

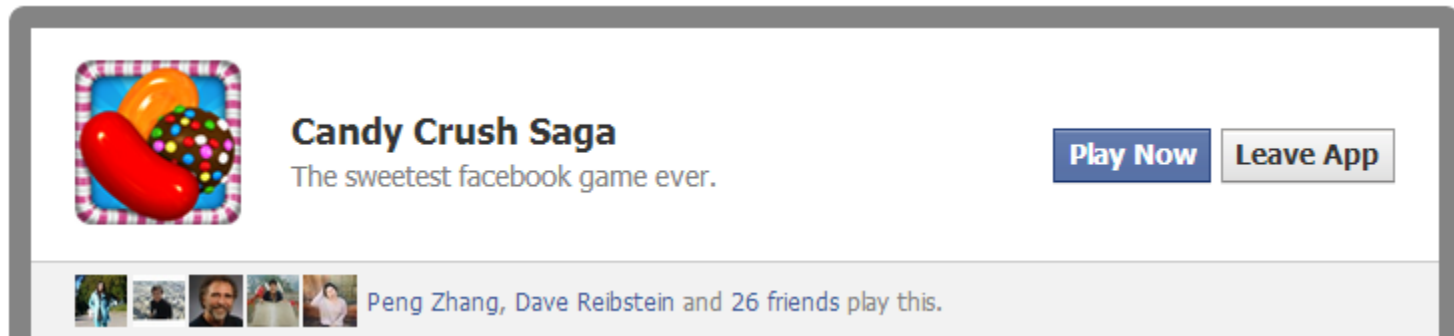
NONCONFORMITY IN ONLINE SOCIAL NETWORKS


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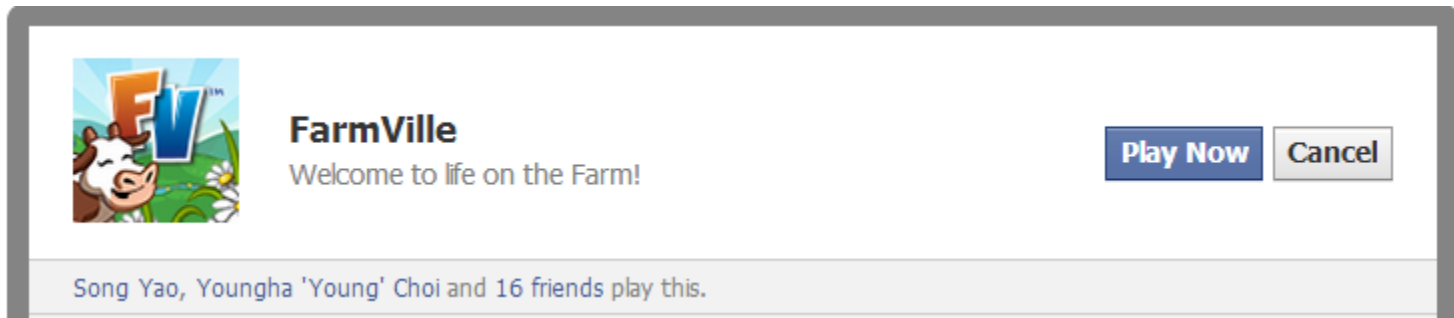
I got nudged...




 **Candy Crush Saga**
The sweetest facebook game ever.

[Play Now](#) [Leave App](#)

 Peng Zhang, Dave Reibstein and 26 friends play this.



 **FarmVille**
Welcome to life on the Farm!

[Play Now](#) [Cancel](#)

Song Yao, Youngha 'Young' Choi and 16 friends play this.

