

# Cascades and fads in cultural markets

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Social Network (Soc 204)  
Spring 2017  
Princeton University

March 13, 2017



## Logistics:

- ▶ midterm is Wednesday
- ▶ no homework due Wednesday
- ▶ no precept this week
- ▶ Piazza policy: we don't answer questions posted after Tuesday at noon

## Questions?

Vote:

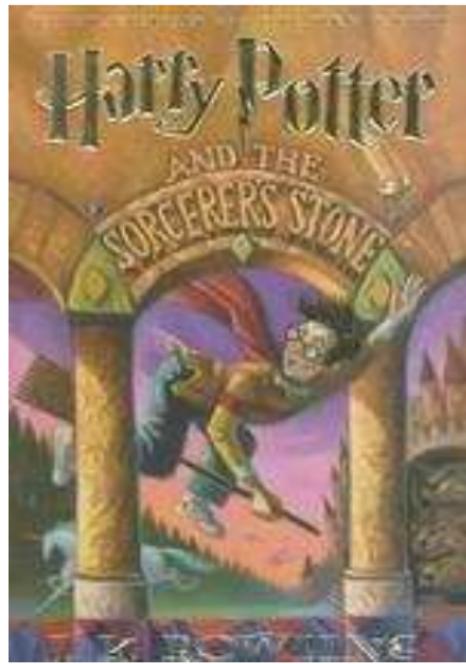
1. Hedstrom, P. (2006). Experimental macro sociology: Predicting the next best seller. *Science*.
2. Salganik, M.J., Dodds, P.S., and Watts, D.J. (2006). Experimental study of inequality and unpredictability in an artificial cultural market. *Science*.
3. Salganik, M.J., and Watts, D.J. (2008). Leading the herd astray: Experimental study of self-fulfilling prophecies in an artificial cultural market. *Social Psychology Quarterly*.

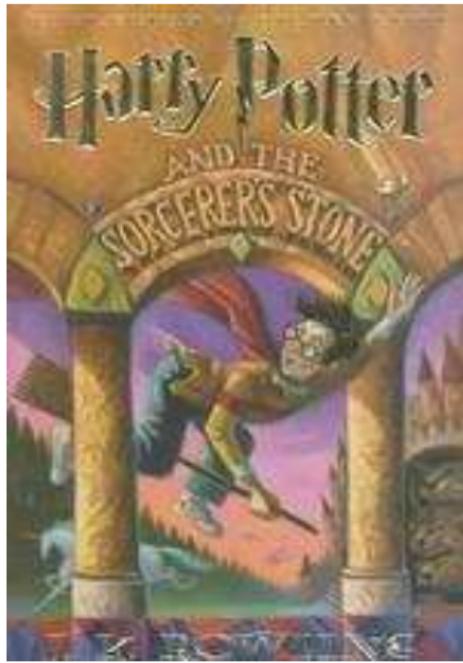
## Review:

- ▶ sometimes small shocks get big and sometimes they don't

## Review:

- ▶ sometimes small shocks get big and sometimes they don't
- ▶ sequential behavior can lead to unexpected outcomes





- ▶ Wild success
- ▶ Rejected by eight publishers

This seems like a strange combination.



- ▶ Set box office records, won 6 Oscars, and launched a multi-billion dollar franchise
- ▶ Rejected by United Artists and Universal before being made by Fox



- ▶ One of the most popular shows of the decade
- ▶ Rejected by ABC, CBS, and NBC before being picked up by Fox

Puzzling nature of success for cultural objects (books, movies, piece of art, music)

- ▶ **extreme inequality in the success of objects**

Puzzling nature of success for cultural objects (books, movies, piece of art, music)

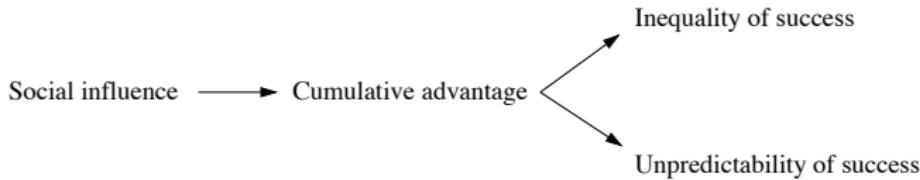
- ▶ **extreme inequality in the success of objects**
- ▶ **unpredictability in the success of objects**

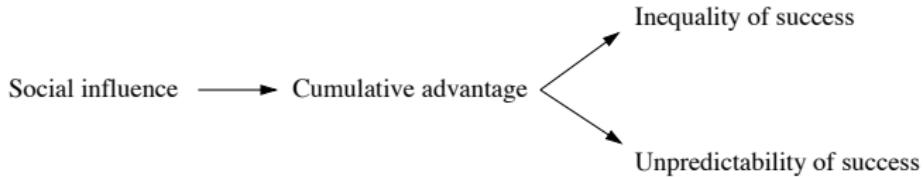
## **Psychological explanation:**

People agree on what's good, but people are hard to predict

## **Sociological explanation:**

The collective outcomes of inequality and unpredictability of success both arise from an individual-level process of social influence





## Problems with observational data:

- ▶ don't know what would have happened without social influence
- ▶ can't see multiple "histories" to observe unpredictability

