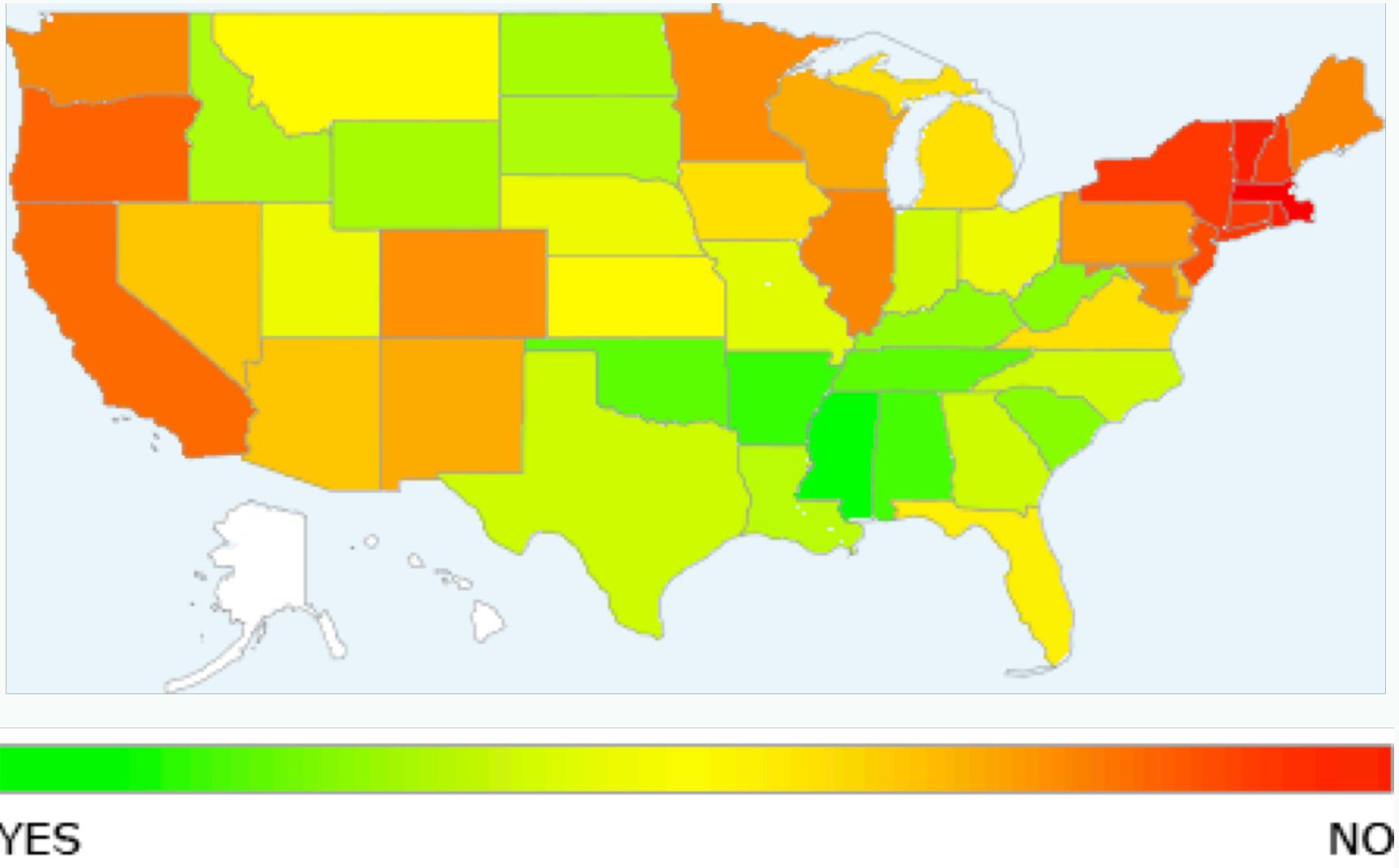
- Gay people more promiscuous than straight people
- Gay people want to convert straight people
- Gay people shouldn't be allowed to teach in our schools



**"If a person is a practicing homosexual, they
should not be teaching in our schools."**

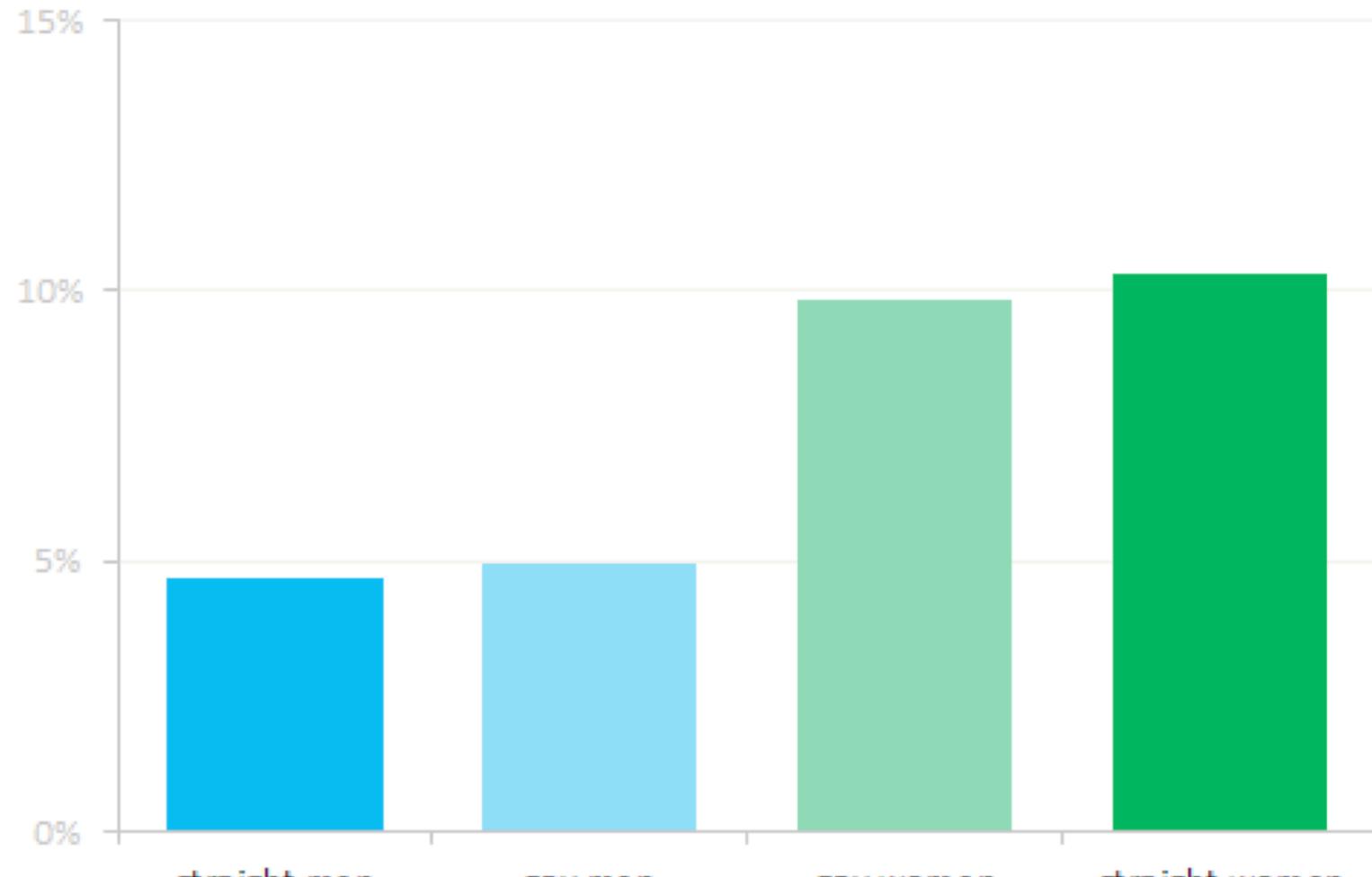
Jim Demint, R-SC

Is homosexuality a sin?



