

Chapter 3

Cognitive Biases by Information Processing

ABSTRACT

Cognitive biases can be produced by the constraints of information processing, as has been widely studied using different cognitive tasks both in clinical and healthy populations. Furthermore, these biases have been found in different areas of society (legal, economic, education, etc.) whose impact on the decision-making process is important. Often these biases help us make quick and appropriate decisions, but other times they lead to erroneous decisions. Within the cognitive biases due to inadequate processing of information, there are three main groups: perceptual bias, attentional bias, and memory bias. This chapter explains these three groups of cognitive biases. Subsequently, it offers a detailed explanation of some of the cognitive biases that have been studied in the fields of cognitive psychology. Finally, the author creates an alphabetical list of these biases and brief definitions.

INTRODUCTION

There are many studies about cognitive biases produced by the constraints of information processing (Mosier, Skitka, Dunbar, & McDonnell, 2001; Schacter, 1999; Fredrickson & Kahneman, 1993; Hilbert, 2012). These cognitive biases have been widely studied using different tasks such as dot probe task (Bullock & Bonanno, 2013), Stroop task (Bentall & Thompson, 1990), self referent encoding task (Timbremont, Braet, Bosmans, & Van

DOI: 10.4018/978-1-5225-2978-1.ch003

Vlierberghe, 2008), among others. In addition, its studio has been examined in different populations from clinical populations (Baker, Williamson, & Sylve, 1995; MacLeod, & Mathews, 2012; Rude, Wenzlaff, Gibbs, Vane, & Whitney, 2002) to healthy populations (Timbremont, Braet, Bosmans, & Van Vlierberghe, 2008; Cisler, Bacon & Williams, 2009).

In fact, several studies in clinical research have shown that information processing biases play an important role in the onset, maintenance and relapse or recovery in mental disorders such as for instance eating disorders (Watkins, Martin, Muller, & Day, 1995), depression (Wells, & Beevers, 2010), schizophrenia (Moritz & Laudan, 2007); anxious disorders (Tata, Leibowitz, Prunty, Cameron, & Pickering, 1996; Spokas, Rodebaugh & Heimberg, 2007) (See also Chapter 7 and 8); among other mental disorders. Because of it, many therapies have started to be used in mental disorders such as Metacognitive Training (Moritz & Woodward, 2007b), Cognitive Bias Modification Therapy (CBMT) (MacLeod & Mathews, 2012) or Cognitive behavioural therapy (CBT) (Garety, Kuipers, Fowler, Chamberlain, & Dunn, 1994). The logical of these therapies is controlling these cognitive biases to improve the prognosis for mental disorders and an effective recovery (for more detail see Chapter 7, 8 and 10).

On the other hand, also these biases have been thoroughly investigated in healthy populations with diverse ages like youth (Timbremont, Braet, Bosmans, & Van Vlierberghe, 2008; Field, 2006); middle adults age (Meusel, MacQueen, Jaswal, & McKinnon, 2012); older adults (Lee & Knight, 2009); with gender differences (Zhao, Zhang, Chen, & Zhou, 2014; Tan, Ma, Gao, Wu, & Fang, 2011; D'Lasnow, 2011); with both right and left-handers (Marzoli, Lucafò, Pagliara, Cappuccio, Brancucci, & Tommasi, 2015), among other attributes or characteristics.

Moreover, these biases have been studied in different areas of research, such as, political elections (Blank, Fischer & Erdfelder, 2003); health (Kiviniemi & Rothman, 2006); advertising (Braun & Loftus, 1998); education (D'Lasnow, 2011); drug consumer (Begh, Munafò, Shiffman, Ferguson, Nichols, Mohammed...Aveyard, 2013; Lubman, Peters, Mogg, Bradley, & Deakin, 2000); sports (Chuang, Huang, Lung, & Hung, 2013), legal decisions (Harley, 2007); economy (Hölzl, Kirchler, & Rodler, 2002), among other areas of society. Notice that these cognitive biases would be influencing constantly the decision-making process. It is easy to assume that many of the fields of society, where daily decisions are made, would be influenced and affected by

32 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/cognitive-biases-by-information-processing/216765

Related Content

Representing the World

(2021). *Reductive Model of the Conscious Mind* (pp. 1-27).

www.irma-international.org/chapter/representing-the-world/260987

The Cognitive Processes of Formal Inferences

Yingxu Wang (2007). *International Journal of Cognitive Informatics and Natural Intelligence* (pp. 75-86).

www.irma-international.org/article/cognitive-processes-formal-inferences/1548

Ordering: A Reliable Qualitative Information for the Alignment of Sketch and Metric Maps

Sahib Jan, Angela Schwering, Jia Wang and Malumbo Chipofya (2014). *International Journal of Cognitive Informatics and Natural Intelligence* (pp. 67-78).

www.irma-international.org/article/ordering/114661

Impact of Individual Differences on Web Searching Performance: Issues for Design and the Digital Divide

Allison J. Morgan and Eileen M. Trauth (2006). *Cognitively Informed Systems: Utilizing Practical Approaches to Enrich Information Presentation and Transfer* (pp. 261-282).

www.irma-international.org/chapter/impact-individual-differences-web-searching/6631

Cognitively Informed Systems: Justifications and Foundations

Eshaa M. Alkhalifa (2006). *Cognitively Informed Systems: Utilizing Practical Approaches to Enrich Information Presentation and Transfer* (pp. 1-25).

www.irma-international.org/chapter/cognitively-informed-systems/6620