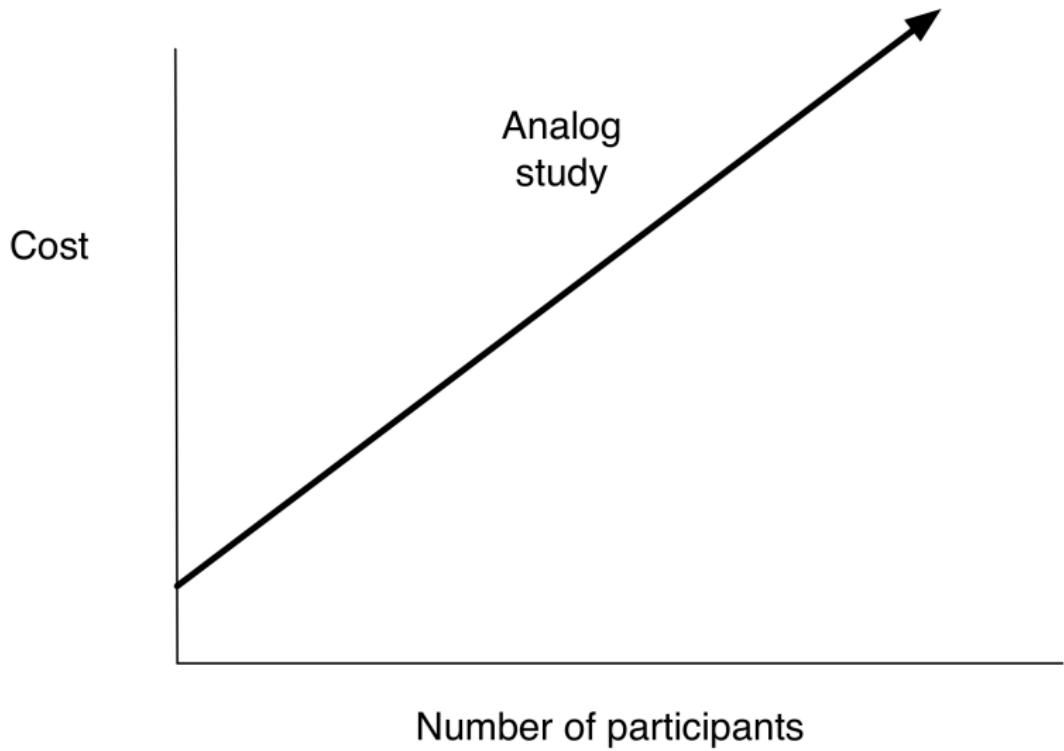
Instead of using observational data we are going to run an experiment because

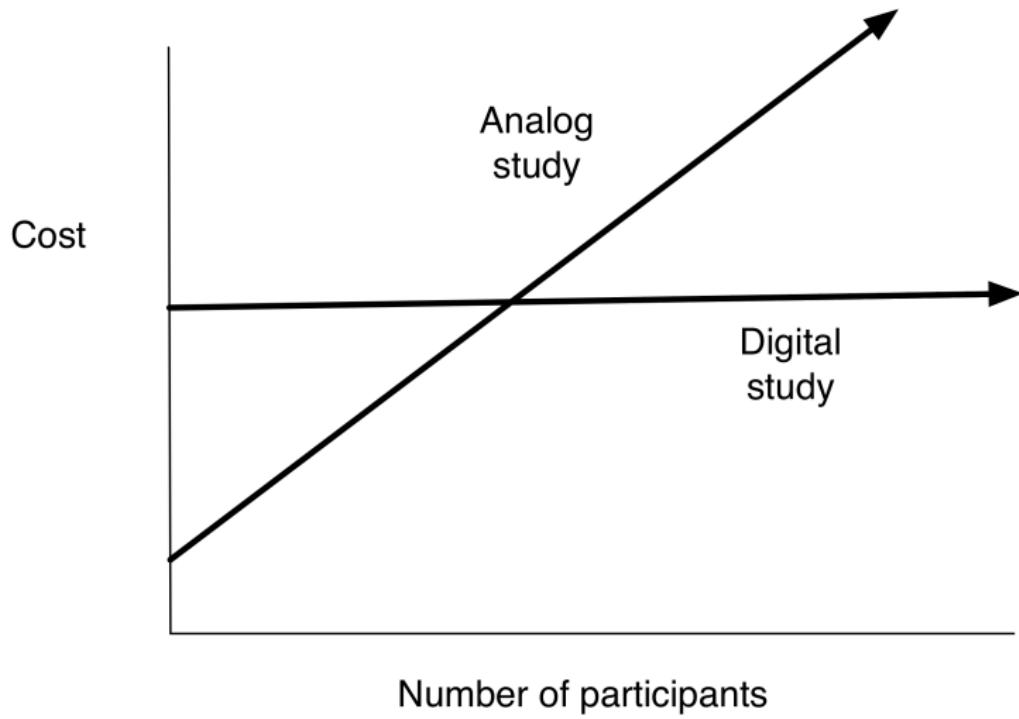
- ▶ can run the same process multiple times under exactly the same conditions, allows us to see multiple “histories”
- ▶ can control the information that people have about the behavior of others

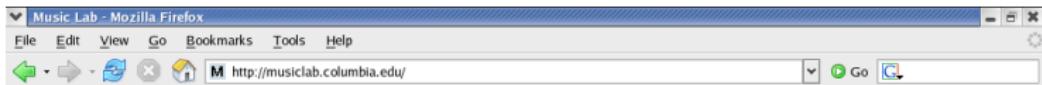
But, this experiment is different from most,

- ▶ experiments in psychology and economics have **individual** as unit of analysis, require **hundreds** of participants
- ▶ these sociological experiments have **collective outcome** as unit of analysis, require **thousands** of participants

Web-based experiment allow for such large sample sizes because each additional participant has no cost (total  $n = 27,267$ )