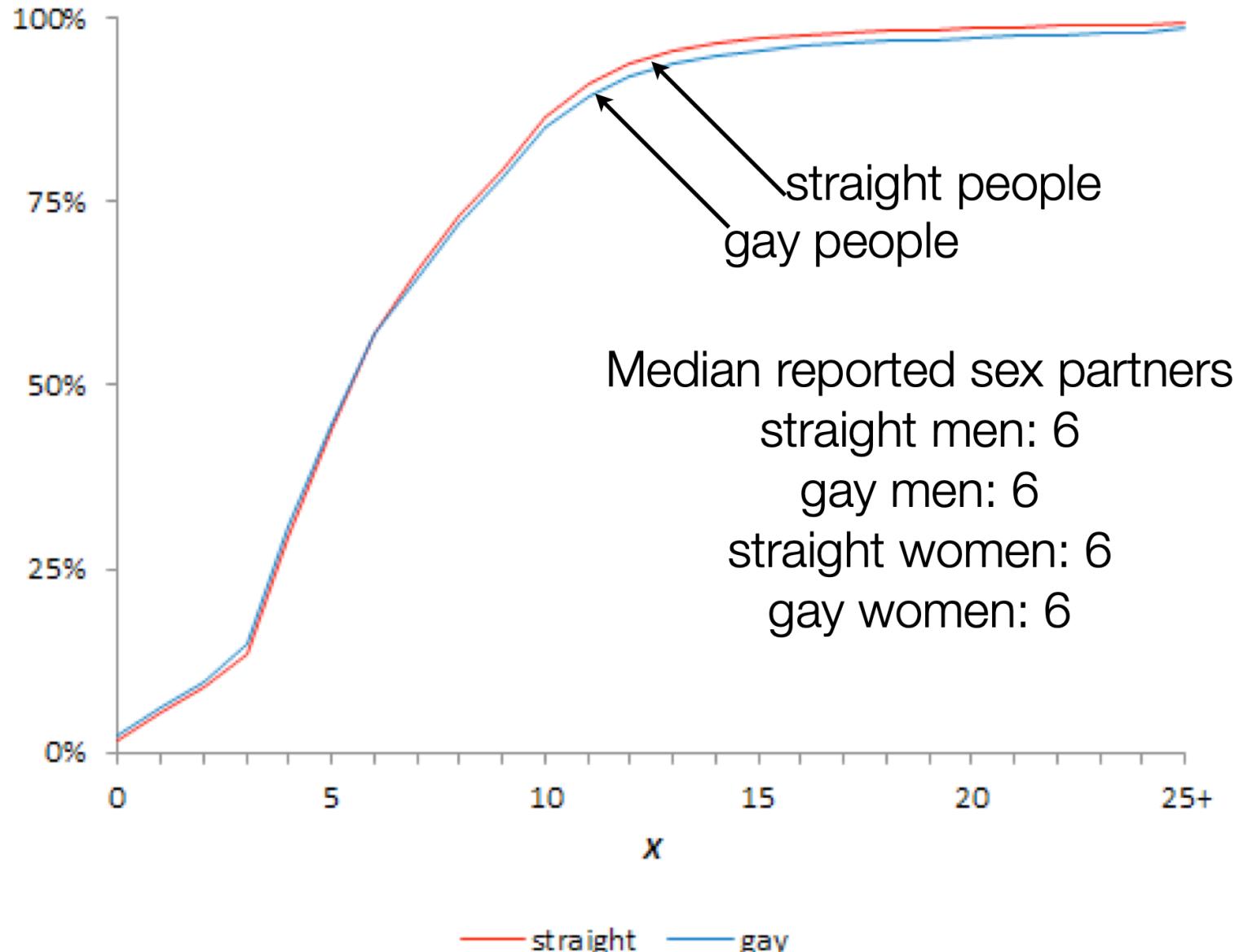
Which is bigger: the earth or the sun?

% answering 'the earth'



source: 642,533 OkCupid users

people with X or fewer sex partners

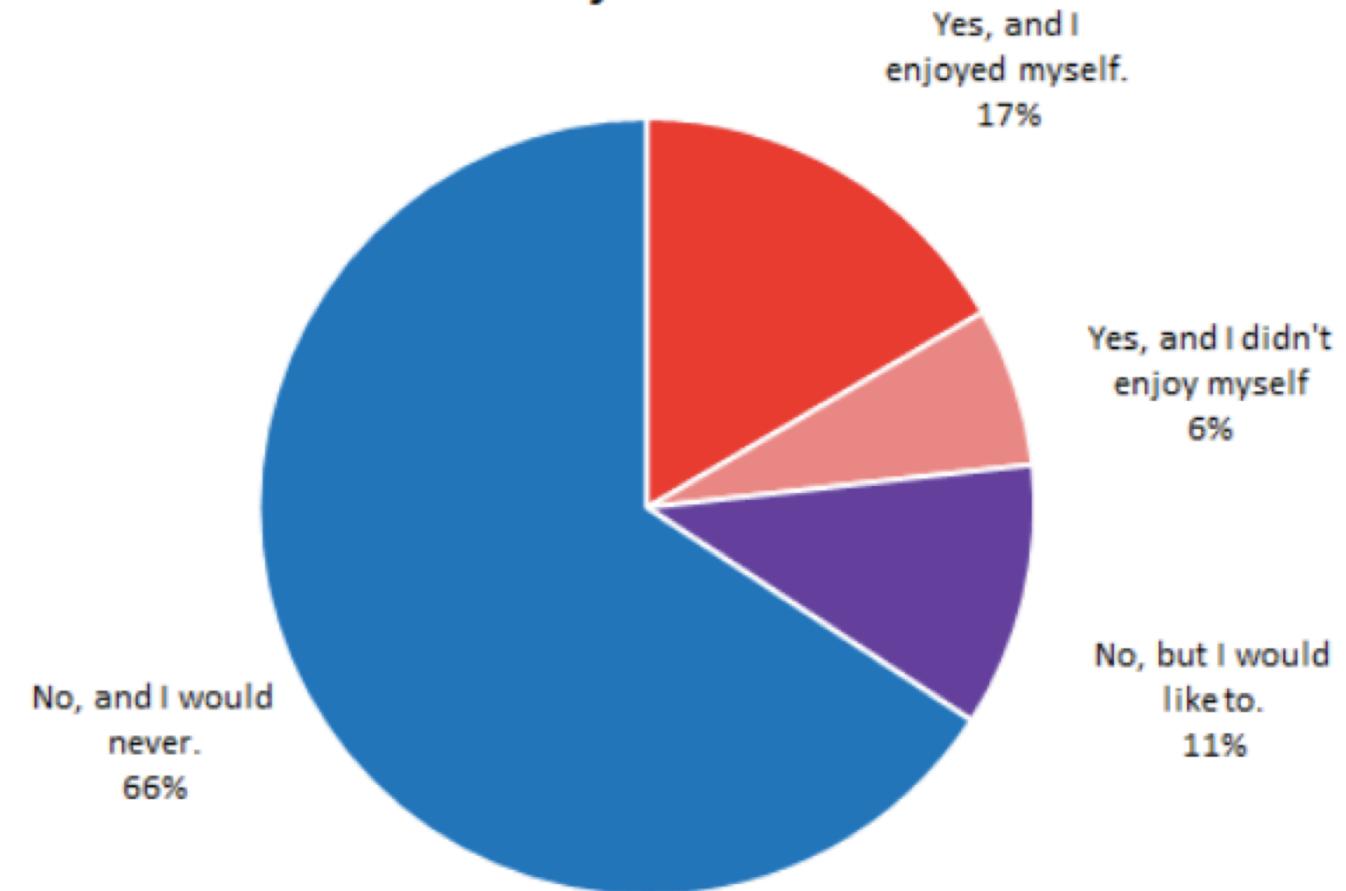


Gay people looking at straight profiles

- Only 0.6% of gay men have ever searched for straight matches.
- Only 0.1% of lesbians have ever searched for straight matches.
- Only 0.13% of straight people's profile visitors are gay.

