ORGANIZATIONAL BEHAVIOR AND HUMAN RESOURCE MANAGEMENT

prof. Giovanni Masino
University of Ferrara

Lesson 03
collecting and evaluating information

Prof. Giovanni Masino
University of Ferrara

For each of the following questions, please indicate a range of values (a minimum value and a maximum value) so that you are 90% sure that the right answer lies within your range.

	MIN	MAX
1. Martin Luther King age at the time of his death	____	____
2. Nile River length (in km)	____	____
3. Number of countries members of Opec	____	____
4. Number of books in the Old Testament (Bible)	____	____
5. Diameter of the Moon (in km)	____	____
6. Weight of a Boeing 747 (in tons)	____	____
7. Mozart's year of birth	____	____
8. Pregnancy duration of the asiatic elephant (in days)	____	____
9. Distance (straight line) Tokio - London (in km)	____	____
10. Maximum depth of oecans (in km.)	____	____

Answers

Right answers:

1. 39 years
2. 6738 km
3. 14 countries
4. 39 books
5. 3476 km
6. 145 tons
7. Year 1756
8. 645 days
9. 9590 km
10. 11.033 km.

COUNT THE «RIGHT ANSWERS»

- THE RIGHT ANSWER WAS **WITHIN YOUR RANGE** FOR HOW MANY QUESTIONS?

Less than 1% of people get 90% of right answers

WHAT ARE WE MEASURING WITH THIS EXERCISE?

- We are NOT measuring our knowledge
  - even if you know very little, you can still do very well in this exercise, as long as you REALIZE that you don't know much and, consequently, you extend your ranges so that they «match» your actual level of knowledge
  - even if you know a lot, you can still do very poorly in this exercise, because you think you know more than you actually know, and you set ranges that are too narrow and don't reflect your actual level of knowledge

- We are measuring our awareness about our knowledge

(how much we think we know)

- Because the vast majority of people performs very poorly, that means that we are not very well aware of our knowledge. The simple lesson is that:

We tend to be OVER-CONFIDENT (we think we know more than what we actually know)

it's also about over-confidence in our judgment, our opinions, our ideas, our beliefs etc

OVERCONFIDENCE AND EXPERTISE

WHAT HAPPENS IF I ASKED YOU QUESTIONS ABOUT YOUR OWN FIELD OF EXPERTISE?

DO YOU THINK YOU WOULD HAVE PERFORMED BETTER?

DO YOU THINK THAT EXPERTISE IMPROVES OUR ABILITY TO BE SELF-AWARE ABOUT OUR KNOWLEDGE AND IDEAS?

OR, INSTEAD, DO YOU THINK THAT EXPERTISE INCREASES OUR TENDENCY TO BE OVERCONFIDENT?

Similar experiments, with experts in their field

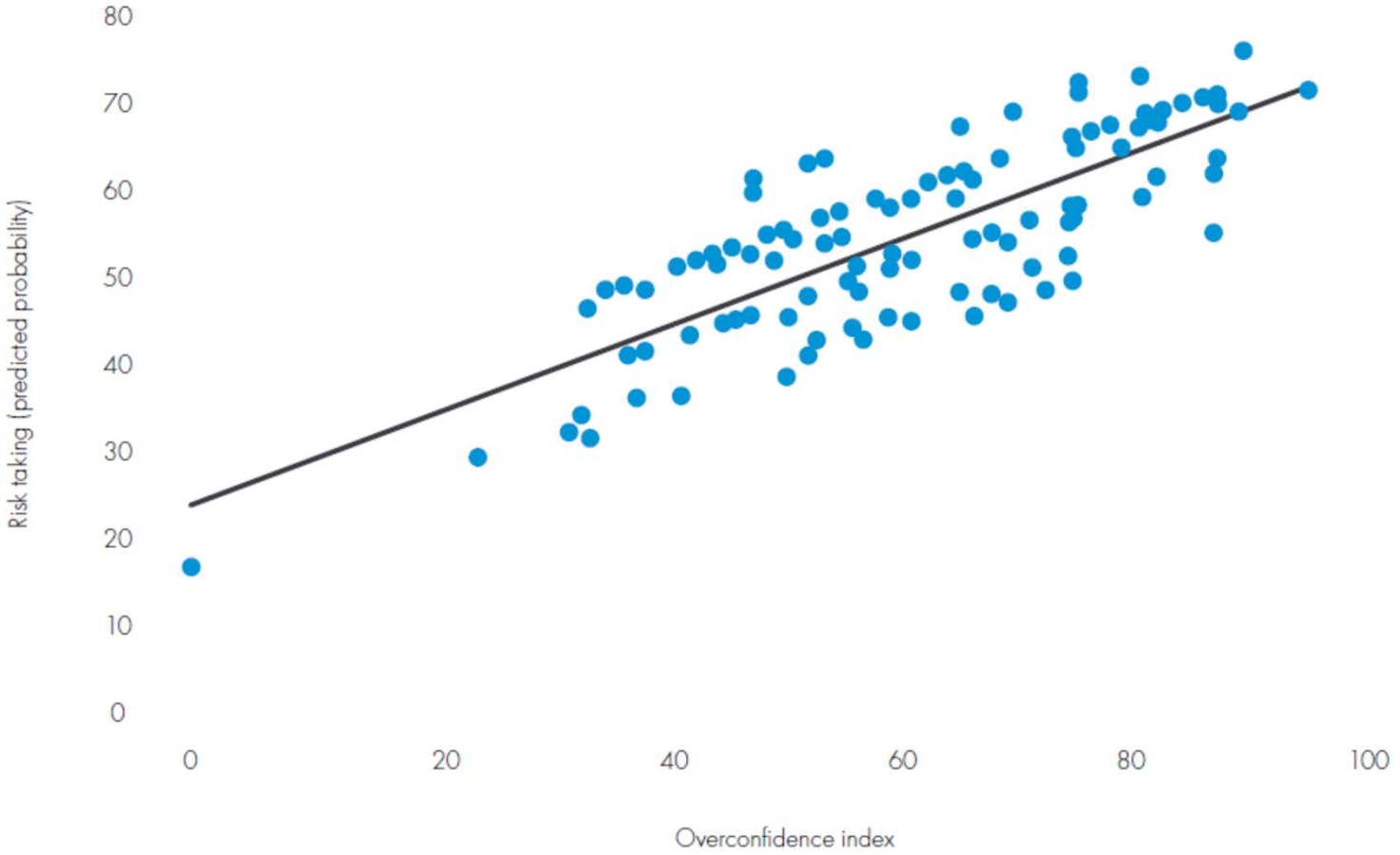
Experts	Target	Actual
Master Students in Harvard	2%	46%
Employees in chemical company (on industry)	10	50
(on the company)	50	79
ICT managers (on industry)	5	80
(on the company)	5	58
Physicians	20	82
Scientists (on physics variables)	32	41