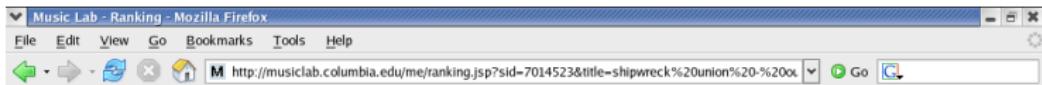


Music Lab – Song Selection - Mozilla Firefox

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	# of down loads	[Help]	[Log off]	# of down loads	# of down loads
HARTSFIELD: "enough is enough"	20	GO MOREDCAI: "it does what its told"		12	UNDO: "while the world passes"
DEEP ENOUGH TO DIE: "for the sky"	17	PARKER THEORY: "she said"		47	UP FOR NOTHING: "in sight of"
THE THRIFT SYNDICATE: "2003 a tragedy"	20	MISS OCTOBER: "pink aggression"		27	SILVERPOX: "gnaw"
THE BROKEN PROMISE: "the end in friend"	19	POST BREAK TRAGEDY: "Florence"		14	STRANGER: "one drop"
THIS NEW DAWN: "the belief above the answer"	12	FORTHFADING: "fear"		24	FAR FROM KNOWN: "route 9"
NOONER AT NINE: "walk away"	6	THE CALEFACTION: "trapped in an orange peel"		20	STUNT MONKEY: "inside out"
MORAL HAZARD: "waste of my life"	8	\$2METRO: "lockdown"		17	DANTE: "flies mystery"
NOT FOR SCHOLARS: "as seasons change"	27	SIMPLY WAITING: "went with the count"		16	FADING THROUGH: "wish me luck"
SECRETARY: "keep your eyes on the ballistics"	5	STAR CLIMBER: "tell me"		38	UNKNOWN CITIZENS: "falling over"
ART OF KANLY: "seductive intro, mebdk breakdown"	10	THE FASTLANE: "til death do us part (i dont!)"		31	BY NOVEMBER: "if i could take you"
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EMBER SKY: "this upcoming winter"	25	SUM RANA: "the bolshevik boogie"		15	SELJSUUS: "stars of the city"
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BEERBONG: "father to son"	12	SUMMERSWASTED: "a plan behind destruction"		17	BENEFIT OF A DOUBT: "run away"
HALL OF FAME: "best mistakes"	19	SILENT FILM: "all i have to say"		61	SHIPWRECK UNION: "out of the woods"

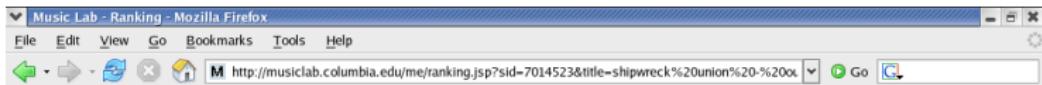


00:21 shipwreck union - out of the woods volume

Please rate this song.  
You don't need to wait until it's finished

★★★★★ I love it  
 ★★★★ I like it  
 ★★★ It's OK  
 ★★ I don't like it  
 ★ I hate it

Rate It!



00:53 shipwreck union - out of the woods volume



Would you like to download this song?

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No, Thanks

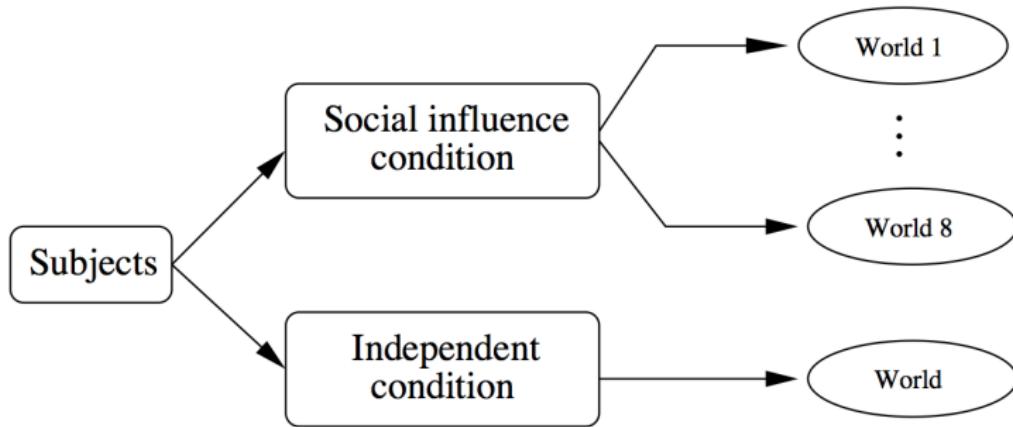
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- ▶ <https://www.dropbox.com/s/k02iy1hcw0g3xir/165444-hi.mp3?dl=0>
- ▶ <https://www.dropbox.com/s/j0wpjg379xuhe7n/331122-hi.mp3?dl=0>
- ▶ <https://www.dropbox.com/s/tobqqk4ar9qzc01/846626-hi.mp3?dl=0>



**Mosaic Lab - Song Selection - Mozilla Firefox**

<http://www.mosaic-lab.colombia.edu/mosaics>

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# of plays

Artist	Title	# of plays
ARTURO PRADA	"GIRASOL"	12
ARTURO PRADA	"Dime que me dices"	24
DEEP ENDING TO DEE	"DEEP ENDING TO DEE"	13
No Ho Ho	"Ho Ho Ho"	13
SONG OF THE SYNDICATE	"CUMBIA DE LOS HAMBRES"	27
THE ALEXANDER PROJECT	"FRIKI EN EL CIELO"	10
FRIKI EN EL CIELO	"Dile que me dices"	30
SONG OF THE SYNDICATE	"Dime que me dices"	30
NOVOCARTA Y VINO	"TOMA CALMA CONMIGO"	40
NOVOCARTA Y VINO	"Sé que es un consejo peor"	27
MOSCOW	"MOSCOW"	34
MOSCOW	"Siente lo que tu quieras"	30
NOTI FOR SCHOLARS	"No te vayas"	30
NOTI FOR SCHOLARS	"Dime que me dices"	30
OLGA YAPI	"ESTAR O OLVIDAR"	34
OLGA YAPI	"Dime que me dices en la noche"	10
ART OF SADLY	"Sólo que no, porque insisto"	20
ART OF SADLY	"Méjate o no, porque insisto"	20
INTERLOCUTORES SIN MÚSICA	"INTERLOCUTORES SIN MÚSICA"	17
CUMBIA SAY	"CUMBIA SAY"	22
CUMBIA SAY	"Yo no sé lo que me pasa"	22
GALLITO DEL TUYO CRISTIAN	"CUMBIA PESADILLA LÍ	24
GRUPO CUMARASAYA	"El bogotano cantao"	27
GRUPO CUMARASAYA	"Dime que me dices"	30
REFLEXIÓN	"REFLEXIÓN"	17
REFLEXIÓN	"Dime que me dices"	30
HALL OF FAME	"HALL OF FAME"	10
HALL OF FAME	"Dile que me dices"	30

