



# Cognitive Bias in Emotional Research

Awareness and Prevention

By Dr. Sundeep Thinda

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It's a simple fact. If I ask you an honest question, you will try and give me an honest answer. However, this answer is constructed using the logical part of your brain, a part highly susceptible to cognitive bias.

A cognitive bias is an error in thinking that occurs when information is processed through the subjective filters of our attitudes, beliefs and experiences, thus skewing our interpretation of reality. These distortions of reality are difficult to avoid and rarely intentional however, they significantly impact the already difficult job of objectively measuring human perception, experience and memory.

Being able to recognize potential cognitive bias is of the utmost importance in conducting sound qualitative research. Cognitive biases can, at best, limit and, at worst, spoil the findings of an otherwise solid research design. In conducting qualitative emotional research, it is essential to be aware of cognitive biases on both sides; those arising from experimenter effects as well as from the consumer. Although it is difficult to eliminate all sources of bias, a combination of awareness and carefully chosen techniques can reduce the threat of these distortions considerably.

The problem really begins with the fact that the measurement of emotion using cognitive interpretation is, by its very nature, flawed. Current measurement techniques (i.e. focus groups, questionnaires, surveys, etc.) are rooted in asking the consumer questions about their thoughts and opinions. However, when a respondent is asked to cognitively process a written or verbal question, their response is dominated by cognition, and thereby vulnerable to cognitive biases. Zambardino & Goodfellow (2007) have summarized this well:

“Brand and advertising evaluation is fundamentally rooted in asking people questions about their recollections and attitudes. However, it is becoming increasingly clear that the impact that advertising has is not operating at this level. We are employing a cognitive discourse in order to uncover emotional phenomena and thus introducing a cognitive bias into the measurement process.”



## **The Consumer**

Groupthink (also referred to as the bandwagon effect and herd behaviour) is when group members minimize or conceal their personal beliefs or opinions to maintain group cohesiveness. In a group setting an individual may feel outside the comfort zone if their personal viewpoint is not part of the majority. The tendency is for the individual to go along with the consensus of the group, rather than expressing their own opinion. This is a common problem when information is gathered in a collective (e.g. focus groups).

Research has demonstrated that an individual's attitudes, beliefs, and behaviours can be significantly influenced by other people, both unconsciously and overtly. In Asch's (1955) classic study on conformity, participants in a group were exposed to a series of lines and asked to match a given line to a standard line. All participants except one were corroborators, and secretly told to give the wrong answer in 12 of the 18 trials. Results showed that participants often conformed to an incorrect answer even when they strongly felt there was a different correct answer. Surprisingly, 76% of the participants conformed on at least one trial, and on average, participants' conformed one third of the time. This study demonstrates that participants may actually be unwilling to report their true emotions as a result of social desirability concerns or perceived preference on the part of the researcher.

A second form of cognitive bias influencing emotional research is the availability bias, another common problem that must be adequately managed in emotional research. When participants are asked questions, they are most likely to: a) recall their more recent experiences; or b) recall only those experiences that readily come to mind. The problem with this is that much of a participant's recall is based in cognitive processes that focus on memorable or vivid occurrences. As a result, rich emotional information operating at the unconscious level, experience from the more distant past, or that not identified with a strong emotional response, are not referenced.

Neuropsychologist Joseph LeDoux (1996) has made a critical distinction between the 'memory of an emotion' and an 'emotional memory.' He suggests that memory of an emotion refers to conscious recollections that are termed 'declarative' or 'explicit' memories. Emotional memories, on the other hand, are called 'implicit' or 'non-declarative', and operate at the unconscious level. A person may be able to tell us that they don't like going to the physician's office because they hate needles or dislike taking medication (explicit memory), but they may not recall that their aversion to the doctor's office is also influenced by the time when they were 10 years old and spent time in a hospital due to a tonsil infection (implicit memory). The only way to reduce this potential bias is by using emotional research techniques that allow us to access emotional experience not filtered through logical and cognitive processes.