The research goal

- Empirically identify the tradeoff between the need to belong and the need for independence
 - In particular, how does this tradeoff change as the norm becomes stronger

Prior studies on *Normative* Influences

- Individuals are very good at fitting in
 - Asch (1952), Deutsch and Gerard (1955)
- But they also want to be independent and unique
 - Snyder and Fromkin (1980)
 - Imhoff and Erb (2009): high NfU leads to minority choices
 - Griskevicius et al (2006): self protection and mate seeking
 - Phillips and Zuckerman (2001): middle-status conformity
- Theoretical frameworks:
 - Brewer (1991): Optimal distinctiveness
 - Berger and Heath (2007, 2008): Signaling to out-group members / two-stage process
 - Obukhova et al. (2011): politics and fashion / audiences' needs

Empirical Difficulties

- Friendship structures are hard to observe
- Homophily: Pre-existing similarity in friends' tastes
- Quality uncertainty & Observational learning
- Presence of out-group members
- Dangerous to infer individual threshold behavior from aggregate outcomes (Granovetter 1978)

Experimental Setting

- We identified a unique environment (kaixin001.com) to tackle the difficulties
 - Launched in March 2008
 - The Facebook Model: Registered with real names and friendship requires mutual agreement
 - One of the top social-networking websites in China
 - 130 million registered users (~10% Chinese population)
 - Alexa traffic rank 13th in China in 2010 and 67th overall.
 - Typical User: 25-34 years old; College degree; Visit from office; Access 49 pages and spends 33 minutes on each visit

“Virtual Homes:” Minimizes Learning



Experiment

- February and March, 2011
- 4 weeks
- 13,301 participants
 - 6586 in condition A (Friend message)
 - 6715 in condition B (Friend message + social message)