(a) Experiment 1, Weaker signal

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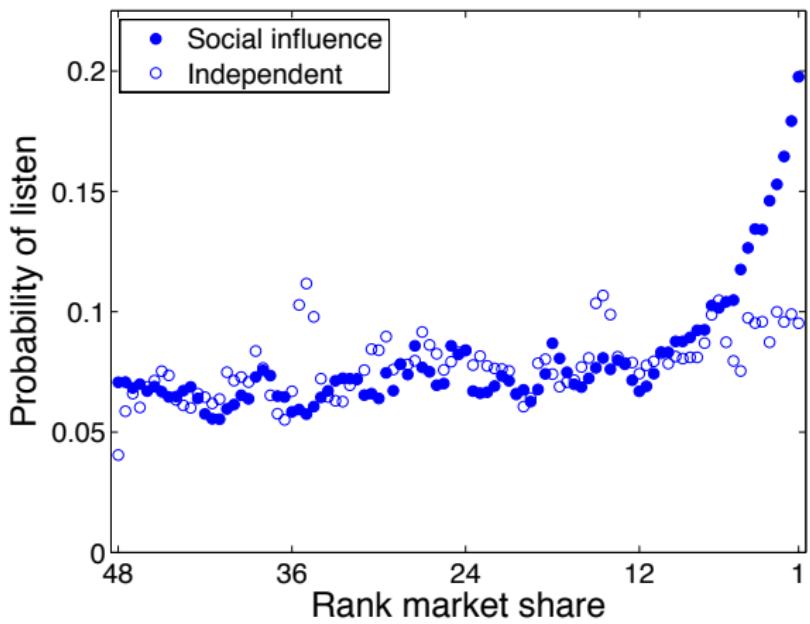
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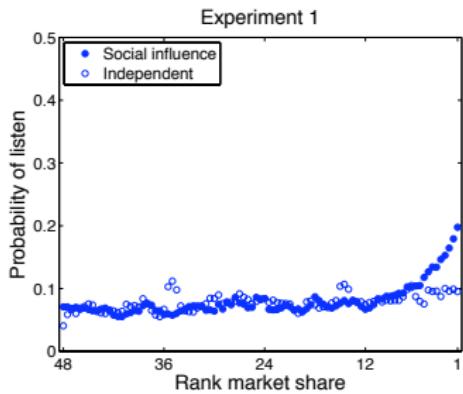
# of plays

Artist	Title	# of plays
PABLO TINTORÉ	"ESTRATEGIA"	158
PABLO TINTORÉ	"Dime que me dices"	121
THE PARASOL	"Dime que me dices"	103
THE PARASOL	"Dime que me dices en la noche"	92
ALBUQUERQUE	"Cumbia de los chicos"	91
L'ESTATE INFERNALE	"L'ESTATE INFERNALE"	86
ALBUQUERQUE	"Dime que me dices"	55
JOY ROSENBERG	"Dime que me dices"	47
JOY ROSENBERG	"Dime que me dices"	46
POY BIRTHING	"Poy"	43
JOSEPH E. GOREHORN	"Séptima encrucijada"	43
SILENT FILM	"SILENT FILM"	40
SILENT FILM	"Dime que me dices"	39
UNICO	"Dime que me dices"	38
UNICO	"Dime que me dices"	32
DISNEYLAND DE LAS BOSQUES	"Dime que me dices"	27
DISNEYLAND DE LAS BOSQUES	"Dime que me dices"	26
SILVA CUMARÍ	"SILVA CUMARÍ"	26
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HALL OF FAME	"HALL OF FAME"	21
HALL OF FAME	"Dime que me dices"	19
CUMBIA SAY	"CUMBIA SAY"	19

