

What is a
cognitive bias?

Gender
differences vs
stereotypes

The I.A.T.

Link between
cognitive biases and
gender inequalities

BIAS



THE ROLE OF
COGNITIVE BIASES
IN
GENDER INEQUALITIES



WHAT IS A COGNITIVE BIAS?

A cognitive bias [1] is a mental shortcut used by the brain in its reflection mechanism. It corresponds to the fast processing of information we detect in parallel with information we already know. They enable a nearly immediate analysis of the situation in accordance with our outlook of the world. Thus, it is by trying to be more efficient that our brain becomes the most biased.

Therefore, cognitive biases respect our worldview: they tend towards repeating and bringing it to life.

For example, the more we are used to a situation or an association of ideas, the more we are likely to reproduce it. Hence, if we have been used to seeing women taking care of children, we will tend to recreate that. For women, by taking care of children, for men, by letting women take care of them. That's why cognitive biases studies are interesting in the gender inequalities examination.

Cognitive biases are also based on the current context, on what we are doing, seeing, and living at the instant, or right before. They are malleable through time, it is therefore already a giant leap to be aware of them. We must remember that cognitive biases affect everyone, whether positives or negatives, for us or others.

We do not always say what we have in mind [3].

Firstly because we do not want to, we are embarrassed, to tell the truth, we are adapting our speech to our interlocutor.

Then, because we can't. We are not even conscious of certain things.

The difference being, in the first case we willingly hide something and in the second one, we do not know we hide something. Cognitive biases rely on the second case.

Similarly, the cognitive bias is distinguishable from the mistake, the first one is systematic, the second one is unpredictable.

Cognitive biases are often based on stereotypes.

According to the Cambridge dictionary [7] a stereotype is "a set idea people have about what someone or something is like, especially an idea that is wrong".

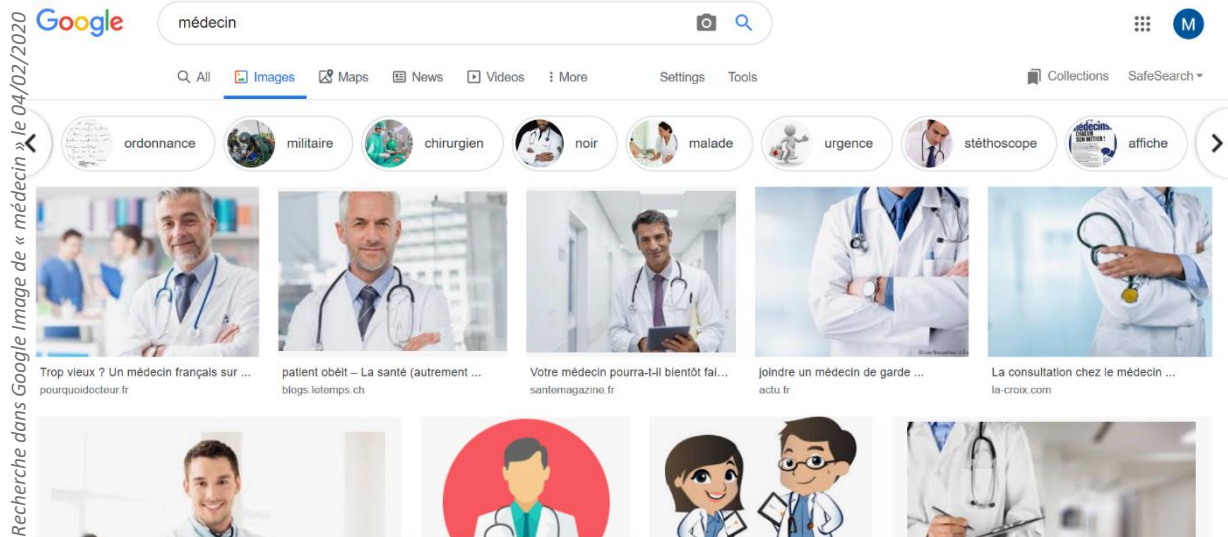
Moreover, as we saw, the faster our brain processes information, the more cognitive biases are present. Nevertheless, stereotypes allow our brain to associate instantly two elements, hence ensuring quickness.

