

Confirmation Bias and How It Limits Informed Decision Making

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If we only surround ourselves with experiences and information that match our beliefs, we will never fully understand another person's viewpoint. *Confirmation bias* is the tendency to interpret new evidence as affirming of one's existing beliefs or theories. In an article discussing how to avoid the subconscious mistakes our brain makes on a daily basis, Cooper (2002) believes, "we subconsciously begin to ignore or dismiss anything that threatens our world views if we only surround ourselves with experiences and information that confirm what we already think." Confirmation bias has the potential to limit ones' view which gives less consideration to other possibilities. It directly affects our perception, memory, and behavior by limiting our understanding of the "total picture". This may lead to poor and/or underinformed decision-making. If you continually only experience and pay attention to information that confirms your belief systems, (versus considering other viewpoints and information that "challenges" your belief system) you are falling into the confirmation bias trap.

In the several studies researched around confirmation bias, perhaps the most notable recent support has been during political campaign season, which has been referred to as "confirmation bias season" by Van Der Borne (2015). During this time, people generally cultivate knowledge through newspaper articles, websites, social media, and television that only support their existing opinions and belief system. An example of a person with "liberal" confirmation bias is one that would only read articles from the Huffington Post, Occupy Democrats, and watch MSNBC. Consequently, they take these sources into consideration when making decisions that support their viewpoint. A "conservative" with confirmation bias for example might only view Fox News, Breitbart or The Hill to strengthen their existing opinions and decisions. These resources lean heavily towards their respective point of view, only

confirming in most cases what they already believe. People are not comfortable when they receive information and opinions that challenge their belief system. They choose to ignore experiences and information that challenge their way of thinking.

While researching the idea that confirmation bias limits our point of view, there are many scientific studies and research that support this reasoning. In this paper, I will present different experiments in which scientists worked with subjects to create situations in which confirmation bias most likely presented itself. In most of the situations, the subject(s) were given information in different ways, both pushed and pulled, and then asked to make an informed decision. You will see in these experiments that, in most cases, confirmation bias limited their viewpoint, and subsequently they were not able to make informed rational decisions.

Confirmation Bias and Information Tools

Many studies I reviewed on confirmation bias present how important the Internet and other information tools influenced how participants chose to research and have their information presented to them. The Internet was also a valuable tool in these studies, tracking how these participants selected their sources of information when making decisions.

In an experiment by Taber and Lodge (2006), the basis of this experiment was that “all reasoning is motivated”. Their study showed confirmation bias by proving that citizens are biased-information processors. This experiment explored how citizens assessed arguments on affirmative action and gun control. It found there was confirmation bias when the participants were free to select the source of the arguments they read.

The result of the experiment showed that citizens will accommodate supporting facts while dismissing facts that challenge their prior belief. The participants were asked to read pro and con arguments about affirmative action and gun control. Participants would be typically be

unable to control their preconceptions, even when encouraged to be objective. This experiment also proved that when free to choose what information they exposed themselves to, people generally seek out “confirming” over “disconfirming” arguments (confirmation bias). In both experiments, researchers tested the hypothesis that, when given a chance to pick and choose what information to review on their own, people will actively seek out sources that are similar to their beliefs and nonthreatening. When allowed to choose their own information source, respondents selected arguments from like-minded groups 70-75% of the time. For example, on average, opponents of stricter gun control sought out six arguments of the NRA or the Republican Party and only two arguments from the opposition. The participants in the study tried to be fair, but they were not successful in being open-minded.

The study showed that people are often unable to vacate their prior attitudes and beliefs. A suggested conclusion from this study is that the average citizen would appear to be both cognitively and motivationally incapable of rational behavior in a democracy if left to their own information devices. Even when given new information to make decisions, information needs to be independent from their existing views or it leads to underinformed decision-making.

Another online experiment by Knoblock-Westerwick and Kleinman (2012) was related to media coverage prior to the 2008 presidential election involving an online experiment with 205 participants. A hypothesis on confirmation bias driving selective exposure prior to an election was tested; it examined whether confirmation bias governs exposure to political messages directly prior to a presidential election. Participants whose party was favored to win the election showed a significant confirmation bias.

It has been argued for many years that people selectively expose themselves to messages that are in line with prior beliefs and avoid beliefs or views different from their own. When

favoring content that is in line with one's own beliefs (or is "like-minded") may lead to fragmented, unintelligent, and politically intolerant ideas and perceptions. The media, particularly the Internet, provides the audience with a tool to select or avoid content as an information seeker, which provides opportunity for confirmation-biased selective exposure.