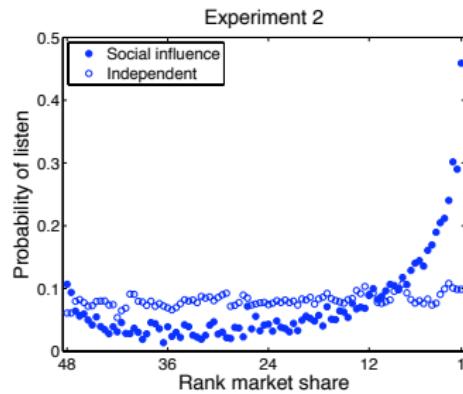
(b) Experiment 2, Stronger signal

Experiment 1



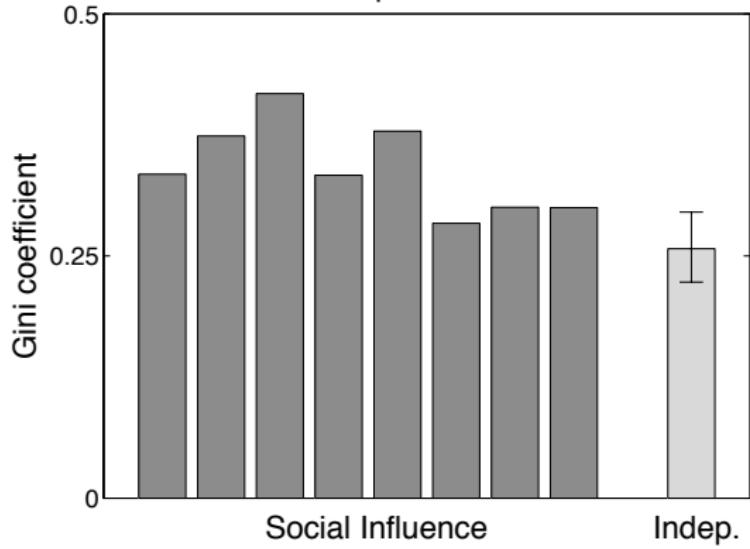


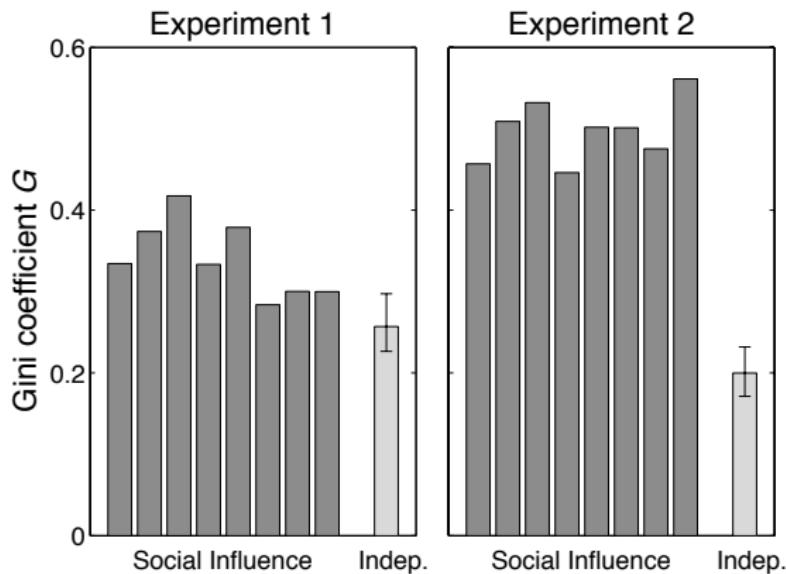
(a) Experiment 1, weaker signal



(b) Experiment 2, stronger signal

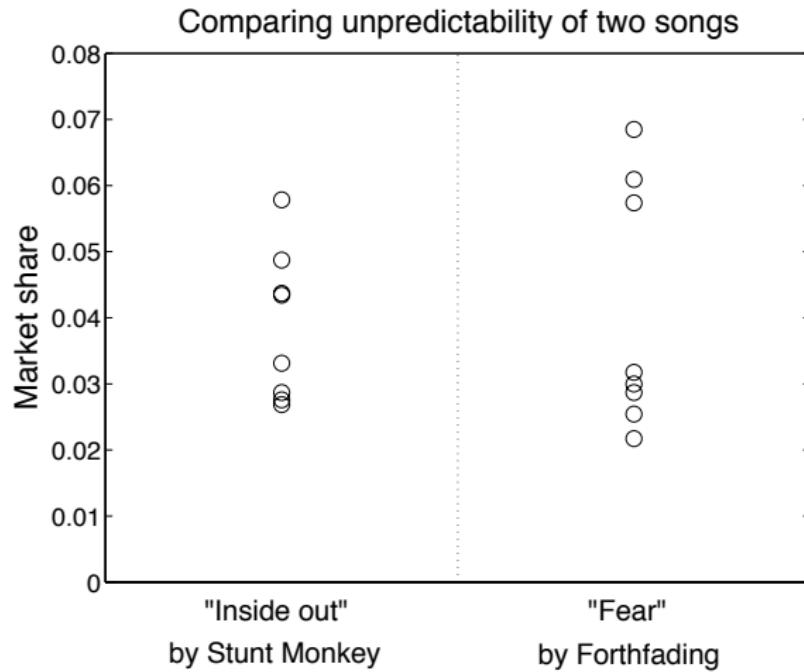
Experiment 1



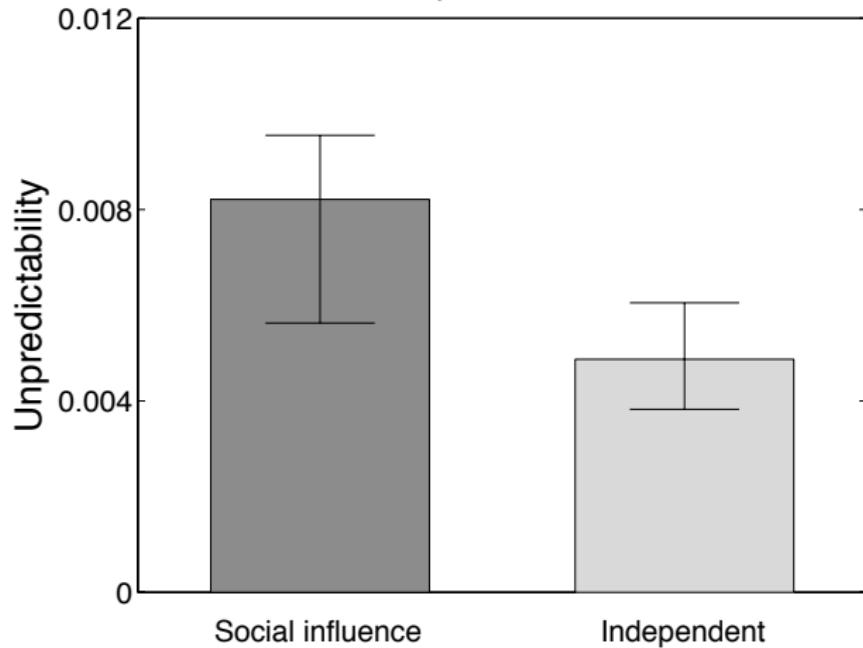


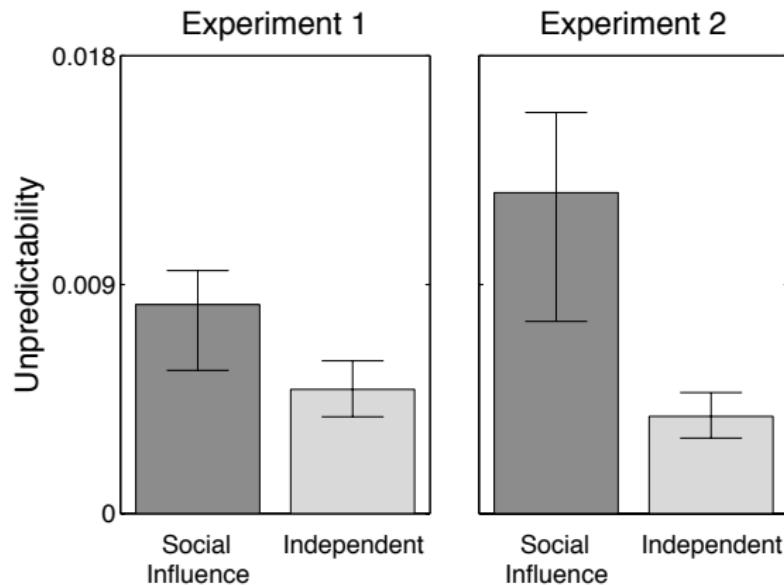
Median Gini coefficient increases from 0.34 (France) to 0.50 (Nigeria)

$U$  = mean difference in market share across all pairs of realizations



Experiment 1



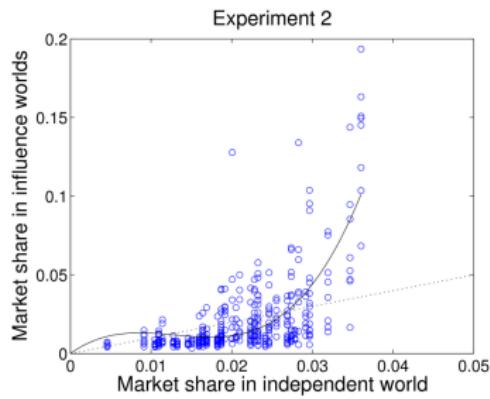
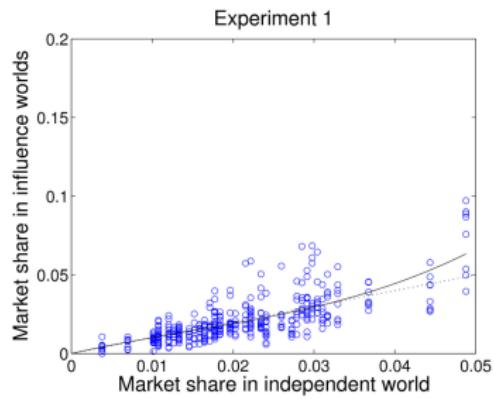


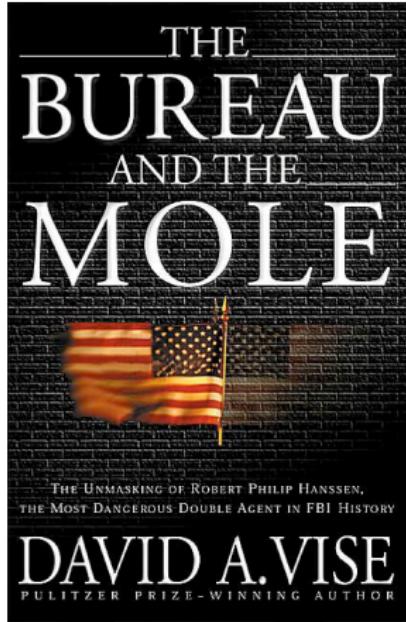
Unpredictability increases by about 50%