Sample Message

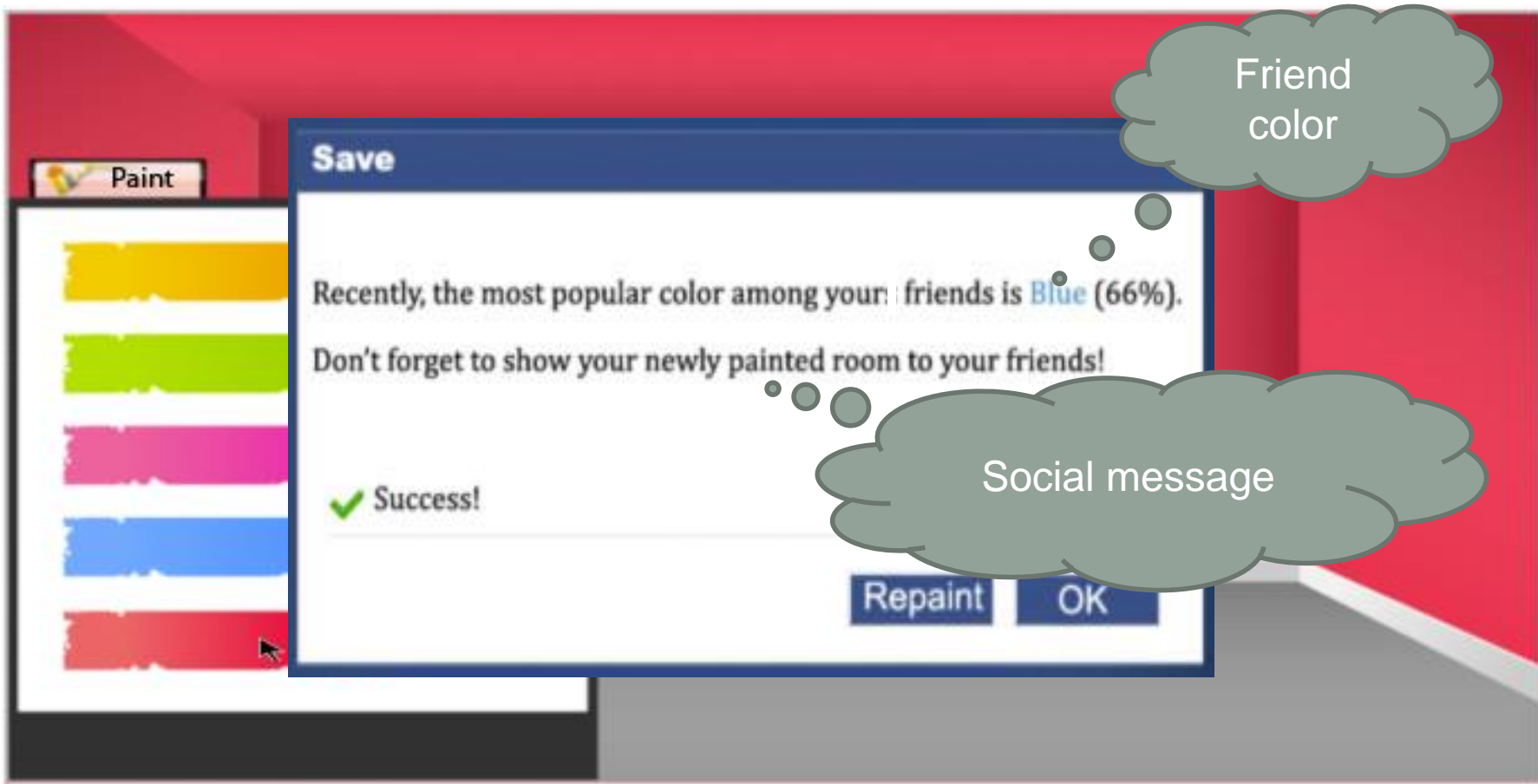


Figure 4. Timeline of Events and Color Records

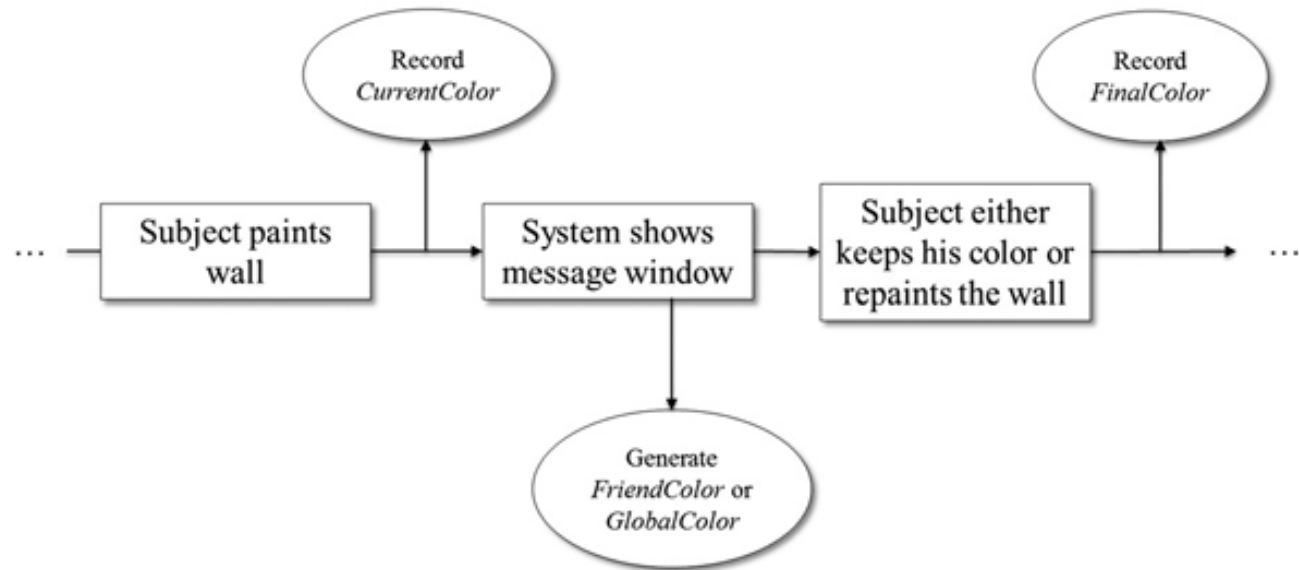
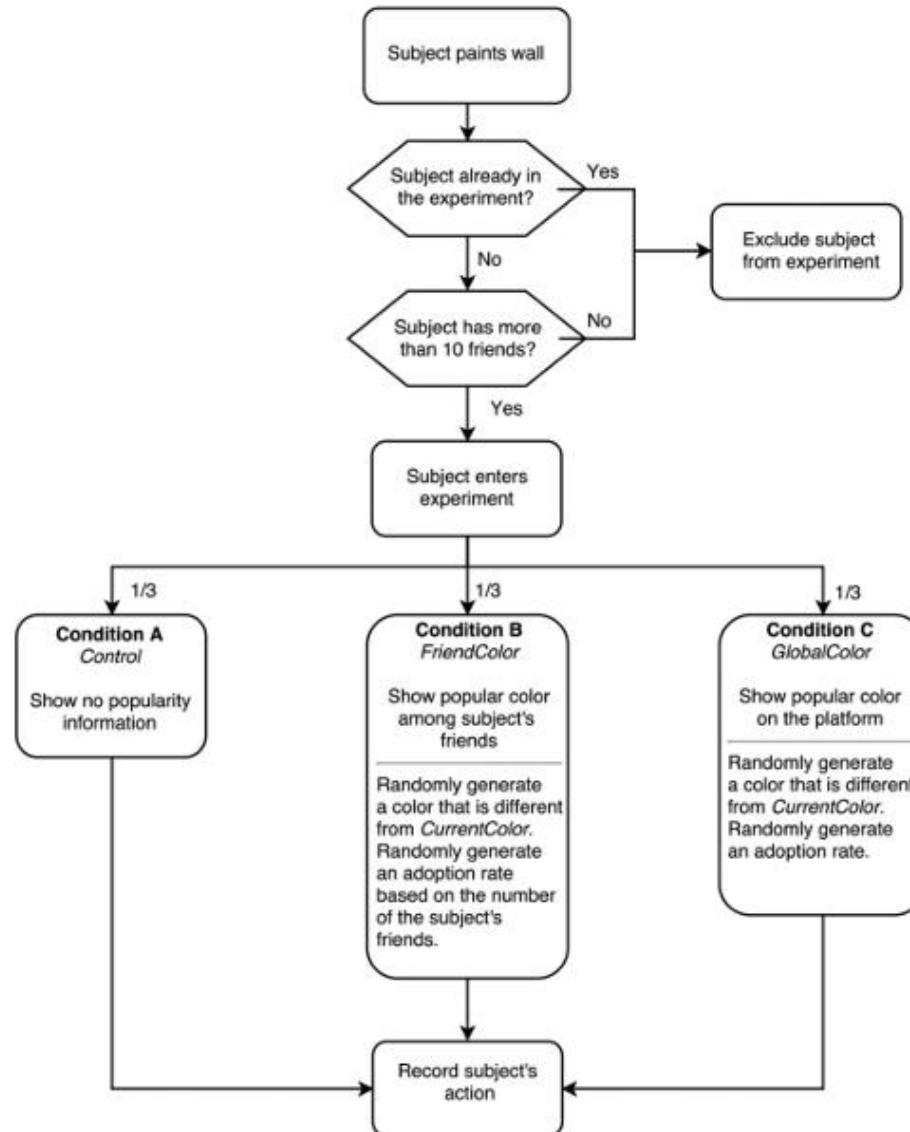


Figure 3. Design of the Experiment



Design Features

- Field study
 - No need for participants to imagine encountering friends
- Randomly generated the most popular colors
 - Avoiding pre-existing similarities or differences
- Colors are standard and users can try them freely
 - Unlikely to have uncertainty when choosing colors
- Color only observed by friends, not by the public
 - No out-group
 - Eliminating need to signal group identity