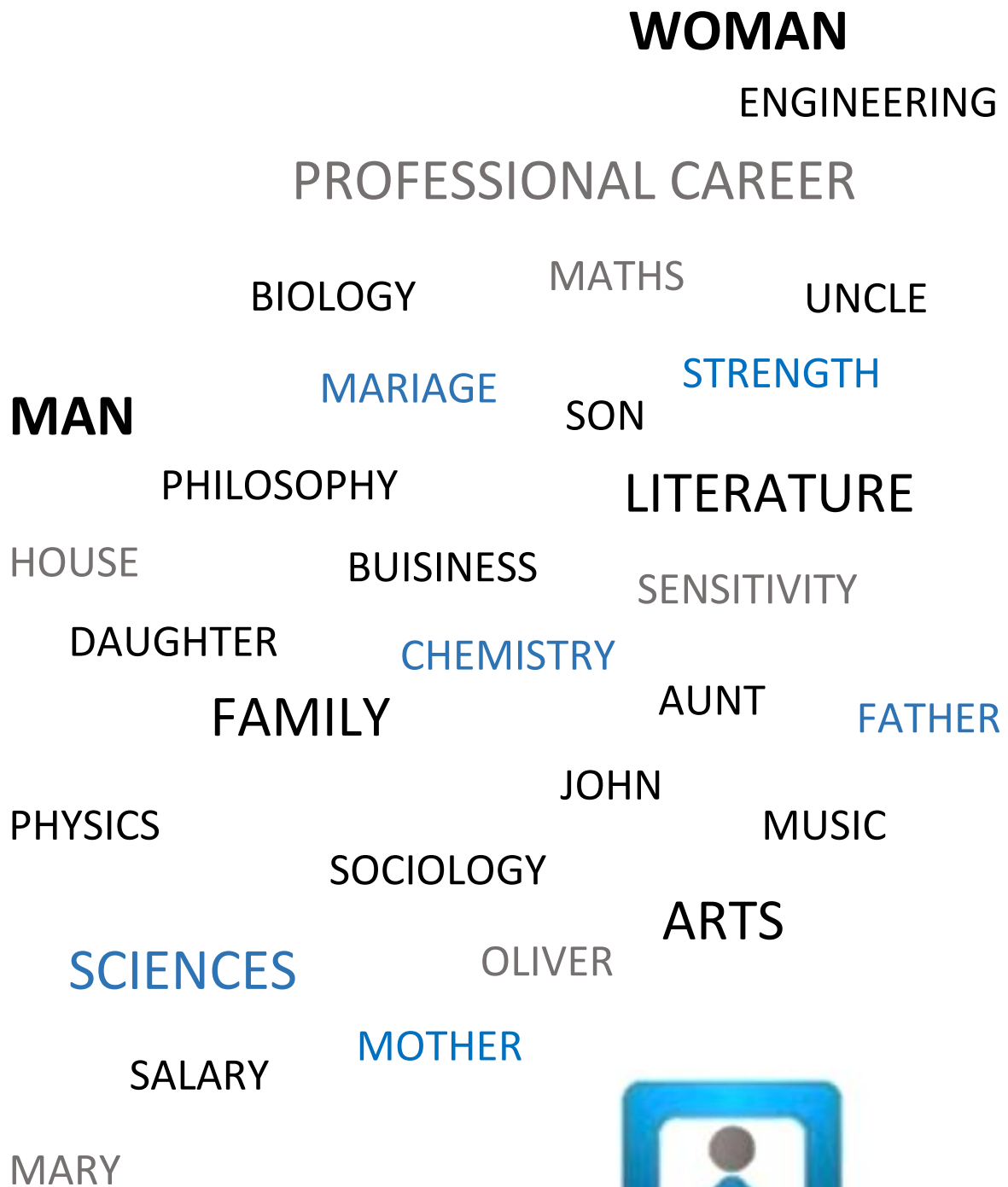
For example, if we suppose I have the stereotype that, for sciences, men are a better fit than women, and I am asked to