Experiments 1 and 2 show a dose-response relationship. Increasing the strength of social influence leads to

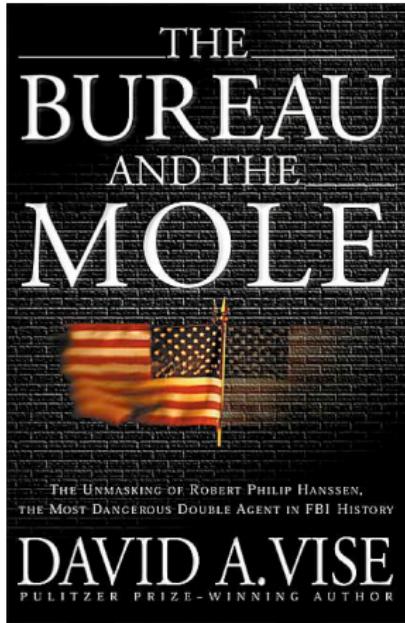
- ▶ increased inequality of success
- ▶ increased unpredictability of success

What is the relationship between “quality” and success?





Someone bought and returned 17,000 copies of this book.



Someone bought and returned 17,000 copies of this book. It was David Vise.

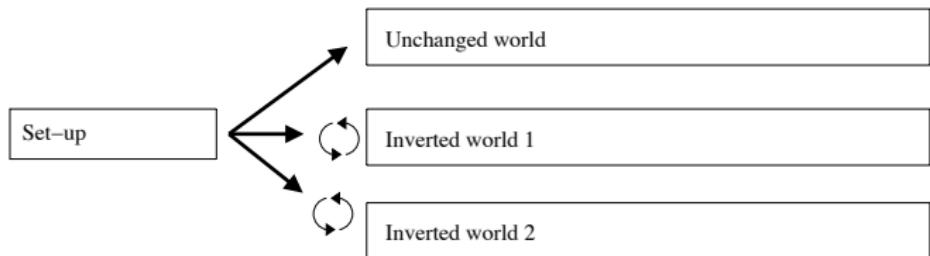
## Self-fulfilling prophecies

"[a] self-fulfilling prophecy is, in the beginning, a *false* definition of the situation evoking a new behavior which make the originally false conception come *true*." Robert Merton (1948)