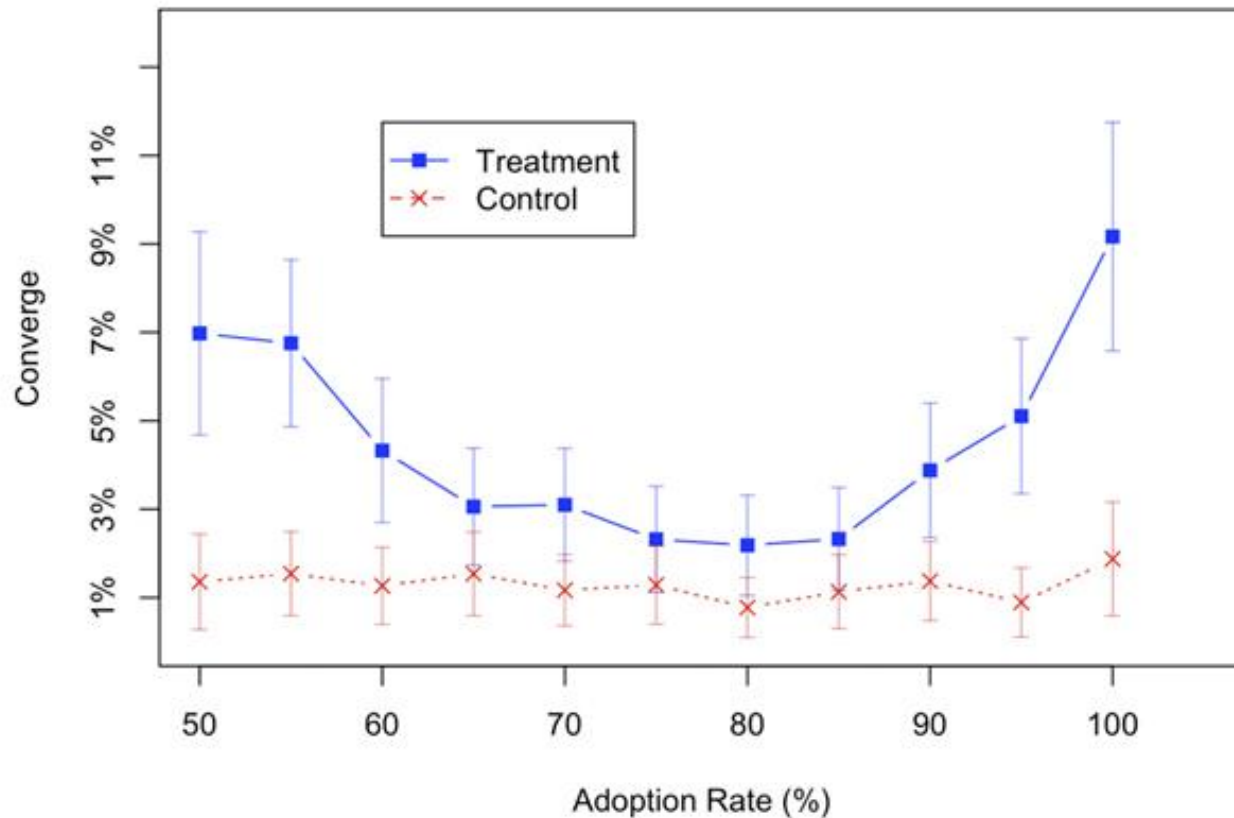
Summary Stats

Table 1. Summary Statistics: Main Model

Statistic	N	Mean	St. dev.	Min	Max
<i>Converge</i>	13,301	0.03	0.17	0	1
<i>Adoption rate</i>	13,301	74.75	15.01	50	100
<i>Age</i>	13,301	32.10	7.64	18	60
<i>Female</i>	13,301	0.68	0.46	0	1
<i>Number of friends^a</i>	13,301	56.80	73.27	11	1,024
<i>Kaixin duration^a</i>	13,301	538.64	188.34	0	1,041
<i>GDP per capita (RMB)^a</i>	11,117	43,544.00	14,330.00	7,074	71,808
<i>Outside China</i>	13,301	0.02	0.13	0	1