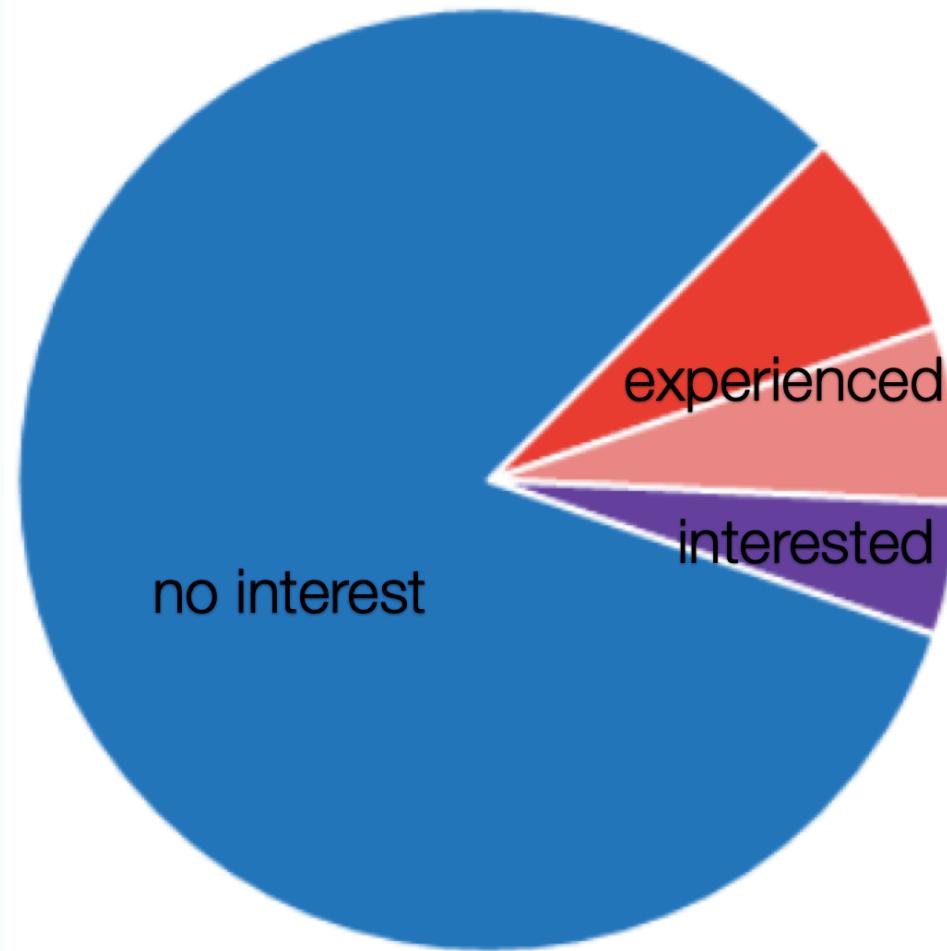
Straight people have gay sex

*Have you ever had a sexual encounter with
someone of the same sex?*

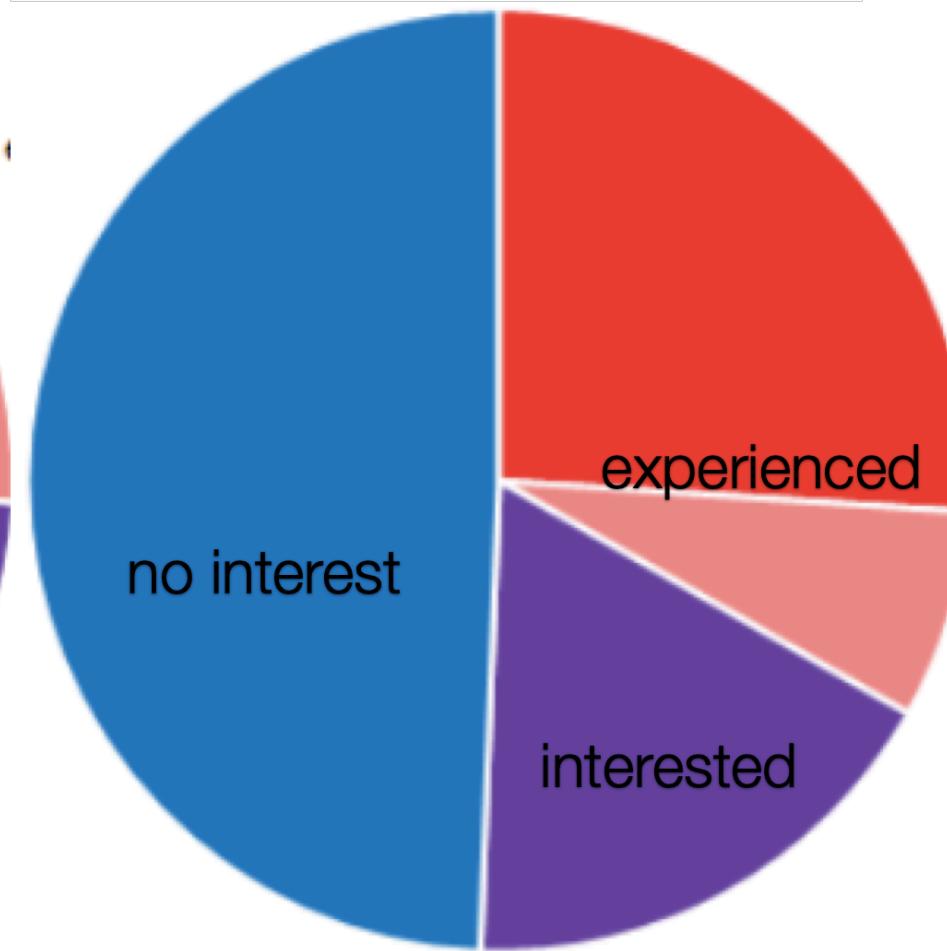


Straight women have gay sex

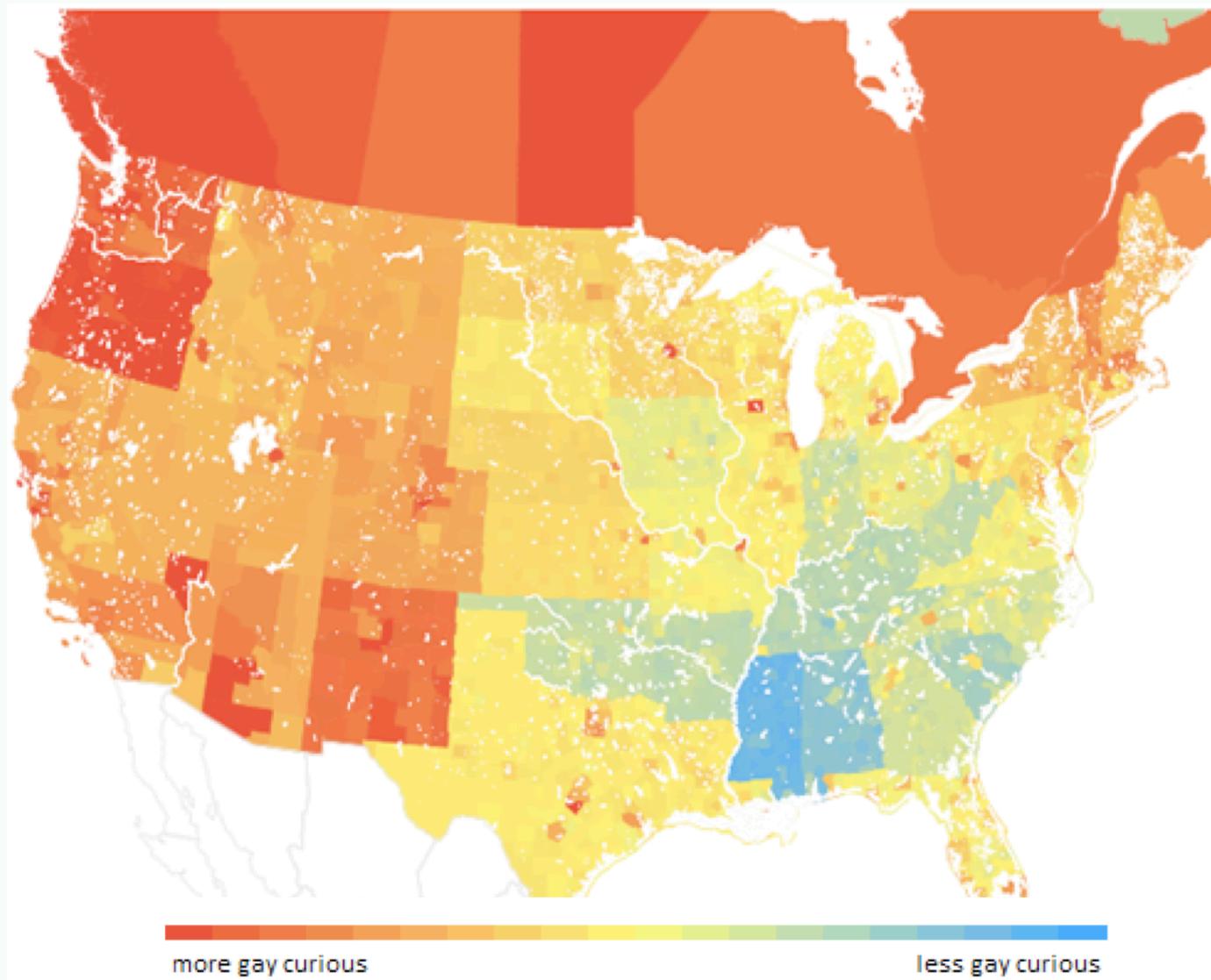
men