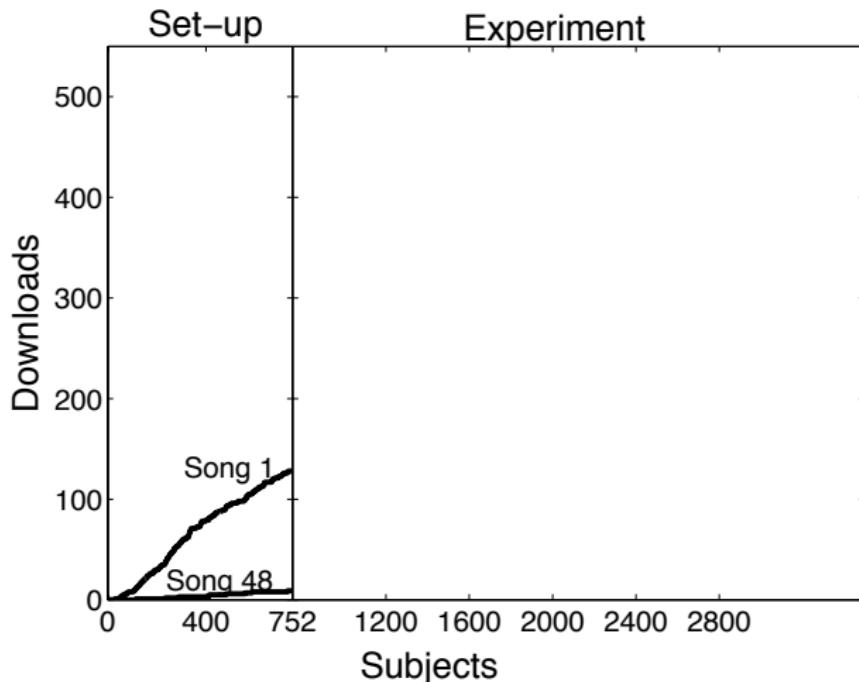
Vise's book sold more than 180,000 copies. How much of this was due to a self-fulfilling prophecy? Hard to say.

Again, this is difficult with observational data, but possible with a multiple-realization experiment