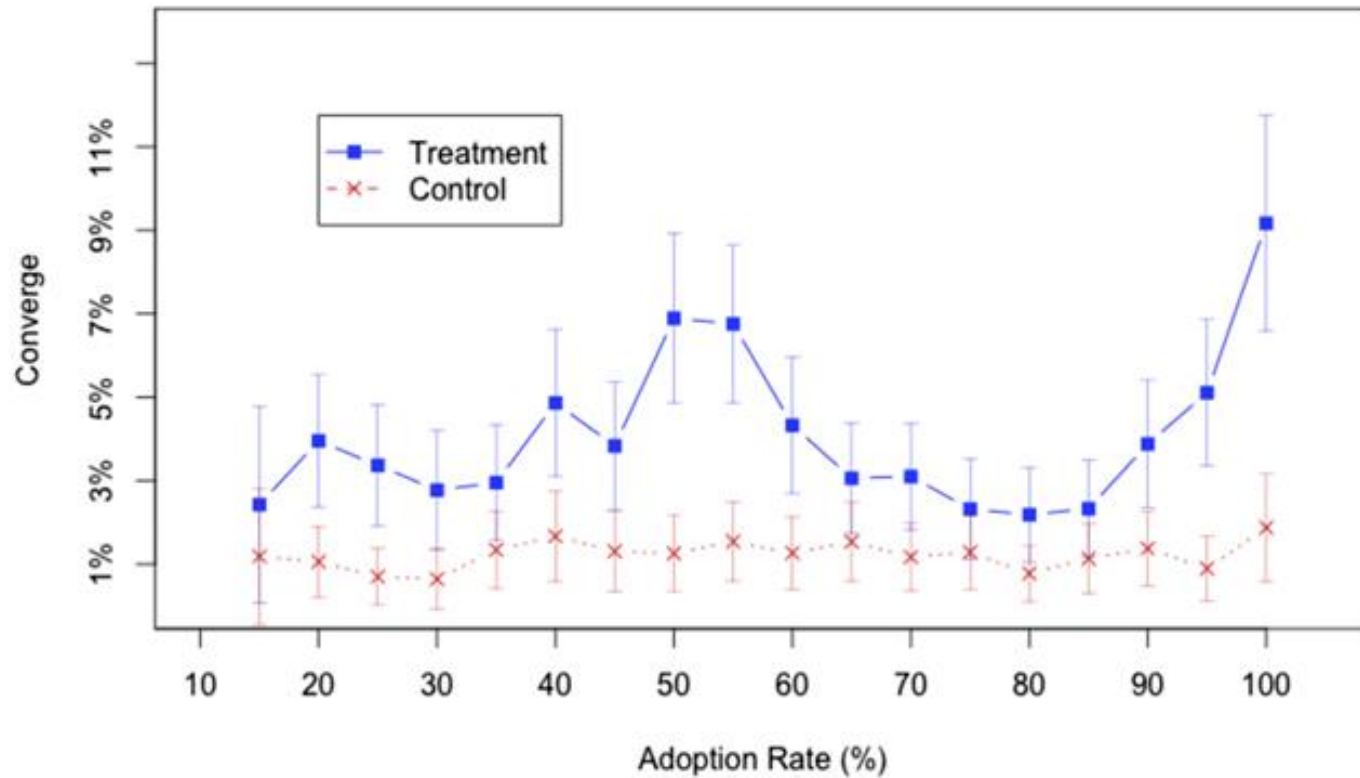
Notes. The table shows summary statistics for the main model with adoption rates ranging from 50% to 100%. St. dev., standard deviation. RMB, Ren Min Bi.

Figure 5. (Color online) U-Shaped Conformity Toward Majority Choice Among Friends



Notes. For each subject, *Converge* is 1 if the subject chooses the popular color and 0 otherwise. We round all adoption rates to the nearest multiple of 5% and then compute the average of *Converge* for subjects within each adoption rate bracket. Error bars indicate 95% confidence intervals.

Figure 6. (Color online) Conformity Patterns with Full Range of Adoption Rates



Notes. For each subject, *Converge* is 1 if the subject chooses the popular color and 0 otherwise. We round all adoption rates to the nearest multiple of 5% and then compute the average of *Converge* for subjects within each adoption rate bracket. Error bars indicate 95% confidence intervals.

Conclusion

- People can be less likely to conform to a choice of their friends as the adoption rate increases
- Priming social influence works only with very high adoption rates
 - “It’s nice to express your individuality unless you really have to swim against the tide of your friends in a very public way!”
 - Location is (still) Everything, David R. Bell, 2014
- Minority and poor users are more likely to conform
 - Higher risk of rejection from nonconformity

THANK YOU!