women



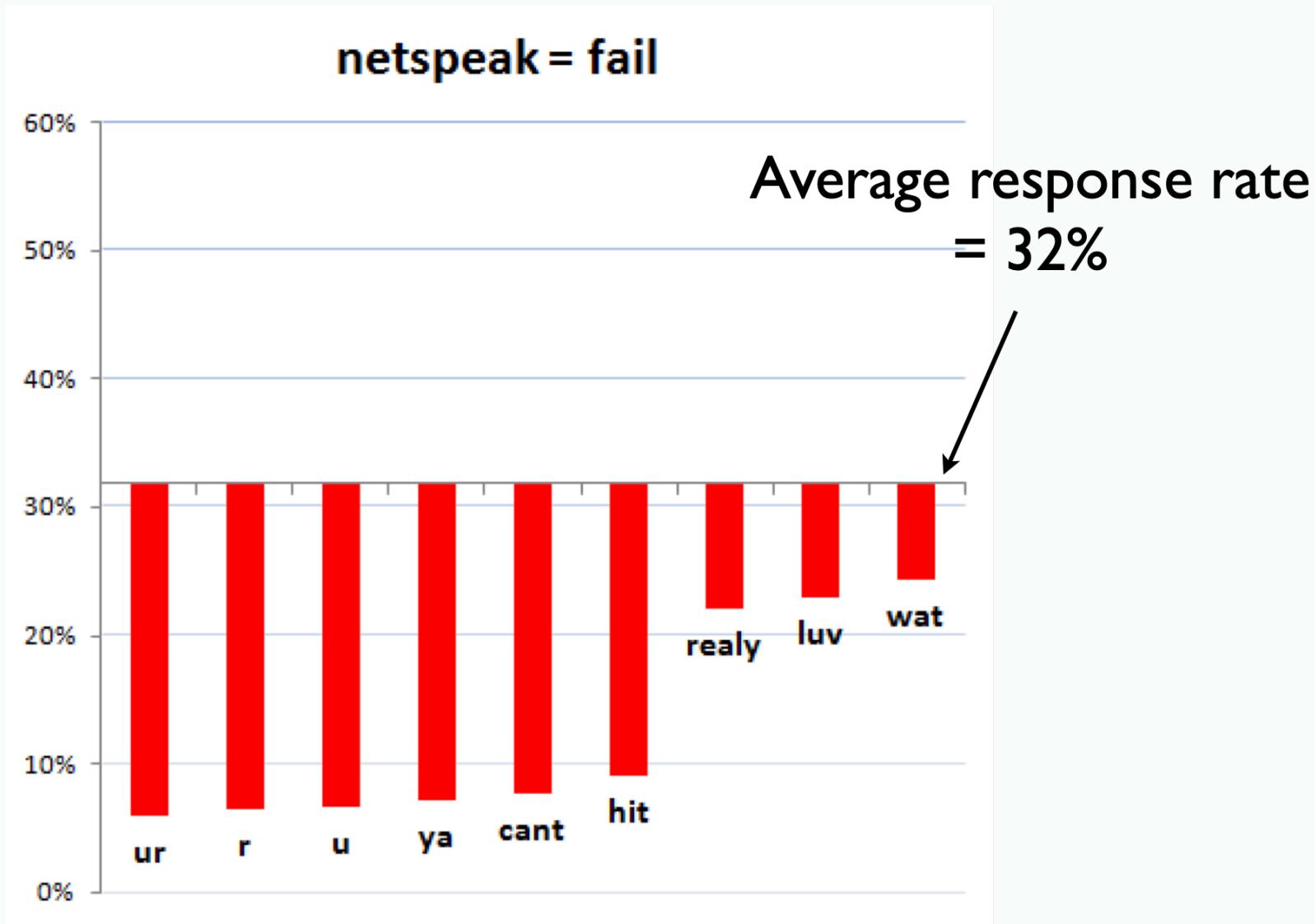
Gay curiosity by region



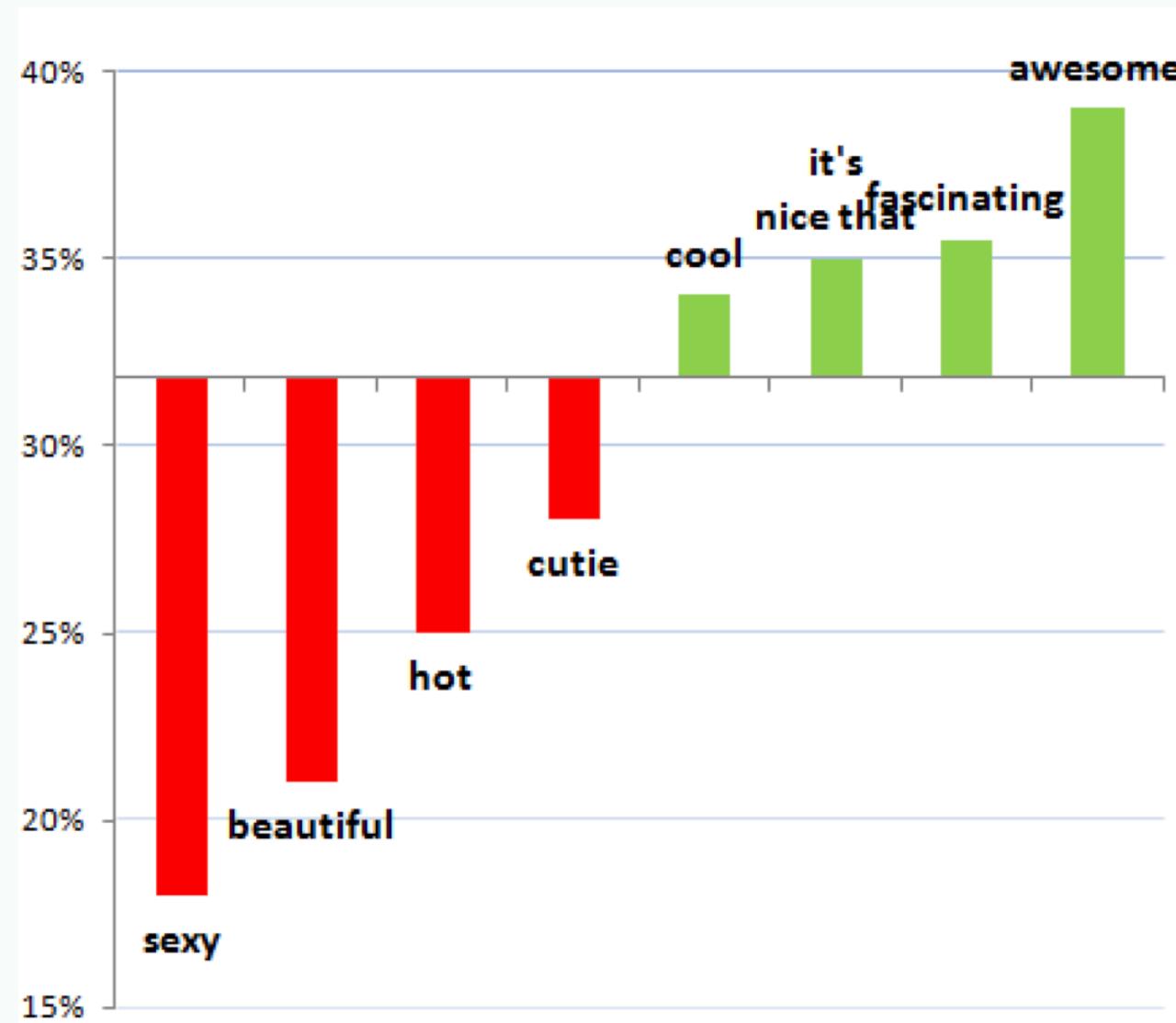
How to increase your chances

- Data analysis can help determine what strategies work best for eliciting a reply
- A/B testing for pickup-lines?