spontaneously picture a scientist, my brain will be more inclined to visualise a man. Yet, I know very well there are women scientists, however, I will systematically and preferentially associate science with men: this is a cognitive bias. This puts the figures into perspective, for example, the percentage of female students in engineering is often around 20-25%. But among doctors, although half of them are

women - and this percentage is increasing every year - a Google image search for "doctor" shows that only 13 of the first 33 images contain at least one woman.

Incidentally, some studies show that 99% of Northern American elementary school children drew a man when they were asked to draw a scientist [10].





Project Implicit®

Understanding Unconscious

THE IMPLICIT ASSOCIATION TEST?

The Implicit Association Test [3] aims to measure unconscious associations between mental representations a person recalls. It is therefore a way of highlighting implicit and cognitive biases.

The test tackles different sociological factors: ethnic origin, gender, distinctive particularity, religion... In this article, we will mainly focus on gender factors in society.

Naturally, as any test, this one has its limits, and it is difficult to give meaning to isolated results. Especially as the results can change from one time to the next for one person. It once again demonstrates the difficulty of the concept of cognitive biases.

The test consists of quickly classifying words into the categories on the right and the left of the screen. One key is for putting the word on the right, the other one on the left. Categories are then combined in different ways, such as:

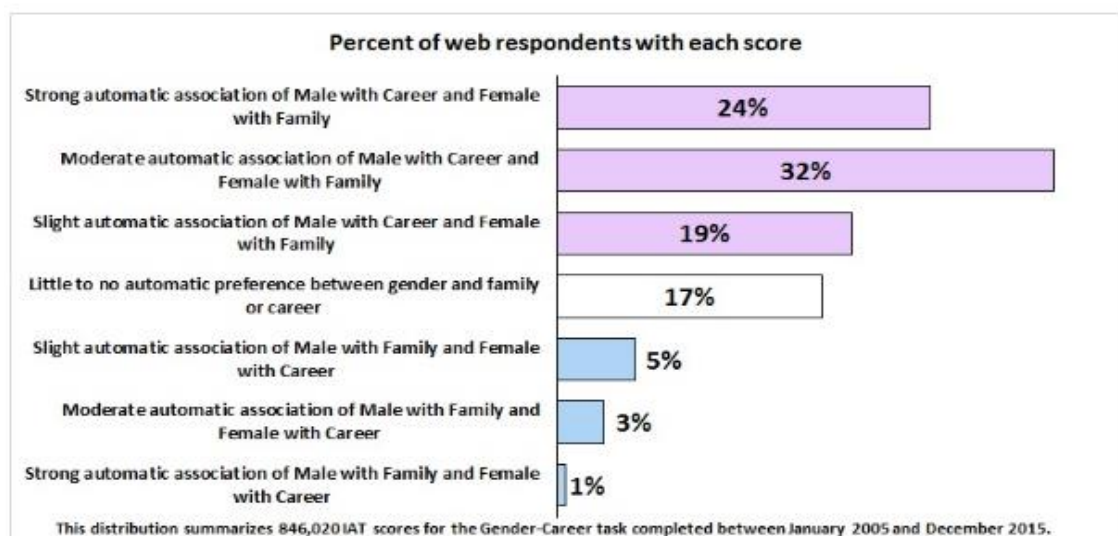
Women/Family and Men/Career,
Women/Career and Men/Family.

The main idea of the test is that it is easier (therefore quicker) to answer when unconsciously linked categories share the same answer button. This test also considers the response time, which is relevant when talking about cognitive biases. Cognitive biases can be schematised as mental shortcuts used by our brain for the sake of efficiency. They are therefore more present as answers are expected quickly.

Results:

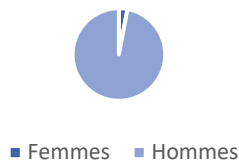
The average of a population is more indicative than isolated people results.