## **The Researcher**

Cognitive biases not only influence the beliefs and opinions of the consumer, but also have the potential to negatively impact the researcher. One of the most common cognitive biases that occur from the researcher's standpoint is confirmation bias. Confirmation bias is the tendency to search for new information that confirms our preconceptions, and to avoid information which contradicts our attitudes and beliefs. Researchers tend to favour information that supports their expectations, and are inclined to ignore, or not fully evaluate, information that does not fit well into their expectations. This can take the form of the researcher asking questions that lead in a preferred direction, thereby resulting in the discussion following the logical consequences of the biased question.

One way in which researchers are vulnerable to the confirmation bias is the expectancy effect. Expectancy effect refers to researchers obtaining predicted results because they had an expectation of their subjects to behave in a specific way. To illustrate this, imagine you are studying the emotions evoked by the scent of a popular brand of soap in order to identify factors that may enhance buying behaviour in customers. If you have two participants, a 30-something motorcycle rider clad in a leather jacket and jeans, and the other, a middle aged mother dressed in a conservative manner, one may be biased to 'expect' different beliefs and behaviours based on preconceived notions. Our expectations of

these two participants could yield very different results if we allow our expectations to bias us in the error of stereotyping. It may be expected that the biker would prefer more masculine scents such as those labeled ‘sports’ or ‘active,’ whereas the mother would be drawn to more feminine labels like ‘luxurious’ or ‘creamy.’ Imagine the surprise when one finds that the scent of “clean” was related to the aroma of flowers the biker recalls from his mothers garden while growing up, and that the notion of “clean” for the middle aged participant elicits the preference for a very stringent sanitizing scent which cuts through the most stubborn smell of onion and garlic left behind on her hands after cooking. A researcher that fails to identify their subjective feelings about the research question and the information received from participants may make erroneous assumptions based in generalizations, stereotypes, and simply discovering what it is they expected to find.

Another cognitive bias that could influence the researcher is hindsight bias. Often called the ‘I knew it all along’ effect, hindsight bias occurs when we see events that occur as more predictable than they are. Having expectations regarding the outcome of research may prevent a realistic appraisal of the participant’s beliefs and emotional recollections. For example in researching how the recent downturn in the economy has affected people’s confidence, a researcher may be inclined to focus on negative views and comments, neglecting to observe statements that may in fact reflect optimism. Their own belief that the poor state of the economy has equally impacted everyone in a negative manner can bias their objectivity and yield incomplete or inaccurate results. Awareness of the hindsight bias prevents anchoring, which is the tendency to perceptually lock onto salient data too early in the information gathering phase. When anchoring occurs, other seemingly insignificant information can be lost, information that is often rich in emotional content.

### Insights and Awareness

In qualitative emotional research, it is essential to develop insight and awareness into ways that cognitive biases impact research results. Emotional research requires a reflective approach with the goal of encouraging expression of emotionally rich memories and experience while overcoming the subjective filtration process that often skews our interpretation of reality.

At Sigmund, we place an emphasis on understanding the potential biases that can exist, both from the consumers’ subjective experience, as well from the standpoint of the researcher. Most of our experiences are rooted in an emotional level; information which is difficult to articulate, therefore at the core of emotional research is the task of avoiding the biases that cognitive processing can cause.

Cognitive biases such as those discussed in this article can significantly impact the results of emotional research. Sigmund’s research is designed to minimize these biases in the following ways:

Cognitive Bias	Sigmund’s Approach
Group Think	Sigmund research designs concentrate on the individual as the focal subject. At Sigmund we work with participants on a one-on-one basis, and employ impartial, non-suggestive, in-depth interviewing techniques to uncover valuable emotional insights in a relaxed, encouraging manner.
Availability Bias	The techniques used by Sigmund focus on the interactions between the conscious memory and the unconsciously functioning emotional memories. Methods such as guided imagery and visualization bypass cognitive reasoning and allow us to access rich emotional experience that is not filtered through logical and cognitive processes.
Confirmation Bias	Remaining objective is a central premise of emotional research. Sigmund researchers ensure that both initial and probing questions during in-depth interviewing and visualization exercises are formulated in a neutral way to optimize the retrieval of unbiased data.
Hindsight Bias	By being aware of the threat of cognitive biases our researchers avoid allowing their expectations and behaviour to affect the interpretation of results. Sigmund researchers make a conscious attempt not to cloud participants with expectations for outcomes; so they are not inclined to satisfy their speculated premise of the research

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