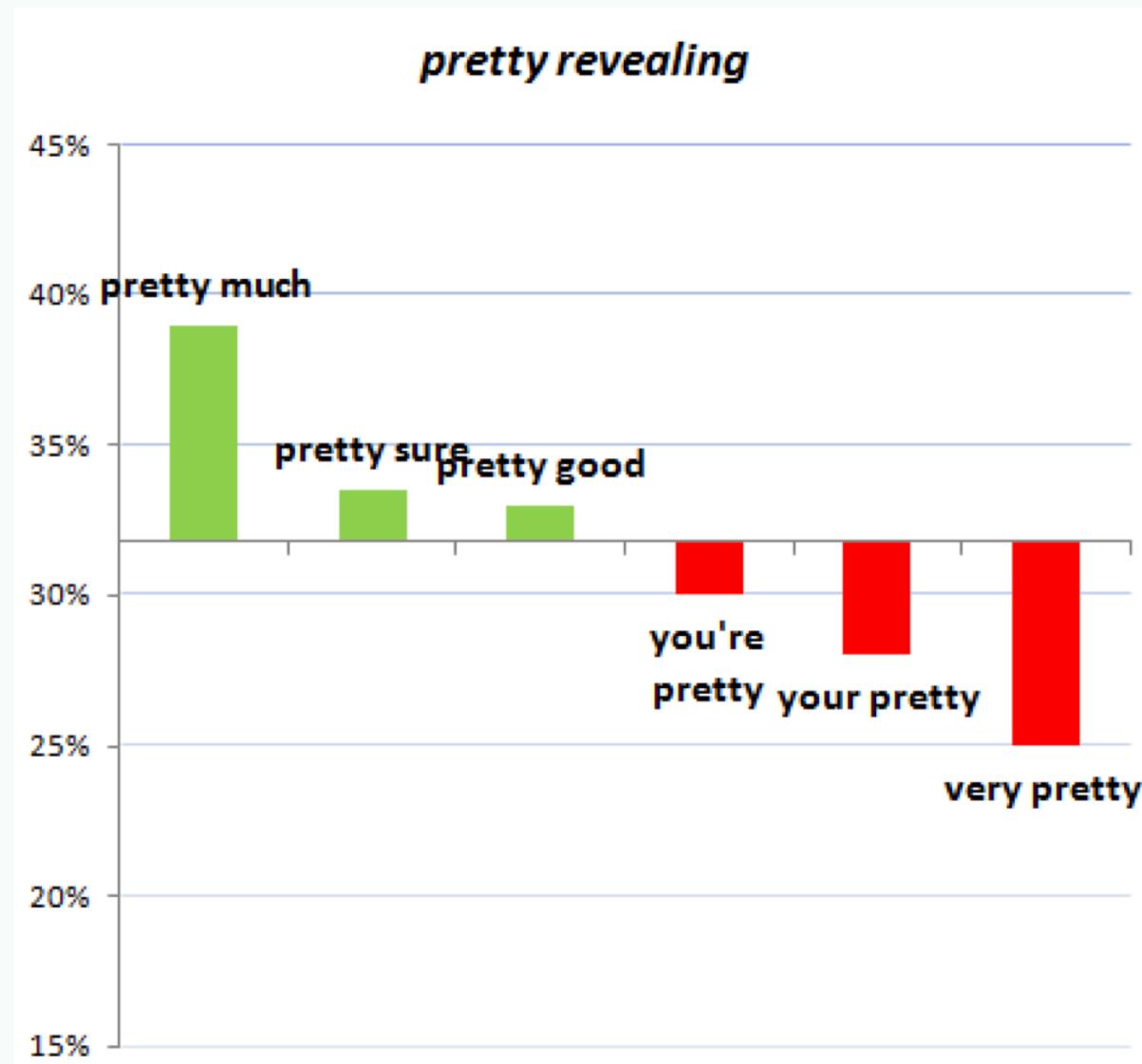
Be Literate



Avoid physical complements



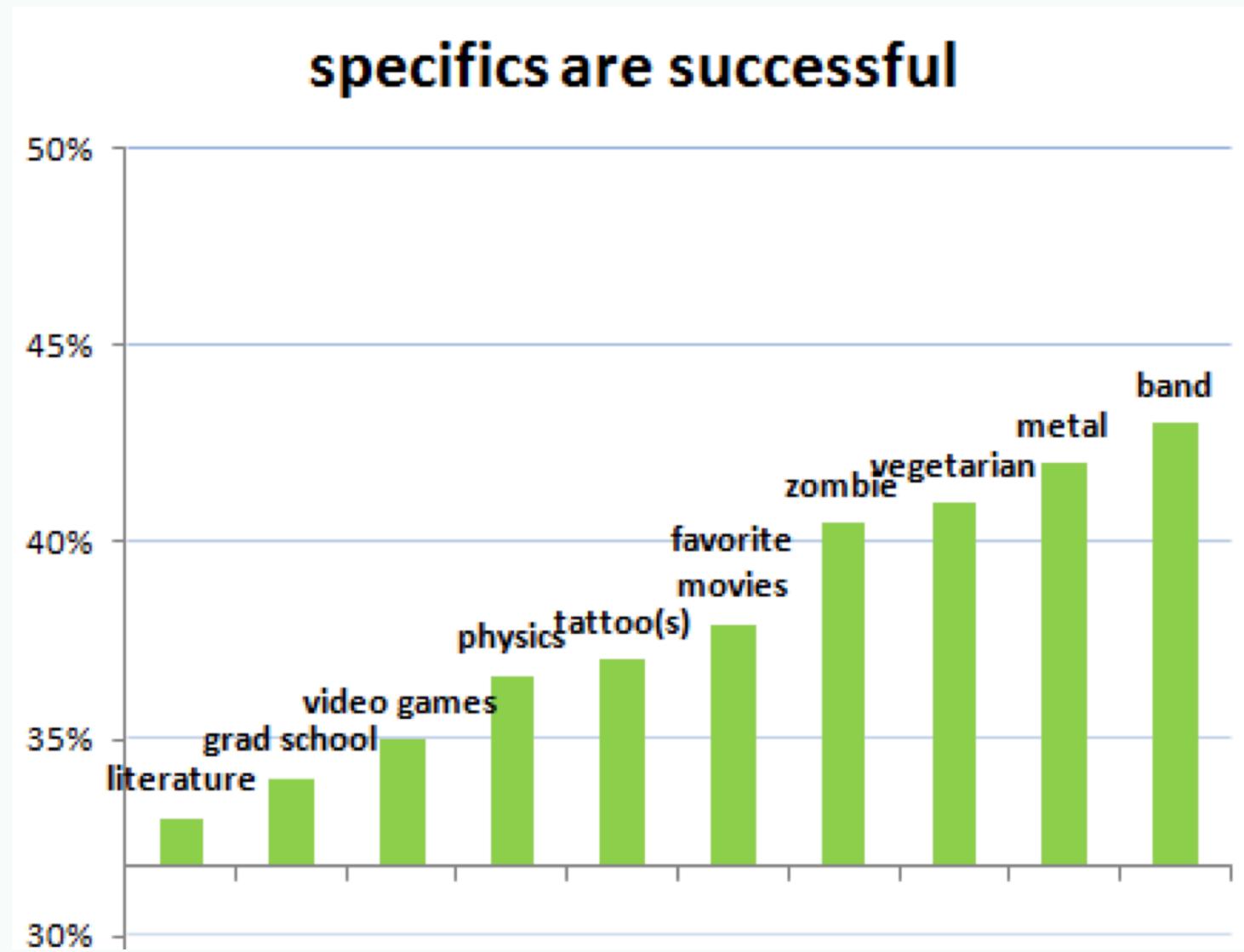
Avoid physical complements



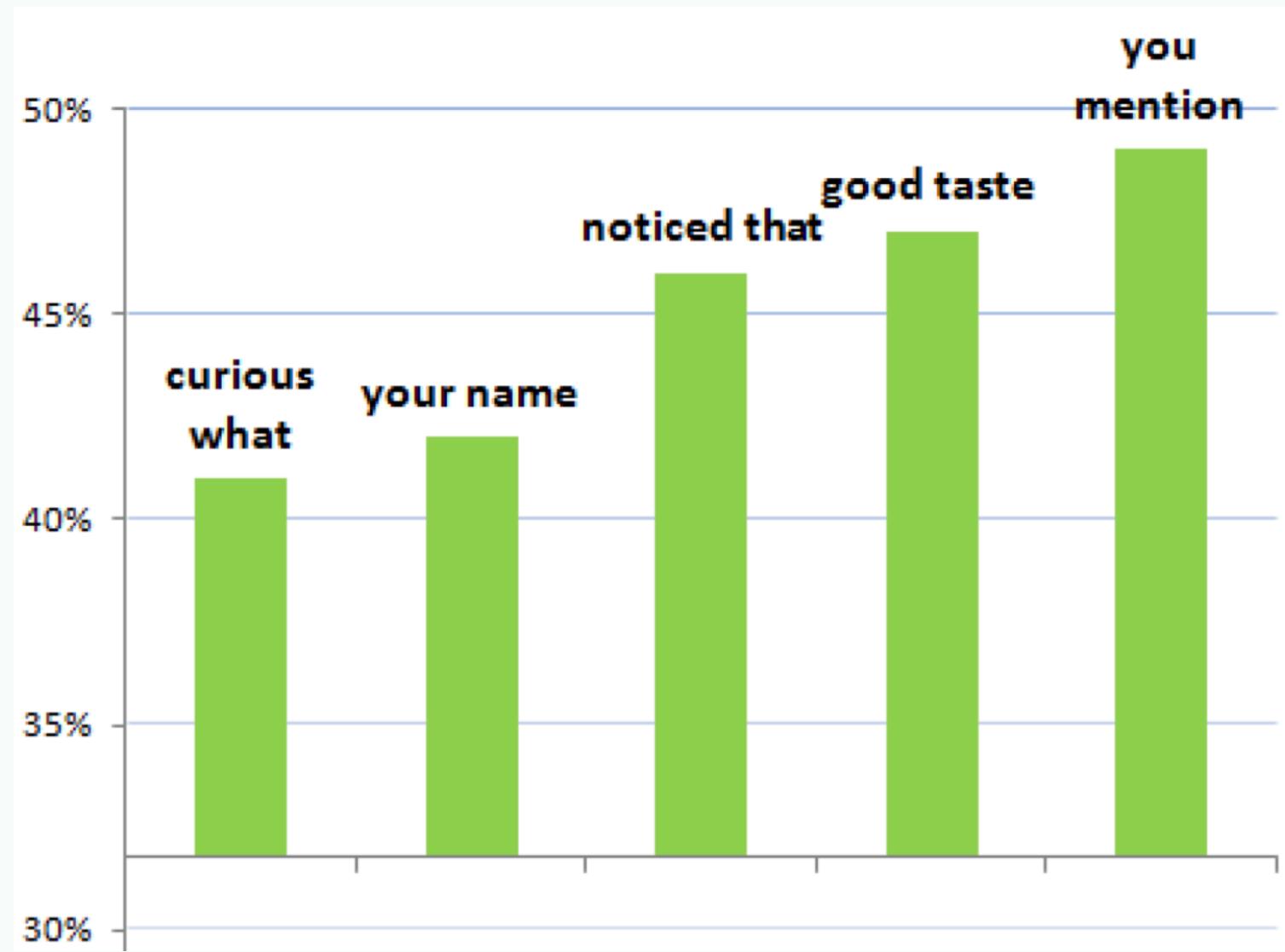
Use Unusual Greetings