The "pull" and "search capability" of the Internet allows individuals to choose desired information while ignoring the rest. The Internet can have an isolating effect if users are motivated by confirmation bias, as it allows individuals to avoid content that contains differing views and beliefs. High levels of information seeking have played a major role in exposure to messages that challenged existing views. Confirmation bias may be more apparent among those with decreased access or exposure to Internet news because traditional media users may habitually turn to highly partial channels (i.e. Fox News) or subscribe to a newspaper with clear political leaning. This study showed that individuals with low online news use may be less at ease with messages that challenge their views than regular online news users. Therefore, these individuals were likely motivated by a confirmation bias and were not as concerned with other information seeking sources and tools.

Lee, J.K., Choi, J., Kim, C., and Kim, Y. (2014) discuss the concept that individuals are more likely to expose themselves to like-minded points of view while avoiding those that have different views, leading them to form more extreme opinions in the direction of their original bias. This is largely due to the nature of how the Internet functions, as there are more choices in media sources and more effective filtering tools. The Internet enables individuals to experience more diverse views and positions on political matters. Some contend that individuals will be more selectively exposed to like-minded information, which is compatible with their existing belief system, due to increased availability and selectivity of information. Others contend that

individuals have more chances to experience diverse information and viewpoints on the Internet. Their study showed if individuals are increasingly exposed to only like-minded information sources, it is likely that the society will be more split in their views and form several, extremely different belief systems. The speed and segmenting of how fast like-minded information is fed and received could be a threat to our society. We, as a population, will have less common ground and become less tolerant to opposing opinions. When on similar ground, we often expand each other's points of view with culturally diverse perspectives. Research also has shown that people tend to discuss politics and public affairs with like-minded people and that their most frequent interactions and discussions happen with like-minded individuals. It is likely that people who frequently talk about politics would process information more selectively and have discussions with like-minded people. This leads us to consider individuals would have more diverse beliefs due to confirmation bias, and the way an individual selects to engage in biased information processing.

Confirmation Bias and Politics

Confirmation bias presents itself in the political election season on a consistent basis. As I noted earlier, the political election season has been nicknamed "confirmation bias season" by Van Der Borne (2015). Much research has been studied that during this time people generally cultivate knowledge through newspaper articles, websites, social media, and television that only support their existing opinions and belief system.

In a computer-based experiment studying confirmation bias, Meffert, Chung, Joiner, Waks, and Garst (2006), created a study that included approximately 230 undergraduate students (both male and female) ranging in age from 18-42 years. All participants were asked to play the

role of a voter during an election for a congressional seat in Illinois. They were instructed to only use information available to them through the study to make an informed decision to cast a vote.

In the study, participants were to only use a computer that tracked the information selection and reading behavior of the participants. After reading a short biographical fact sheet and a personal statement by each candidate, participants had to rate the candidates and identify who they preferred. During the experiment, participants were presented with a series of quickly changing headlines on 10 screens, representing the last 10 “weeks” of the fake campaign. Participants were instructed that to learn more about the candidates, they could choose any headline that “interests you” or is “most important to you.” When a participant clicked on a headline, the corresponding article appeared in a window partially covering the “front page” of the newspaper. Participants could read as many articles as they wanted, but as they were reading, the headlines on the front page continued to change every 25 seconds. All participants were exposed to the same 40 headlines, but the order, both across the 10 screens and within each screen, was randomized.

Confirmation bias, presented itself during the study in the recall stage, after the participants were given all the information to make an informed decision. The recall stage is where the participants were asked which candidate they would cast a vote for and why. This suggested that voters engage in motivated processing by transforming negative political information into positive attitudes, and that their memory is constructed to support an existing candidate preference. Participants recalled more information in agreement with their candidate preference despite the exposure to negative information at the selection stage. This suggests that people actively recall information to support their preferences. The assumption was made that

the motivated information processing of participants is driven by initial candidate preferences. They lead their decision making with their initial biased candidate preference.

The final study I reviewed looked at brain activity during an MRI while the participants were being fed information where they needed to make an informed decision. Shermer (2006), reviewed a study by Psychologist Drew Westen which he conducted at Emory University. The study was performed before the 2004 presidential election. Fifteen male Republicans, and fifteen male Democrats had an MRI brain scan as part of the study. The men were given information where both Bush and Kerry (the presidential candidates) contradicted themselves. In the study after evaluating the information, the Republican participants were as critical of Kerry as Democratic participants were of Bush, and they both felt their own candidates were not in the wrong. The study showed that the part of the brain associated with reasoning at the time had no activity. The majority of activity occurred within the parts of the brain where emotions, conflict, and judgements are processed. At the end, when the participants made a decision that made them “emotionally comfortable”, the most active part of the brain was related to reward and pleasure. This study showed confirmation bias was present and proved that during decision-making around a highly sensitive political topic, the parts of the brain connected to reasoning were not active, and those connected to emotion and resolving conflict were highly active.