DANIEL KAHNEMAN on OVERCONFIDENCE

- Listen to Daniel Kahneman: «Daniel Kahneman: The Trouble with Confidence" on YouTube: https://www.youtube.com/watch?v=tyDQFmA1SpU
- Over-confidence may be useful AT A SOCIAL LEVEL:
  - if we have a lot of over-confident (optimistic) entrepreneurs, chances are that a lot of good ideas will develop into succesful companies, innovations and initiatives that benefit everybody, even though the majority will fail
- At the INDIVIDUAL LEVEL, there may be positive and negative effects:
  - being over-confident in the IMPLEMENTATION of a certain decision will increase our likelihood of succeeding because our motivation, effort, conviction will increase
  - however, over-confidence will decrease our ability to DECIDE what is the right course of action
- NOTICE: the problem is not «CONFIDENCE». Confidence in yourself is a very GOOD thing.
- Problems arise when we are OVER-confident.
- In other words, when our confidence is EXCESSIVE or EXAGGERATED in relation to the actualy validity of our knowledge, ideas, opinions, beliefs etc.

A STUDY ON POLICY MAKERS' OVERCONFIDENCE

- A recent study analyzed the overconfidence level of 579 public managers and employees in Agencies related to the issue of climate change in the USA, asked about issues closely related to their area of expertise. RESULTS:
  - significant average level of overconfidence
  - overconfidence increases with experience and hierarchical position
  - the higher the overconfidence, the more likely that people will take decisions with uncertain outcomes
- Similar results in Europe



THE KEY ISSUE: OVER-CONFIDENCE LEADS TO CONFIRMATION BIAS

- A particularly important consequence of over-confidence is that our information collecting and evaluation process becomes «biased»
- We search, consider and value mostly (or only) information that supports (confirms) what we think we know already

This is called CONFIRMATION BIAS

  - we dont look for information from sources that could disconfirm our ideas
  - when we encounter such information, we neglect them or rationalize them
  - we give too much weight to information that confirm our ideas
  - we don't give enough weight to information that disconfirm our ideas
  - we tend to associate with people that are similar to us in their ideas and judgment

- The damage to our ability to make effective decisions is significant, because:
- WE ARE DEPRIVED OF POTENTIALLY RELEVANT INFORMATION
- OUR ABILITY TO THINK CRITICALLY IS SIGNIFICANTLY REDUCED

TYPICAL MECHANISMS OF CONFIRMATION BIAS (1)

• 1. Restriction of attention to a favored hypothesis

– entertaining only a single possible explanation of some event or phenomenon, while ignoring the possibility of alternative explanations

- Imagine that a manager in a sales department notices that one of their employees, Alex, has a decline in sales numbers over the past three months. The manager immediately attributes this to a lack of motivation or laziness, assuming that Alex is not putting in enough effort.
- The manager only looks for evidence that confirms this hypothesis (e.g., noticing Alex taking slightly longer lunch breaks or seeming less engaged in meetings). The manager ignores alternative explanations such as:
  - A change in market conditions leading to a slowdown in customer demand
  - Poor quality information about potential customers provided to Alex.
  - A recent change in company policies that has made closing deals more difficult.
  - Personal or health challenges that might be affecting Alex's performance.
- Since the manager has already committed to the "laziness" hypothesis, she does not explore alternative explanations. Instead of investigating the real cause, she might punish Alex or put him on a performance improvement plan—actions that could be misguided and even counterproductive

TYPICAL MECHANISMS OF CONFIRMATION BIAS (2)

- **2. Preferential treatment of evidence supporting existing beliefs**
  - **give greater weight to information that is supportive of existing beliefs or opinions than to information that runs counter to them**

- Imagine that a manager needs to promote one of two employees, Jordan or Taylor, to a leadership role. The manager already believes that Jordan is the better candidate because he has been with the company longer and has a confident personality.
- The manager gives extra weight to evidence that supports her belief, such as Jordan's past successes and enthusiasm in meetings
- At the same time, the manager downplays or rationalizes evidence that contradicts her belief, such as
  - Jordan's poor conflict resolution skills
  - Taylor's higher team performance metrics and stronger peer feedback on leadership potential.
  - Instances where Jordan has struggled with delegation or decision-making under pressure.