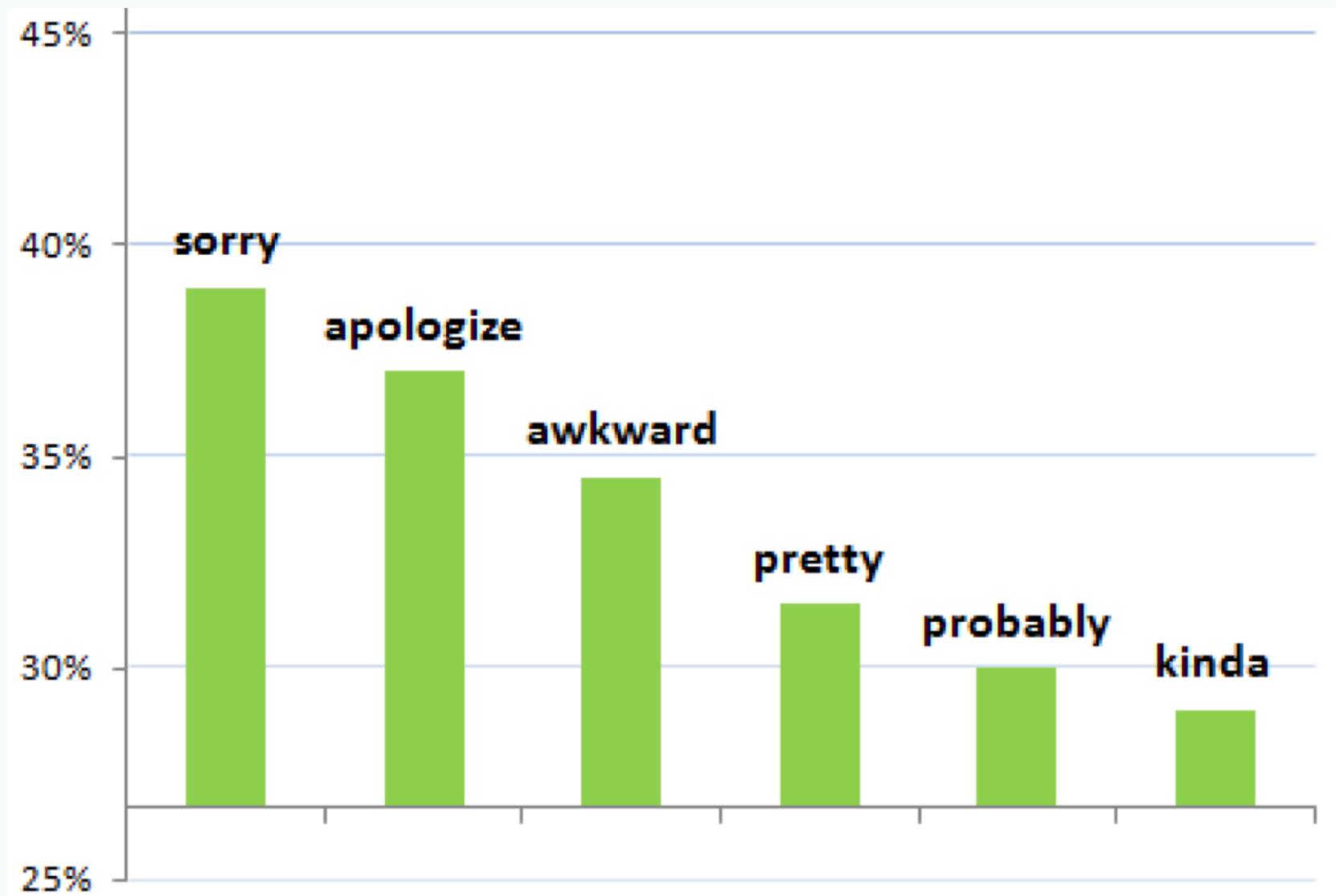
Specifics are successful



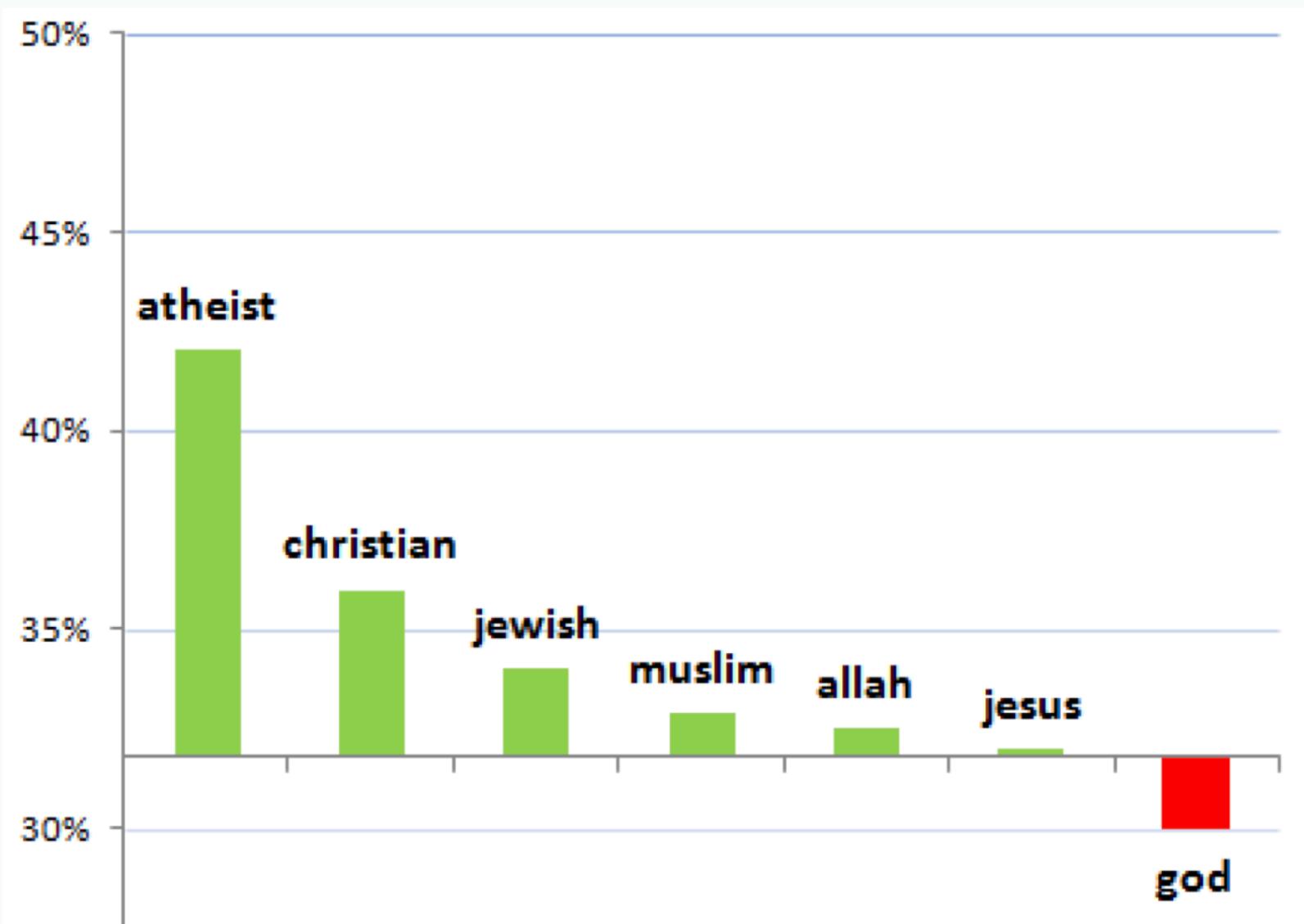
Specific about them



Male self-effacement

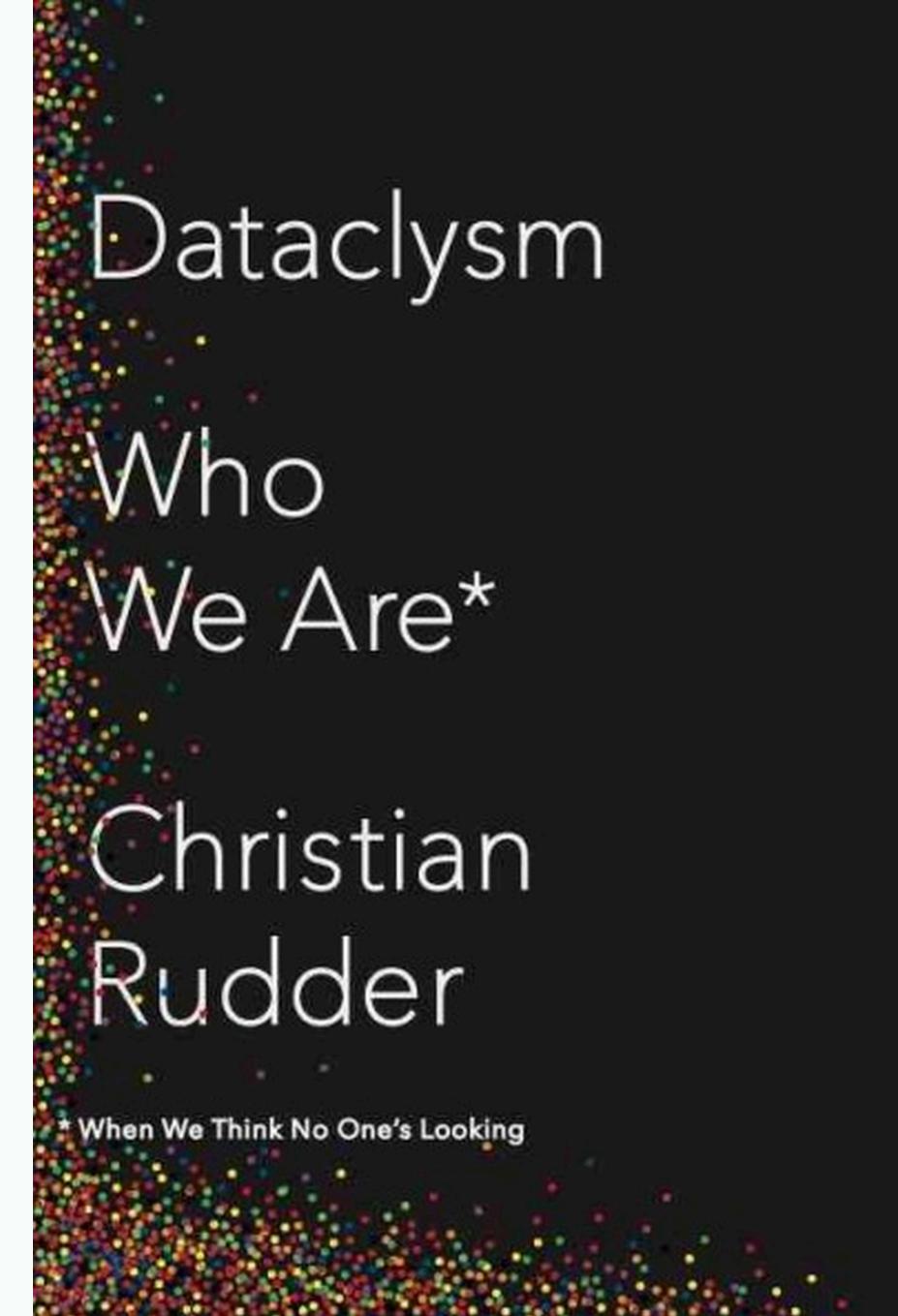


Consider becoming an atheist

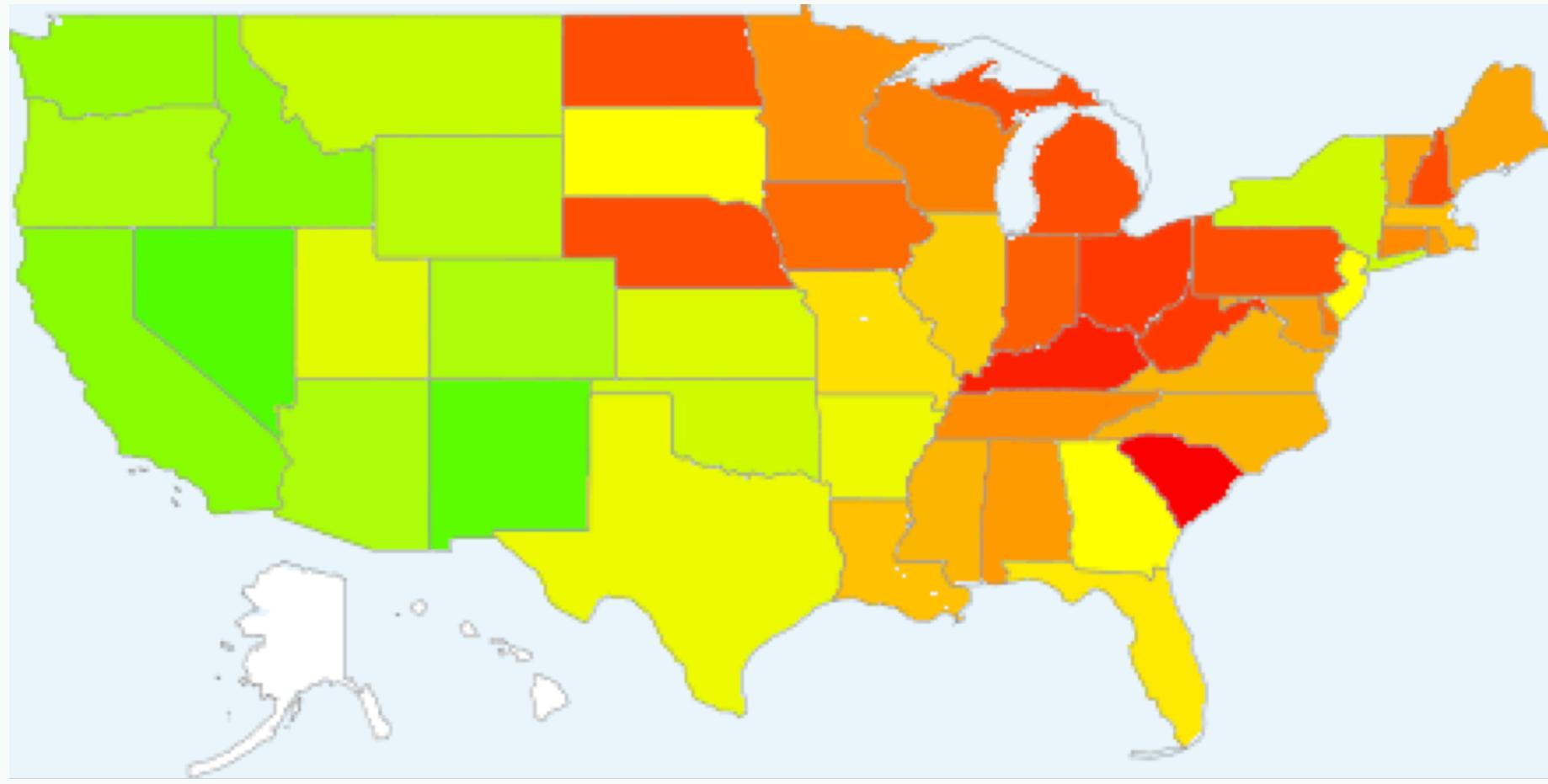