74% of people have a bias favouring women for family and men for professional careers. Meaning that most people classify more easily family-related words with female names, and professional related words with male names. The following graph displays the results and is based on 846 020 tests made between 2005 and 2015.

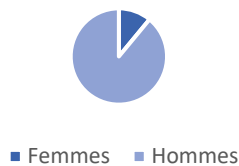


These results need to be looked at against the averages:

Scientific Nobel Prizes



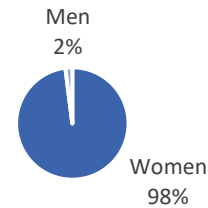
Senior officials in Europe



The figures are numerous and often exhibit the obvious inequalities between men and women. We will cite some of them as an example. In Europe, 89% of senior officials are men (meaning 11% are women). 3% of scientific Nobel Prizes were attributed to women. This figure demonstrates an important disparity.

That comes as no surprise given the percentage mentioned previously added to the historical stereotypes about genders.

housewives vs househusbands



Mental shortcuts used by the brain due to cognitive biases are in a way justified: on average, in current society, the brain creates associations that are statistically more likely to be confirmed than refuted. Nonetheless, we must keep in mind that these partitions of society are mostly due to social constructs, and cognitive biases can be a vector favouring gender inequality. Thereby, cognitive biases can be seen as far more negatively.

The IAT hence shines a light on implicit mental associations. There are husbands.

GENDER DIFFERENCES OR STEREOTYPES?

Why are stereotypes reductive? How can they have negative consequences? Firstly, let's take an example of a commonly held statement [6].

"On average men are more aggressive than women."

Some will reply that it is the truth, some will disapprove and would even be mad or frustrated. To what extent both reactions are justified?

The answer "it is so true" is justified by averages, and rests upon the notion of statistical differences between genders. On average, statistics show that men are more aggressive than women. Doubtlessly, we can discuss how to obtain such results, but that is not the current topic.

The negative reply is justified when the statement is seen as a stereotype, and that is indeed true in certain cases.

Firstly, if the assertion mirrors the idea that all men and all women correspond to the description, without accepting that a part of each group does not fit this binary description of society. We must not forget that there is a slight difference between accepting that a part is out of the norm and admitting exceptions exist. Therefore, if the idea is "all men prove correct this attribute and all women this other attribute, except for some exceptions" then it is, in fact, a stereotype. By observing people around us, we can often notice that a portion of the population does not fit into any binary division of society. There are differences from

a man to another and from a woman to another. Consequently, some individuals do not correspond to the average of their gender, and these persons are not that uncommon!

Secondly, expecting men and women to act and to be in accordance with their gender. For example, orienting, at even standards, a girl towards humanities and a boy towards sciences. That leads to the projection of their parents, teachers, and any people around them orienting them, instead of their own taste. This has for consequence to confirm and repeat the statistics. To an extent, we can demonstrate an unequal repartition between sectors, which is not inherent to gender categories but definitely to the social construction, repeated via cognitive biases and stereotypes.

Finally, making suppositions on someone based on their gender is a matter of stereotype. Such as a male nurse called "doctor" by his patients. In fact, there are many more female nurses, but it does not justify drawing conclusions on someone in a stereotyped approach. Through this example, patients project their worldview on a specific individual, and the statement can appear unfair to the one targeted.

A common sentence like this one can therefore be seen from two drastically different angles. The assertion in question might be missing a precision or a contextualisation to be used outside the stereotype. For example: "on average, statistics show that men are more aggressive than women. However, it is a tendency, not a general rule."

ARE GENDER INEQUALITIES FED BY COGNITIVE BIASES?

Let's start with imagining a short story [9]:

"The words my doctor told me this morning were still running through my mind when I had to swerve to avoid a crash. A reckless driver had cut two lines at a roundabout just in front of me. Still sweating, I dropped off my weeping child to the day nursery employees. It was an agitated morning."