TYPICAL MECHANISMS OF CONFIRMATION BIAS (3)

- 3. Not looking for disconfirmatory evidence while looking only or mostly for confirmatory evidence, even when there is no vested interest on a certain belief (notice: this is not necessarily triggered by over-confidence)

- Each of these cards has a letter on one side and a number on the other side
- You can only see one side of all the cards (A, B, 4, 7)
- You need to test the following hypothesis: When a card has a VOWEL on one side, it has an EVEN number on the other side
- In order to test the hypothesis, you can only turn 2 cards. WHICH 2 CARDS DO YOU CHOOSE TO TURN?

EXAMPLE OF NEGLECTING DISCONFIRMATORY EVIDENCE

- Imagine a company planning to launch a new fitness app. The product team want to test the idea that customers want highly personalized workout plans based on AI recommendations. To explore this idea, they conduct market research, but they focus only on potentially confirming evidence
- They survey only fitness enthusiasts who are already tech-savvy and interested in AI-based solutions, while ignoring potential customers who prefer simple, non-tech-based programs.
- They ask leading questions in focus groups, such as: "How would you use an AI-driven workout planner?" instead of asking "Would you prefer an AI-driven planner over a traditional one?"
- They dismiss customer comments that suggest many people actually prefer human coaching over AI-generated plans.
- Even though the team has no vested interest in a particular belief, they fail to look for disconfirmatory evidence, such as:
  - Market reports showing that many users still prefer human trainers.
  - Past failures of similar AI-driven fitness apps.
  - Customer segments (e.g., older adults or casual exercisers) who may find the technology intimidating.

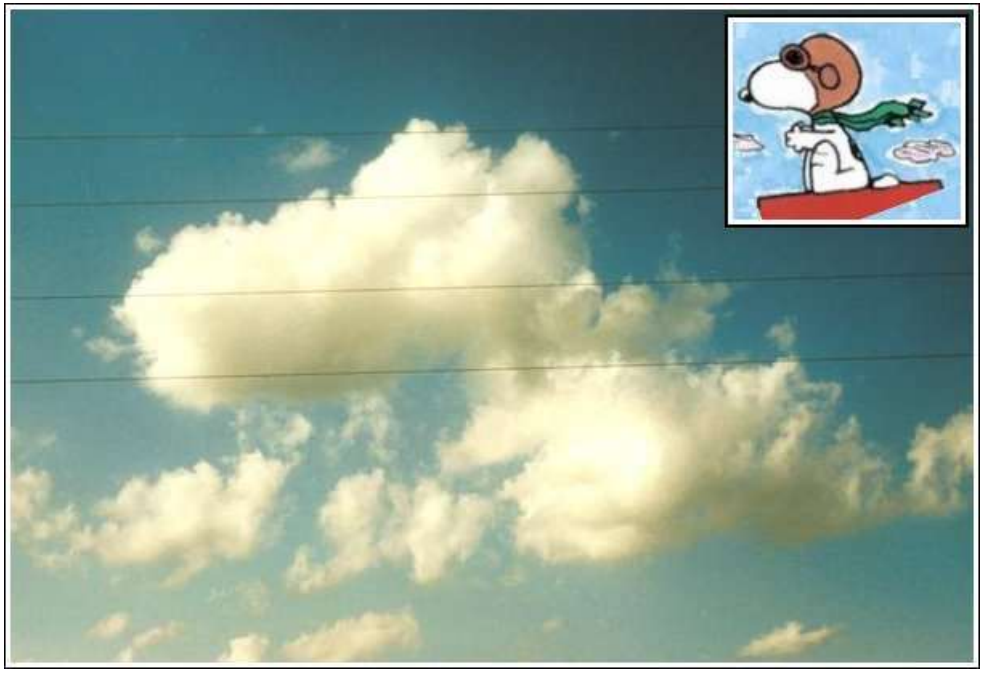
TYPICAL MECHANISMS OF CONFIRMATION BIAS (4)

- 4. Only seeing what one is looking for
- People sometimes see, within available data, the patterns for which they are looking, regardless of whether the patterns are really there
- We are extremely good at recognizing patterns, so we see them even when they do not exist

- Many examples in studies about expectations in social situations, in personalities studies, in education studies, in individuals with hypochondriac tendencies etc
- Sometimes, these situations may become self-fulfilling prophecies
  - Think about the very well studied and powerful "PLACEBO" effect in medicine

- In general, this phenomenon is closely related to the power of expectations (we will talk about this later in the course)

WHAT DO YOU SEE?



THE «GAMBLER'S FALLACY»

- What would you bet on, for the next round? Black or Red?

- B R B R R B R B B R ?
- B B R B B B B B B B ?

- What sequence is more likely?
- R B R B B R
- R R R B B B

OTHER EXAMPLES

- Stock markets «typical patterns» and their predictive value
  - Traders often see patterns in stock price movements and assume they have predictive value when, in reality, they could be due to randomness.
- Conspiracy Theories
  - Many conspiracy theories arise from connecting unrelated events to form a seemingly coherent narrative; for example, people might see hidden messages in logos, government documents, or media reports, assuming that secret groups are controlling world events
- Superstitions and Rituals
  - Athletes or gamblers might believe that wearing a specific shirt or following a particular routine brings good luck, even though the outcomes do not depend at all on that
- Historical and Political Analysis
  - Historians and political analysts sometimes see patterns in historical events to suggest cycles or inevitabilities that may not actually exist.
  - people often assume that past events “repeat themselves” in a structured way, ignoring or downplaying the role of randomness and unique circumstances.