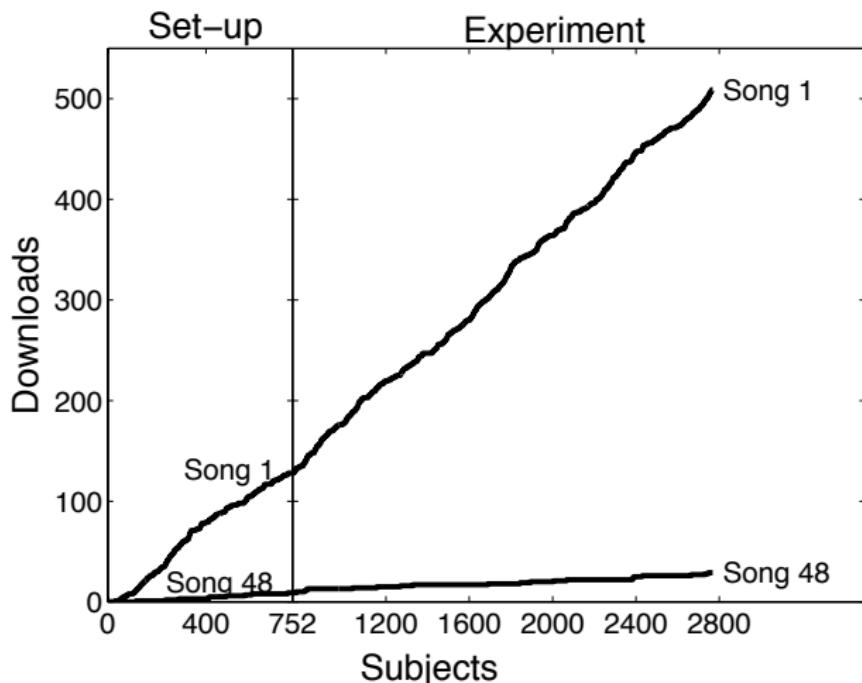
# Experimental design



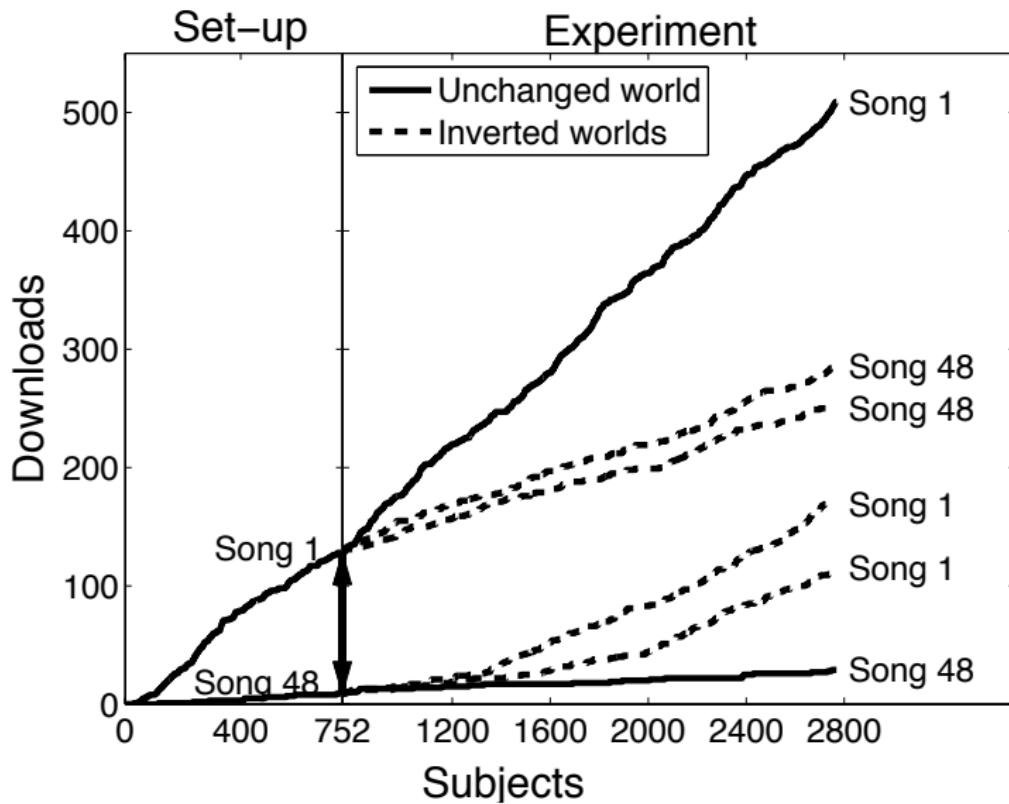
# Tracking song 1 and song 48



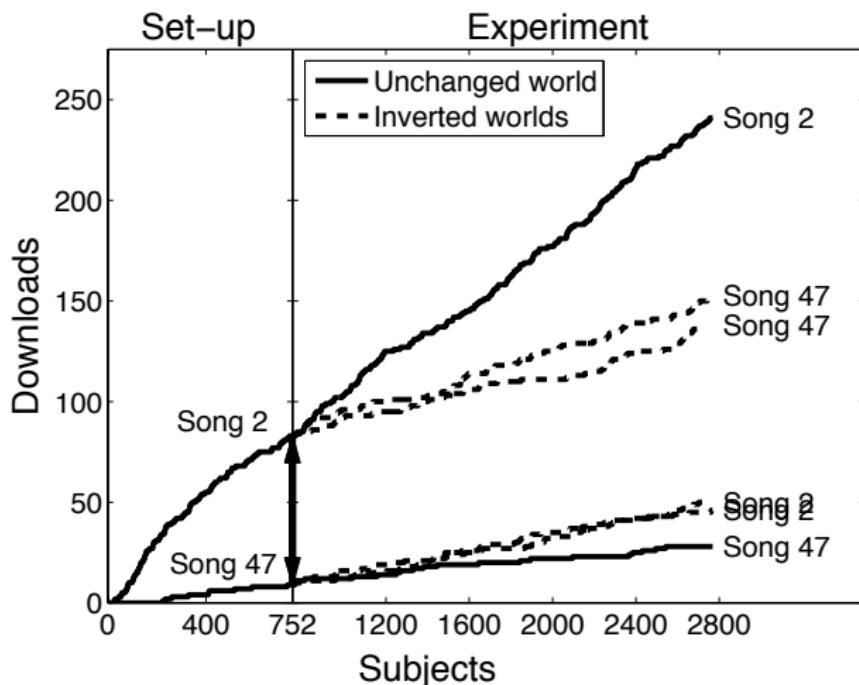
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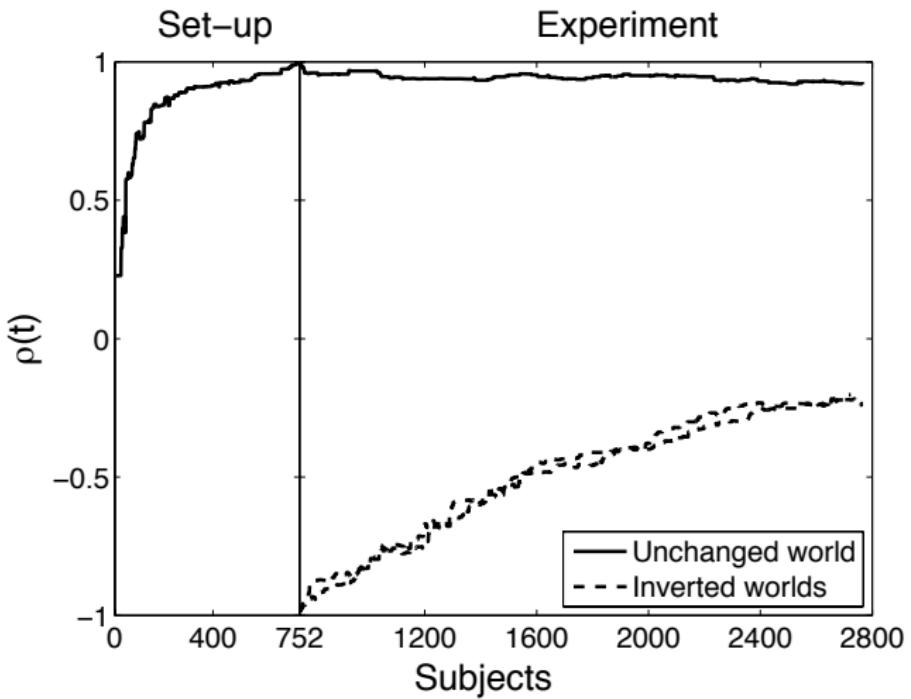


## Tracking song 1 and song 48



# Tracking song 2 and song 47









(Duchamp, 1919)



(Duchamp, 1919)



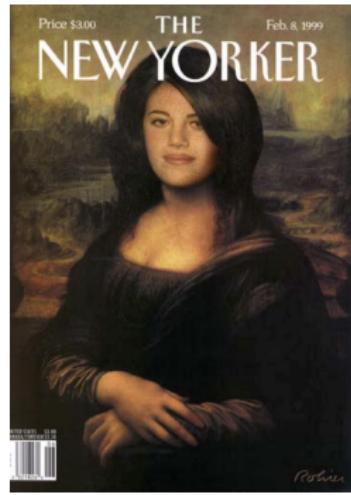
(Warhol, 1963)



(Duchamp, 1919)



(Warhol, 1963)



(Roher, 1999)



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- ▶ social influences weakens the relationship between appeal and success
- ▶ you can predict failure but you can't predict success
- ▶ the perception of success can become a self-fulfilling prophecy

Download all the data from these experiments:

<http://opr.princeton.edu/archive/cm/>

<http://bit.ly/socnet204>

<http://bit.ly/socnet204>

Next class:

- ▶ Midterm, then break, then strength of weak ties