Now, let's take time to analyse how we pictured the characters of this story.



Was the doctor a man or a woman?

Was the reckless driver a man or a woman?

Was the day nursery employees men or women?

Was the narrator a man or a woman?

We can note that the story was told in a way that prevented from differentiating the genders.

Most people imagine the doctor and the reckless driver as men, and the crèche employees and the narrator as women. We bring here cognitive biases to light. For most people, imagination makes us systematically choose a gender for story characters, even without any clue. It is in fact a distortion of thinking.

Let's come back to the representation of the day nursery employees, pictured by most as female individuals.

On the one hand, these biases depict society how it genuinely is. Our thought corresponds to the reality: a vast majority of nannies -or nursery assistants- are women. For that matter, in languages like French or Spanish, which are using gender-orientated grammar, these words can appear odd if you switch their gender.

On the other hand, since this cognitive bias exists, a man is less likely to envisage becoming a nursery assistant. That is hence linked with the fact that there are many more women than men practicing this occupation, but also with the fact that a parent will be more likely to entrust their children to a woman. It demonstrates the cognitive bias maintains this social distortion on both sides of supply and demand.

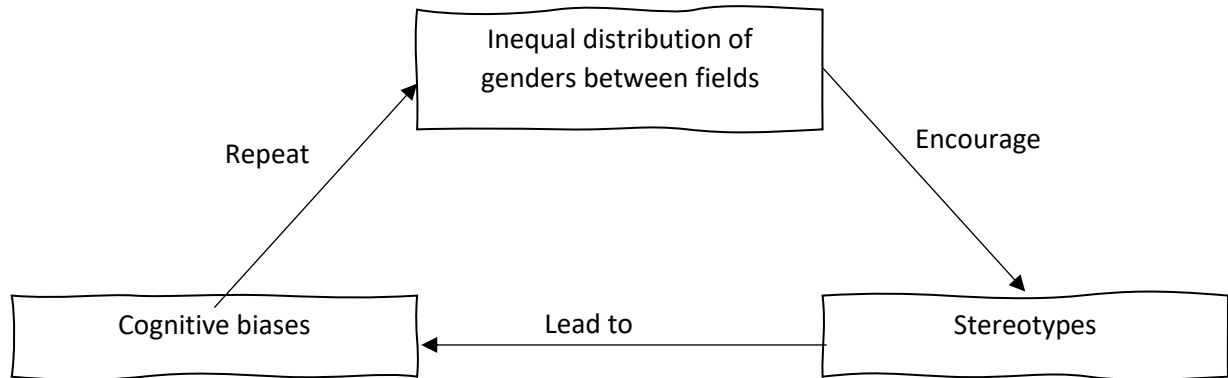
Through this example, we emphasized two essential components of cognitive biases in gender inequalities.

-They reflect gender inequalities

-They further their repetition by splitting society into two distinct categories

These two components articulate themselves in a precise way, as a self-maintaining loop [11].

The average proves an unequal repartition of genders between sectors. The average favours stereotypes. Stereotypes give rise to cognitive biases. Cognitive biases tend to repeat the average and even accentuate it.



CONCLUSION

Cognitive biases are present in many areas, sometimes useful, sometimes used, sometimes manipulative, or simply unknown. As they are unconscious, we often experience them more than we think. Cognitive biases are therefore subjected to the gendered view of society that helps us to partition any group of individuals quickly. The Implicit Association Test highlights this. Cognitive biases rest upon stereotypes and there are many gender stereotypes. Averages demonstrate differences between genders in the way our societies are constructed but do not justify stereotypes. The latter are not constructive and are most importantly testament to mental shortcuts, which is illustrated in their often-short formulation.

Cognitive biases tend to repeat gender inequalities by helping to make the averages become the norm, and therefore it is essential to be aware of them. Here, we see a sort of vicious circle where each gender tends to reproduce the majority behaviour of the society in which it grew up and lives.

Word count (excluding references, legends, and illustrations): 1996. This written work is part of a larger essay.



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