IN SUMMARY

- WE TEND TO BE OVERCONFIDENT ABOUT OUR IDEAS, SO WE TRY TO CONFIRM THEM IN SEVERAL WAYS
  - We ignore / underweight / rationalize disconfirmatory evidence
  - We overweight confirmatory evidence
  - We surround ourselves with people that believe what we believe
- WE TEND TO LOOK ONLY OR MOSTLY FOR CONFIRMATORY CASES IN ORDER TO TEST IDEAS EVEN WHEN WE DON'T HAVE A STRONG BELIEF ABOUT SUCH IDEAS
- WE TEND TO SEE PATTERNS THAT CONFIRM OUR IDEAS OR ARE CONSISTENT WITH OUR DESIRE TO FIND CAUSAL LINKS, OR PREDICTABILITY, OR TO FIND SENSE AND MEANING, EVEN WHEN SUCH PATTERNS ARE NOT REAL OR UNPROVEN

WHAT CAN WE DO ABOUT IT?

P. Tetlock, University of Pennsylvania

PHILIP TETLOCK'S RESEARCH

- large scale project, 1984 - 2003, then another one in 2011
- 284 prominent experts in politics / economics (intellectuals, academics, opinion leaders, journalists, politicians, managers etc)
- 28.000 verifiable predictions
- in depth-interviews
- RESULTS:
- very bad accuracy of predictions, often worse or very close to casual predictions
- most famous experts were particularly ineffective

- COMMON CHARACTERISTICS OF THE BEST ONES:
- they collect information from a variety of sources, especially those that could contradict their own convictions
- they explicitly try to challenge their own beliefs
- they are ready and willing to change their minds
- they use teams and groups to come up with collective judgments
- they try to think probabilistically

THE GENERAL POINT

IN ORDER TO TRULY TEST AN HYPOTHESIS (AN IDEA, OPINION, JUDGMENT, BELIEF), YOU NEED TO TRY TO DISCONFIRM IT (LOOK FOR POTENTIALLY DISCONFIRMING INFORMATION.

LOOKING ONLY FOR CONFIRMING EVIDENCE DOESN'T HELP YOU!!!

WHAT HAPPENS WHEN YOU ACTIVELY TRY TO DISCONFIRM A CERTAIN BELIEF?

- CASE 1. You do not find disconfirmatory evidence. It's a positive, because you can be justifiably more certain that your idea is right

- CASE 2. You do find disconfirmatory evidence. It's a positive, because it allows you to change your mind for the right reasons, and improve your understanding

GENERAL LESSONS

Tetlock's studies show that in order to be better thinkers and better decision makers we need to consciously try to be:

curious about things we don't know

curious about different points of view

but curiosity is not enough: we need to SERIOUSLY CONSIDER what we don't know, what we disagree with, alternative explanations and ...

... be truly OPEN AND WILLING TO CHANGE OUR MINDS

It's not easy, especially in social situations (e.g. in group discussions)

this is the right mindset: when you change your mind within a discussion you are not «losing» an argument, you are improving yourself, so you are «winning» !!

An experiment on Danish politicians and citizens: the sample

- 954 local Danish politicians, 1006 regular citizens
- QUESTION: WHAT ROLE SHOULD PLAY PRIVATE ORGANIZATIONS IN PROVIDING PUBLIC SERVICES?
- very controversional issue in Denmark (and many other countries)

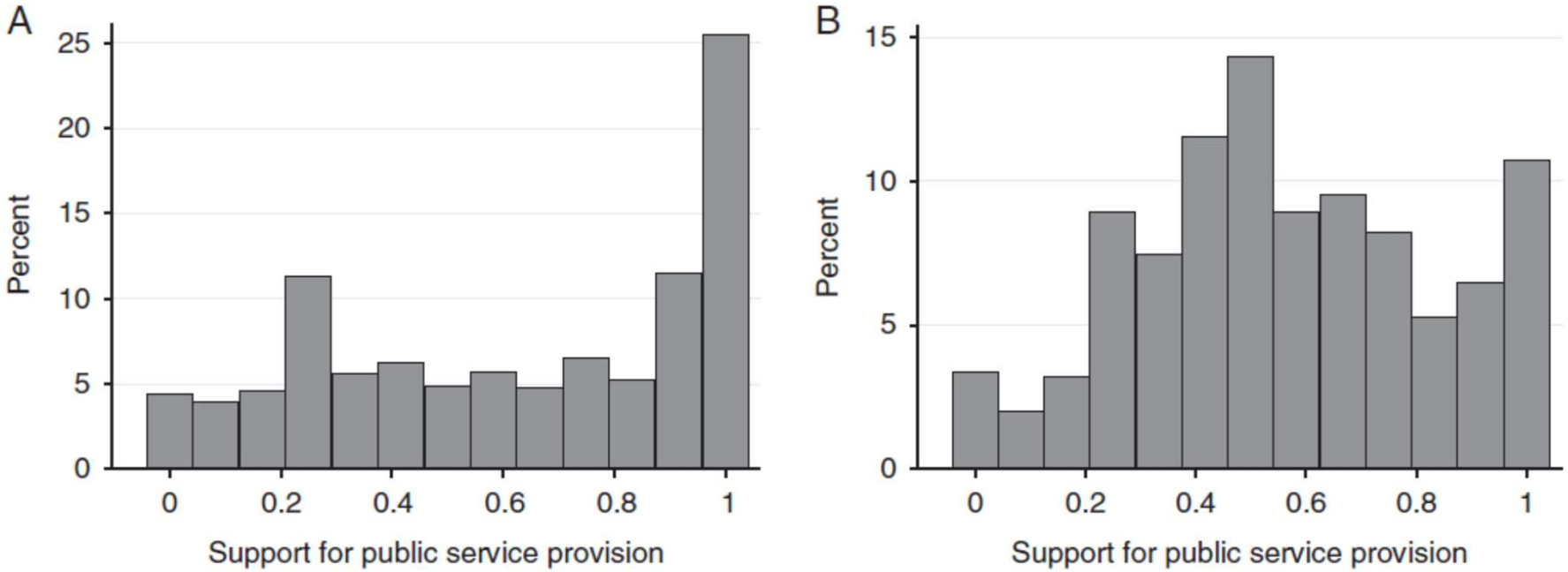


Fig. 1. Distribution of pro public sector attitudes
Note: the x-axis runs from 0 to 1, with 1 denoting the maximum support for public service provision. (A) Politician sample; (B) Citizen sample.