The outcome of the study is significant when one considers the vast number of jobs that have decision-making responsibilities in which to fairly and thoroughly assess all information without confirmation bias. An example could be an engineer fairly evaluating data on a project against a critical deadline, an executive evaluating financial statements on their company, or a jury examining evidence in a trial to make a decision about a defendant. It is critically important for these professionals to consider all information presented, and make informed decisions

without previous bias. We are only human, and confirmation bias sways our opinion more often than not due to our belief system.

Conclusion

These studies proved, predominantly, that when confirmation bias is a factor in decision making, it directly affects our perception, memory, and behavior by limiting our understanding of the “total picture”. In almost every study, confirmation bias leads to poor and/or underinformed decision making.

In experiments where the subjects were given information in different ways that were both pushed and pulled, they proved that most often they chose information that supported their previous beliefs or views. In those instances, they were not able to make informed, rational decisions. One’s memory is constructed to support an existing belief versus opening their mind to other views and choices. In most cases, the subjects lead their decision making with their initial biased preference.

A recent example of this occurring in today’s society (in which people are being challenged not to have confirmation bias) is with the media covering the new White House Administration. There have been many occurrences of the media being disciplined, and even terminated from employment, for expressing their personal views on various political topics, on social media. In Kalamazoo, Michigan, an executive producer was fired for what she called a “harmless Tweet” regarding the recently appointed Secretary of Education (Eck, 2017). Randy Lubratich wrote, “The powers that be have decided that that because of my political leanings I cannot be unbiased in my job.” Her manager stated that their news agency must not report, what he called, “one-sided political coverage” and the perception of “liberal bias”. The election

resulted in many emotional and strong reactions expressed by both sides. This has conceivably led to personal bias “slipping out” in unintended ways. For those professions in which neutrality is mandated, unintended consequences may occur if an emotionally charged bias is expressed. It is interesting that even the highest law of the United States may be perceived as having confirmation bias. Supreme Court judges must uphold the law to the highest standard. However, when the President appoints Supreme Court judges into place, the political system automatically is labeled as leaning either “left or right” depending on one’s bias. Political constituents categorize the judges according to their bias, most often defying rational logic (and documented court rulings). The idea that we want certain judges on the court because they tend to rule a certain way or continue to rule with their desired decision-making, is, in fact, confirmation bias. In their position, judges must balance all information equally, and try not make decisions around their own belief system. They should as judges, make informed decisions while weighing all facts of the case equally. Ultimately, decisions are made in which the public may construe as “liberal” or “conservative”. One must ask is that label because of the bias of the Supreme Court Justice or of the public that interprets the ruling? A personal real-life example of confirmation bias is that I lead with pre-existing beliefs while researching and writing this paper. When selecting this topic, I had a pre-existing belief that in today’s world with the social media play in politics, people are feeding themselves information that they want confirmed with what they already believe. When researching the argument for this paper, I selected the sites and information that supported the theories that argued my point. Coincidentally, I don’t even remember if there was a site that dispelled confirmation bias, and the effects it has on making someone an informed decision maker. I do not recall a study reflecting arguments that stated if

someone has all the facts and information presented to them in making an informed decision, that confirmation bias never comes into play.

In summary, even when people are given new information to make decisions, it needs to be independent from their prior views or it may lead to underinformed decision-making. When favoring content that is in line with one's beliefs (or is "like-minded") this could lead to a fragmented, unintelligent, and intolerant ideas and perceptions. If a decision-maker fails to consider alternative pieces of information, it is difficult for him or her to correct an underinformed or incorrect decision.

Making an underinformed decision by not considering all the facts due to confirmation bias, could lead to a world of unrest. Biased decisions due to previous beliefs or ideas does not benefit anyone if all information was not considered in a fair and just manner. Confirmation bias can be dangerous with the amount of assessing and decision making we are given as humans in a divisive and ever changing world.

I ask that each of you have an open mind, weigh all information equally, and research all sides before making a decision that could have critical consequences in your job, your family, political views, and life decisions as confirmation bias may have far-reaching effects.

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