Implications

- Large numbers of people are willing to disclose information about their attitudes, and beliefs about religion, sex, politics
- Incentive: improving the algorithm for matching them up with compatible partners
- Side effect: coolest sociological data around

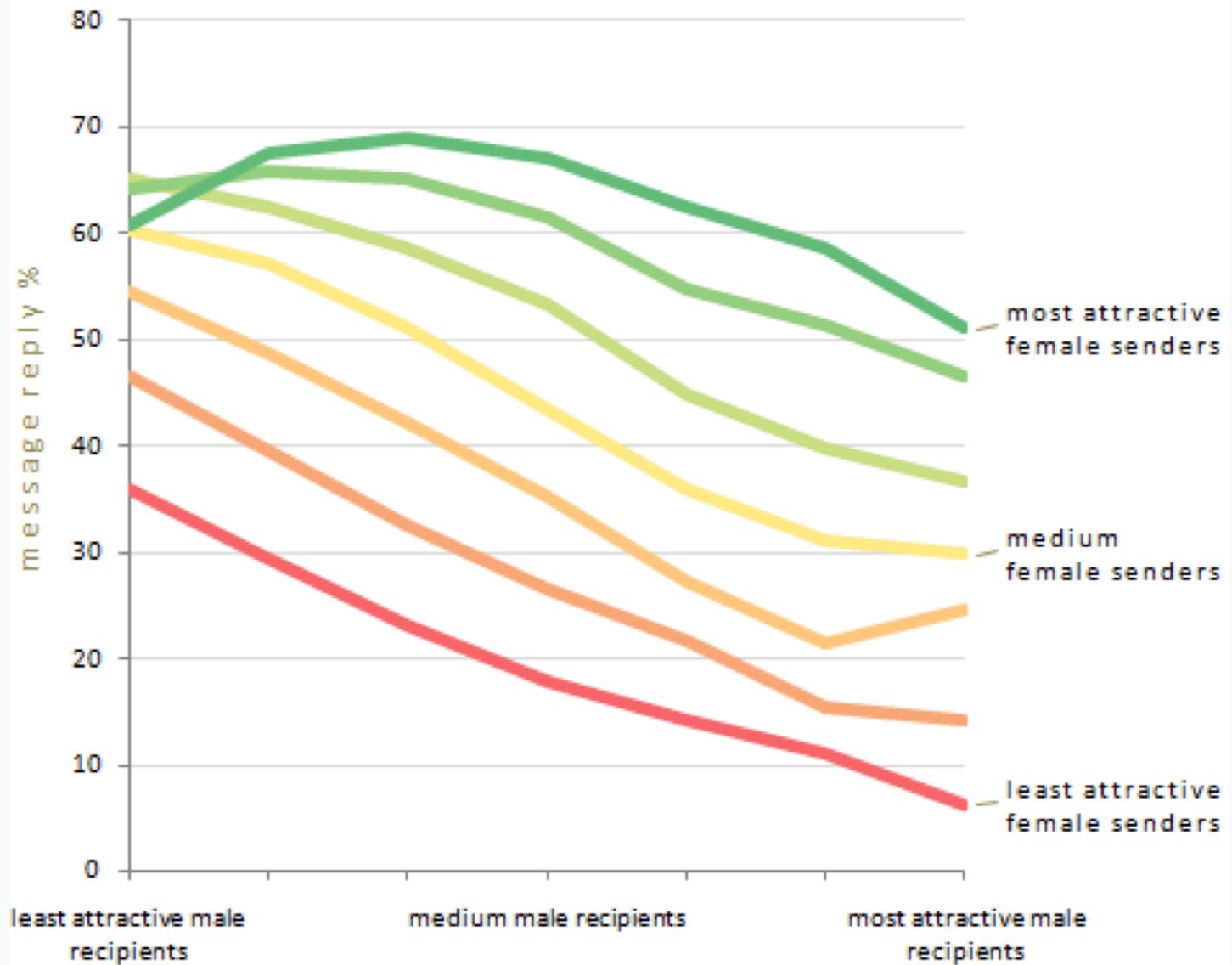


Would you date someone just for sex?



Message Success By Attractiveness

Female Senders



Message Success By Attractiveness

Male Senders