An experiment on Danish politicians and citizens: the question

- Participants are given information on the performance of 2 providers of public services (schools, physical rehabilitation and road maintanance)

EXPLICIT CONDITION

in all cases, it is pretty clear that a 47 – 9 performance is better than a 107-32 performance

ANONYMOUS CONDITION

A (Treatment 1)

	Number of satisfied parents	Number of dissatisfied parents
Public school	107	32
Private school	47	9

B (Treatment 2)

	Number of satisfied parents	Number of dissatisfied parents
Public school	47	9
Private school	107	32

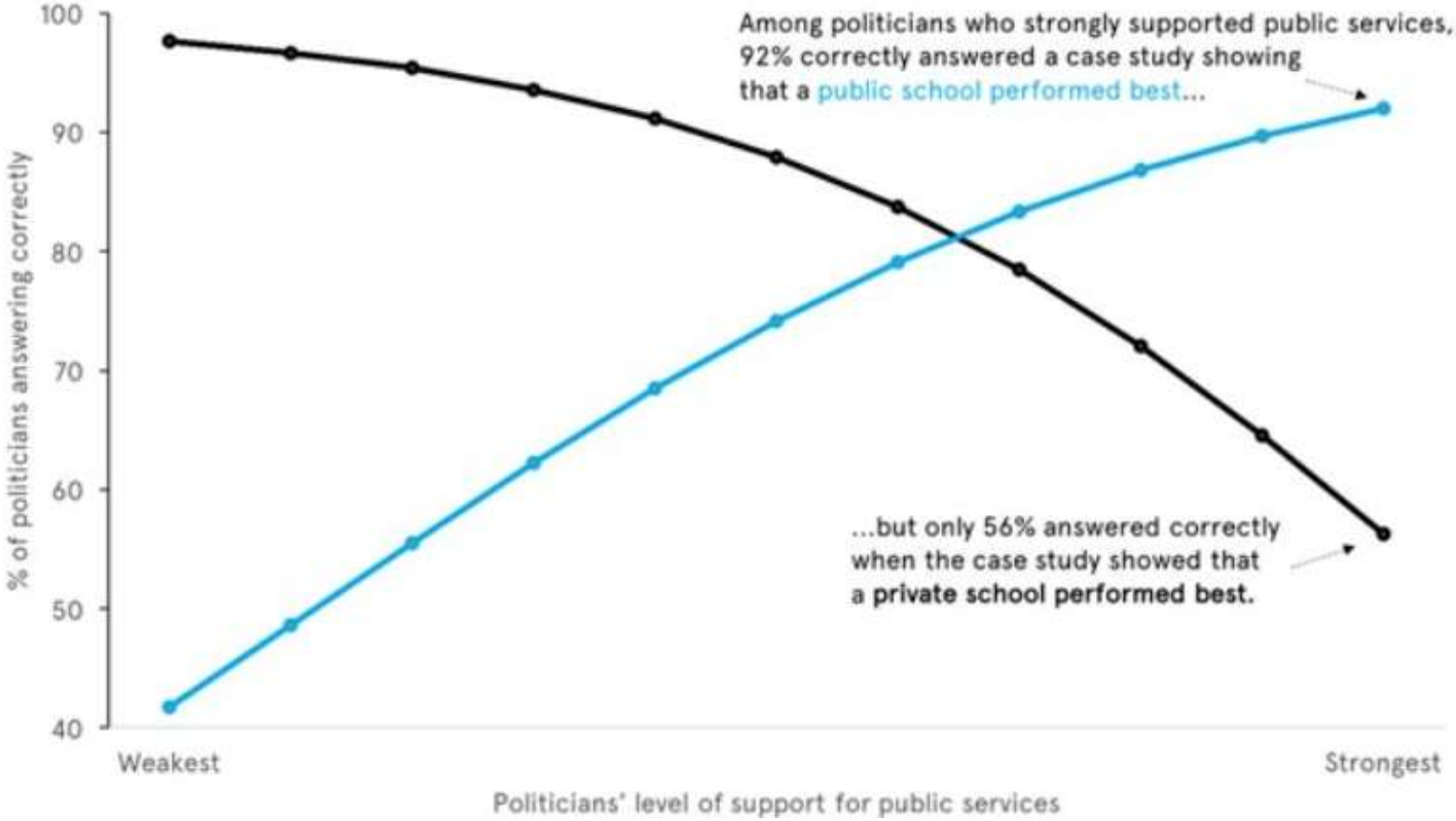
C (Placebo 1)

	Number of satisfied parents	Number of dissatisfied parents
School A	107	32
School B	47	9

D (Placebo 2)

	Number of satisfied parents	Number of dissatisfied parents
School A	47	9
School B	107	32

