

## Chapter 4

# Central Language Hypothesis in the Decision–Making Process

**Duygu Buğa**  
Independent Researcher, Turkey

### ABSTRACT

*The purpose of this chapter is to explore the potential connection between neuroeconomics and the Central Language Hypothesis (CLH) which refers to the language placed within the subconscious mind of an individual. The CLH forwards that in the brains of bilingual and multilingual people, one language is more suppressive as it dominates reflexes, emotions, and senses. This central language (CL) is located at the centre of the limbic cortex of the brain. Therefore, when there is a stimulus on the limbic cortex (e.g., fear, anxiety, sadness), the brain produces the central language. The chapter begins with an Introduction followed by a Theoretical Framework. The next section discusses the neurolinguistic projection of the central language and includes the survey and the results used in this study. The Discussion section provides additional information regarding the questionnaire and the CLH, followed by Future Research Directions, Implications, and finally the Conclusion.*

### INTRODUCTION

The purpose of this chapter is to explore the potential connection between the field of neuroeconomics and the author's Central Language Hypothesis (CLH) which refers to the language placed within the subconscious mind of an individual. A relatively new area of economics involving the human mind and choice, neuroeconomics combines behavioural economics and neuroscience to investigate the variables affecting decision-making within an economic context (Glimcher, 2002, 2004, 2009; Verplanken & Holland, 2002). This chapter attempts to demonstrate a potential link between the Central Language (CL) concept and decision-making via a qualitative study with 30 multilingual and bilingual individuals from various linguistic backgrounds. It is envisioned this work can be used for further research in neuroeconomics and possibly in other fields such as cognition, psycholinguistics, and child development (Groome, 2014; Neufeld, 2007; Field, 2003; Liben & Müller, 2015).

DOI: 10.4018/978-1-4666-9989-2.ch004

Contemporary globalism is characterized by numerous worldwide changes occurring in economic, social, natural, and technological areas (Denktas-Sakar, et. al., 2014). As such, the dynamics involved in a wide variety of human activities such as economic development, international management, or education have necessarily changed since the dawn of the new millennium (Anderson & Wong, 2013; Friedman, 2009). How we perceive the world within the context of these activities is influenced by the language(s) we speak and understand. The author proposes the CLH is at the core of this statement, especially with regards to decision-making and economic choice based at least in part on the Sapir-Whorf Hypothesis (SWH) which is also referred to as the Whorfian Hypothesis (Kay & Kempton, 1984; Conen & Padua-Schioppa, 2015).

A controversial theory championed by the German-born linguist Edward Sapir first in 1929 and later with his student Benjamin Whorf, a chemical engineering graduate of Massachusetts Institute of Technology (MIT), the SWH states there are certain thoughts of an individual in one language that cannot be understood by those who live in another language, and the way people think is strongly affected by their native language(s). The theory is based on the two principles of *linguistic relativity* and *linguistic determinism*. *Linguistic relativity* states that people who speak different languages perceive and think about the world differently as thought is encoded linguistically (Boroditsky, 2001; Godart et al., 2015). *Linguistic determinism* refers to the fact that our thinking is determined by our language (de Cruz, 2009). As a result, language leads thought and what or how one thinks can be associated with the language used (Cengoz et al., 2001; Kemp, 2009; Nisbett, 2003). Multilingualism is an established field of research in linguistic studies that can be approached from different perspectives such as psycholinguistic, educational, neurolinguistic, and sociolinguistic angles (Garcia-Mayo, 2012, p. 129). The SWH raises a key question regarding multilingualism (Perlovsky, 2009; Kecskes & Albertazzi, 2007; Pavlenko, 2005):

- What language is the most effective on multilingual and bilingual people if any particular language has a different effect on an individual?

The critical point is that it is necessary to identify the dominant languages of multilingual and bilingual individuals to understand how they see the world and how their thoughts are shaped (de Angelis & Dewaele, 2009). The CLH is being forwarded in this chapter to answer the issues relevant to the question above.

Within the realm of multilingualism and bilingualism is the interesting concept of the Third Culture Kid (TCK) conceived in the 1960s by the sociologist Dr. Ruth Useem of Michigan State University in the USA (Lytle, 2009). While studying the effects of extended overseas residence on British expatriates in India, Dr. Useem noticed their children were developing identities separate from both their parents and their contemporaries back in the United Kingdom. Dr. Useem eventually coined the term TCK following her study in India, and today TCKs are referred to as those who are born in one country (the “passport country”) but raised during their formative years in another country (Pollock, 2001). Most TCKs are inherently bilingual or multilingual due to the very nature of their background. It should be noted that the term Third Culture Individual (TCI) is now more commonly used in the extant literature than TCK so as to include adults as well as children.

It is a fact that multilinguals and bilinguals outnumber monolinguals in the world (Tucker, 1999). Therefore, this chapter contributes to the extant literature regarding language and neuroeconomics by

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