RESULTS



- People that received explicit information consistent with their ideology, interpret correctly data in a range that goes between 84% to 98% of cases
- People that received explicit information that is NOT consistent with their ideology, interpret correctly data in a range that goes between 38% to 61% of cases
- ADDING MORE OBJECTIVE INFORMATION DID NOT «IMPROVE» THE RESULTS – on the contrary, sometimes it seems to emphasize even more the ideology

confirmation bias and competence

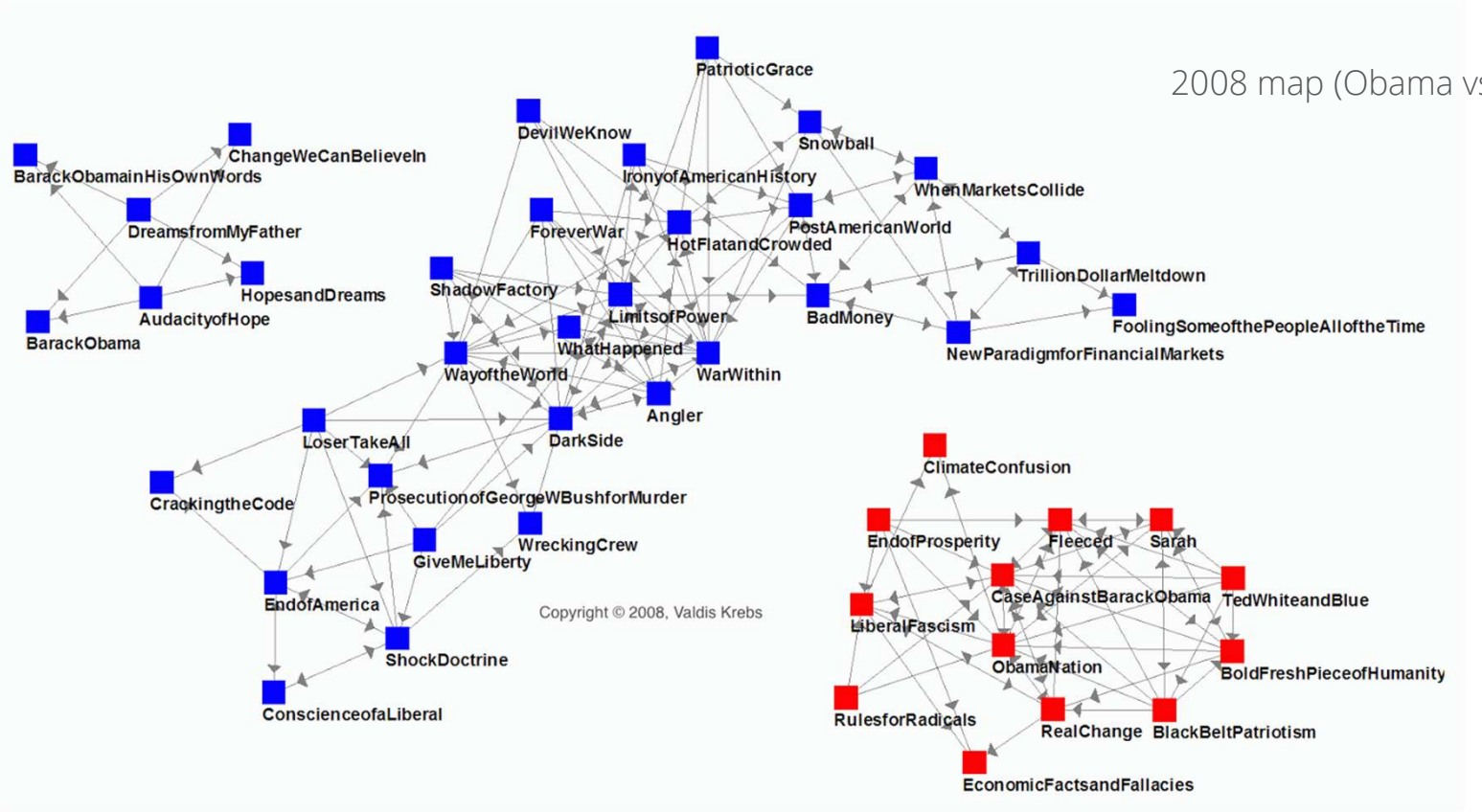
- An experiment with 2878 of the World Bank and Uk Department for International Development employees
- they were given objective data about the effectiveness of a dermatological cream (something far from their specific competences)
  - 65% expressed evaluations consistent with the objective data
- Then, they were given objective information about the effectiveness of minimum wage policies
  - just 45% expressed evaluations consistent with the objective data, because the majority of them had a strong preference for redistributive policies, so they "rationalized" (motivated reasoning) the data so to reconcile their own judgement / preferences with the data

Competence, expertise, even intelligence do not necessarily protect against confirmation bias

  - in fact, people with such qualities may find it easier to find clever ways to peform "motivated reasoning"

CONFIRMATION BIAS and THE POLITICAL DISCOURSE

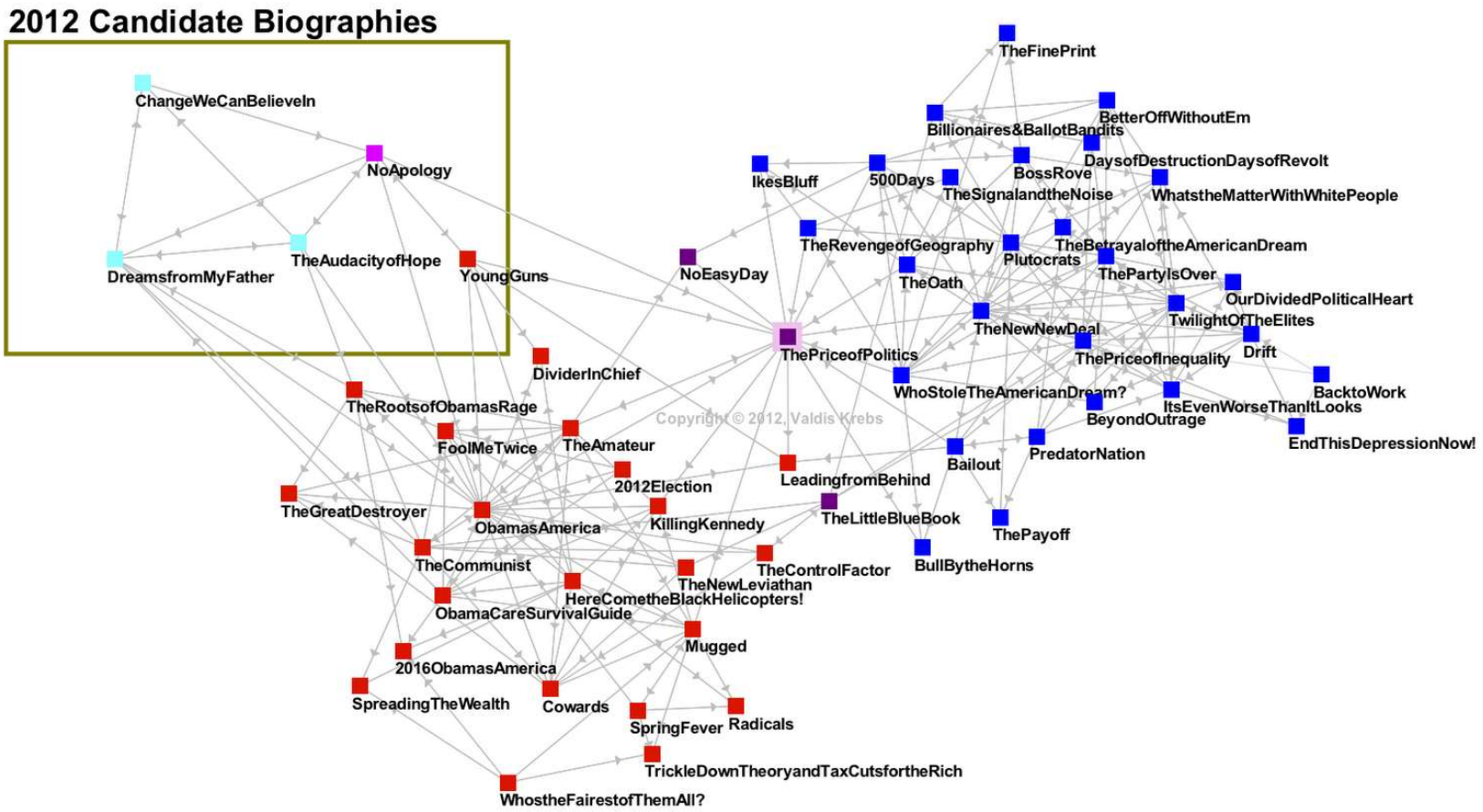
- Valdis Krebs studied for many years the patterns of book buyers at Amazon
- the map shows that people leaning democrat (blue) are only interested in books that support their view, and the same is true for conservatives (red)
- there is very little or no overlap between the two
- we look for information that support our ideology and political belief
- we are not interested in disconfirmatory ideas and information



CONFIRMATION BIAS and THE POLITICAL DISCOURSE

- very similar pattern in 2012, with some esception
- a notable exception: «The price of politics» a book by Bob Woodward, a very reputable journalist, usually considered a «centrist»

2012 map (Obama vs Romney election)



EXAMPLES IN HRM (1)

Can you think of situations or examples that may illustrate the problem of confirmation bias in HR Management?

SELECTION:

Situation: An HR manager reads a candidate's resume and notices he/she graduated from a prestigious university. This initial positive impression may lead the HR manager to subconsciously favor this candidate throughout the interview process, looking for positive traits that confirm the assumption about the candidate's competence due to his / her education.

Confirmation Bias: The manager might rationalize minor errors from this candidate in many ways (for example, as just "nervousness"), while exaggerating the relevance of similar mistakes by candidates from less prestigious institutions. This can result in biased hiring decisions based on preconceived notions rather than objective assessments

This is closely related to the "HALO EFFECT"

EXAMPLES IN HRM (2)

PERFORMANCE REVIEW

Situation: An employee received high ratings in the previous performance review. During the next evaluation, the manager might look for behaviors and accomplishments that confirm their positive impression, overlooking recent mistakes or areas where the employee needs development.

Confirmation Bias: This bias leads the manager to amplify positive aspects of the employee's performance to confirm prior beliefs, potentially missing out on critical feedback needed for growth. Conversely, if a manager had a negative impression, they might ignore improvements.

EXAMPLES IN HRM (3)

TRAINING AND DEVELOPMENT

Situation: An HR manager believes that employees who are younger are better at adapting to new technology. When assigning advanced digital skills training resources, they primarily select younger team members, while excluding older employees without examining individual skill levels, needs or potential.

Confirmation Bias: This can result in unfair training opportunities, where assumptions about age influence the allocation of training resources, potentially causing skill gaps among older employees who were equally capable of benefiting from the training.

OTHER EXAMPLES IN MANAGEMENT

- IN PROJECT MANAGAMENT / PLANNING
  - overconfidence in the ability to achieve positive outcomes in relation to medium-long term projects may result in:
    - too many plans / projects proposed (or, too ambitious in relation to actual capabilities)
    - too many plans / projects thatdo not achieve the expected outcomes

- LEADERSHIP IN TEAMS and GROUP DECISION MAKING
  - leaders that are too «optimistic» decrease significantly the quality of group decisions, especially when groups face challenging / creative problems
  - group leaders should work as «antidotes» to group overconfidence, promote critical thinking, exploring multiple alternatives and underestimated risks etc

AVAILABILITY BIAS

how do we determine how much «weight» to give to the information we have?

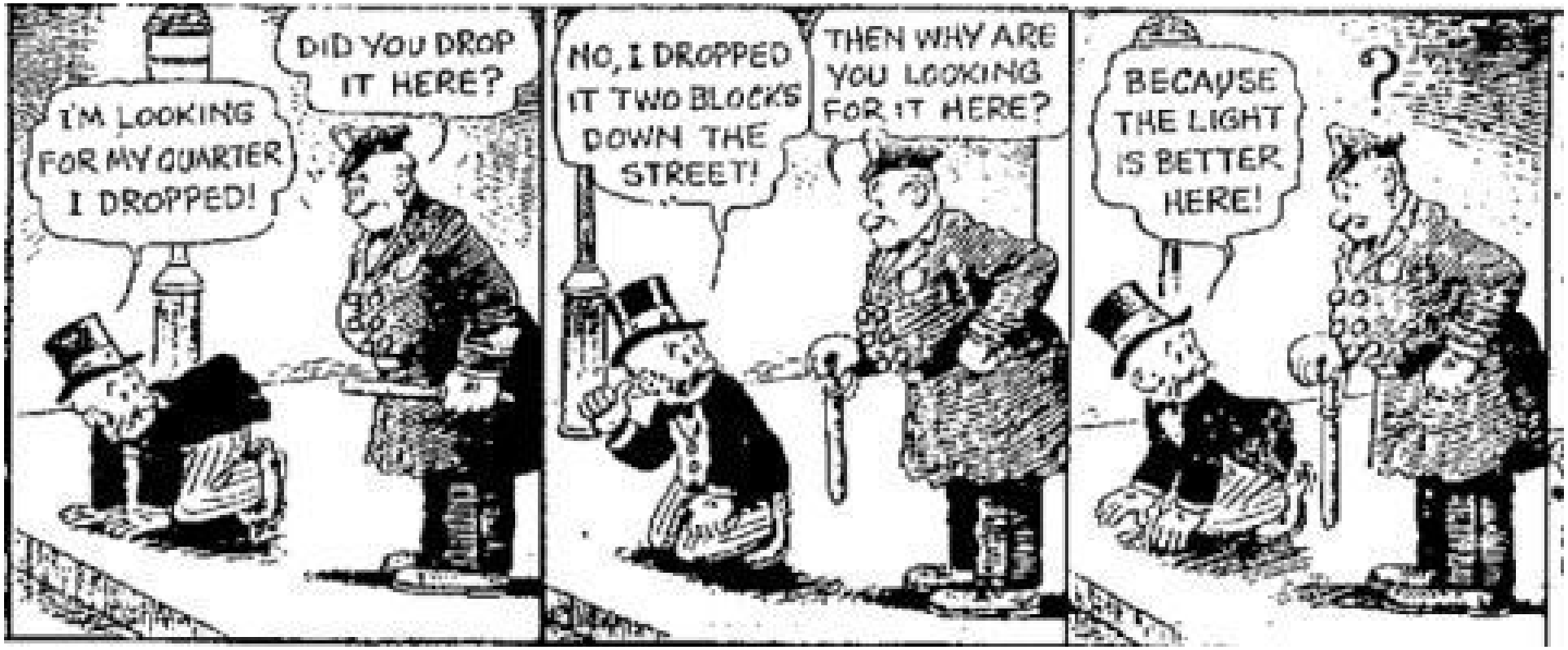
we tend to rely on information which is easily available rather than relevant

WIDESPREAD, REPEATED

EASY TO FIND

RECENT

VIVID, PERSONAL



- in the US, the money spent to fight terrorism is about 25 times the money spent to fight cancer
- and yet, cancer kills 2000 times as many people as terrorism

EXAMPLES IN HRM

Can you think of situations or examples that may illustrate the problem of availability bias in HR Management?

PERFORMANCE REVIEWS and/or CAREER PROMOTIONS

During performance reviews, managers may focus more on recent events rather than considering an employee's performance over the entire review period.

Or, managers may focus too much on performance that resulted in projects that are particularly close to their own area of expertise so that it is easier for them to interpret the performance data, while ignoring or under-estimating the performance in other projects

Or, managers may focus too much on performance that resulted from activities for which a certain event had a particular personal significance for them

EXAMPLES IN HRM (2)

DIVERSITY and INCLUSION

When considering candidates for a job or promotion, managers might unconsciously select those who resemble the existing workforce because they are more familiar with that kind of profile. It is easier for them to collect and understand / evaluate information about such candidates, so they might overestimate their value. This can limit the diversity of the team, reinforcing homogeneous decision-making and missing out on the benefits of a more diverse workforce.

This situation may play also in a negative way. If the information about candidates with a familiar profile has a negative connotation, the bias towards may become negative instead of positive.

Another example is group sterotypes. In this case, the “familiarity” is not about the profile of the current workforce, but with the believed characteristic of people from certain groups.

HOW DO WE AVOID / REDUCE ALL THESE BIASES RELATED TO COLLECTING AND EVALUATING INFORMATION?

- utilize a variety of information sources
  - variety may help you to find disconfirmatory information
  - create diverse teams, where different ideas are more liklely to emerge
  - but be careful about the reliability of the sources
- ask yourself disconfirmatory questions
  - what kind of evidence could make you change my mind?
- utilize a growth mind-set / attitude
  - being proven wrong is not a sign of incompetence, but an opportunity to learn an improve
  - look for feedback, create systematic feedback-giving sessions and initiatives
  - be curious, be suspicious of what is superficially taken for granted
- explicitely look for not easily available information
  - look for counter-examples, do not trust ideas just becase are easily available to you, often repeated, or because they are relatable / connected to personal stories
- make decisions based on reliable data-driven practices
  - beware of the difference between «averages» and «exceptions»
  - test your own confidence, and evaluate your improvements