PSYCHOLINGUISTICS

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Abstract

According to study –

Psycholinguistics or psychology of language is the study of the interrelation between linguistic factors and psychological aspects.

The field is attached with psychological and neurobiological factors that help humans to acquire, use, comprehend and produce language. The process is mainly attached with the mechanisms in which languages are processed and represented in the brain.

Modern research is based on biology, neuroscience, cognitive science, linguistics, and information science. It studies in which process the brain creats language and the known processes of social sciences, human development, communication theories and infant development among others. There are a number of techniques for studying the neurological workings of the brain. Initial forays into psycholinguistics were found in philosophical and educational fields because of their location in departments other than applied sciences. Psycholinguistics is applicable in education and philosophy. Psycholinguistics is also useful for "cognitive processes" which generates a grammatical and meaningful sentence out of vocabulary and grammatical structures. It helps to understand utterances, words, text, etc. Children's ability to learn language is included in Developmental psycholinguistics studies.

Introduction

Psycholinguistics is part of the field of cognitive science.

The term “psycholinguistics” was first invented by American psychologist Jacob Robert Kantor in his book “An Objective Psychology of Grammar” (1936). The term was popularized by one of Kantor's students, Henry Pronko, in the article "Language and Psycholinguistics: A Review" (1946). It was used to talk about an interdisciplinary science "that could be coherent" and in the title of Psycholinguistics: A Survey of Theory and Research Problems, a 1954 book by Charles E. Osgood and Thomas A. Sebeok.

Areas of study

Psycholinguistics is an interdisciplinary field. It is studied by researchers from psychology, cognitive science, linguistics, speech and language pathology and discourse analysis. Psycholinguists study are based on answering the following questions: (1) how do children acquire language? (2) how do people process and comprehend language? (3) how do people produce language? and (4) how do people acquire a new language?

On Psycholinguistics

"Psycholinguistics is the study of the mental mechanisms that make it possible for people to use language. It is a scientific discipline whose goal is a coherent theory of the way in which language is produced and understood." (Alan Garnham, Psycholinguistics: Central Topics. Psychology Press, 1985)

Two Key Questions

"At its heart, psycholinguistic work consists of two questions. One is, what knowledge of language is needed for us to use language? In a sense, we must know a language to use it, but we are not always fully aware of this knowledge... The other primary psycholinguistic question is, what cognitive processes are involved in the ordinary use of language? By 'ordinary use of language' I mean such things as understanding a lecture, reading a book, writing a letter, and holding a conversation. By 'cognitive processes,' I mean processes such as perception, memory, and thinking. Although we do few things as often or as easily as speaking and listening, we will find that considerable cognitive processing is going on during those activities." (David Carroll, Psychology of Language, 5th ed. Thomson, 2008)

How Language Is Done

"Psycholinguists study how word meaning, sentence meaning, and discourse meaning are computed and represented in the mind. They study how complex words and sentences are composed in speech and how they are broken down into their constituents in the acts of listening and reading. In short, psycholinguists seek to understand how language is done... In general, psycholinguistic studies have revealed that many of the concepts employed in the analysis of sound structure, word structure, and sentence structure also play a role in language processing. However, an account of language processing also requires that we understand how these linguistic concepts interact with other aspects of human processing to enable language production and comprehension." (William O'Grady, et al., Contemporary Linguistics: An Introduction. Bedford/St. Martin's, 2001)

An Interdisciplinary Field

"Psycholinguistics... draws on ideas and knowledge from a number of associated areas, such as phonetics, semantics and pure linguistics. There is a constant exchange of information between psycholinguists and those working in neurolinguistics, who study how language is represented in the brain. There are also close links with studies in artificial intelligence. Indeed, much of the early interest in language processing derived from the AI goals of designing computer programs that can turn speech into writing and programs that can recognize the human voice." (John Field, Psycholinguistics: A Resource Book for Students. Routledge, 2003)

On Psycholinguistics and Neuroimaging

"Psycholinguistics has classically focused on button press tasks and reaction time experiments from which cognitive processes are being inferred. The advent of neuroimaging opened new research perspectives for the psycholinguist as it became possible to look at the neuronal mass activity that underlies language processing. Studies of brain correlates of psycholinguistic processes can complement behavioral results, and in some cases . . . can lead to direct information about the basis of psycholinguistic processes." (Friedmann Pulvermüller, "Word Processing in the Brain as Revealed by Neurophysiological Imaging." The Oxford Handbook of Psycholinguistics, ed. by M. Gareth Gaskell. Oxford University Press, 2009).

Results

Psycholinguistic phenomena, including level of accuracy and response times and

the sociolinguistic parameter of participants' proportions of language use and the correlations among level of accuracy, response times and reported proportion of use are reported here.

Accuracy:

An item "accurate" used if the participant produced and pronounced it correctly. Responses will be inaccurate in the cases of: (i) mispronunciation, (ii) incomplete or no response, and (iii) an analyser's who is not able to hear the response. Figure 2 shows the level of accuracy of all participants, presenting the proportion of accurate responses to each item in the three different strata: high-frequency items in (2a), medium-frequency items in (2b), and low-frequency items in (2c).

FIGURE 2a. Accuracy on the naming task across four cohorts in High-frequency items

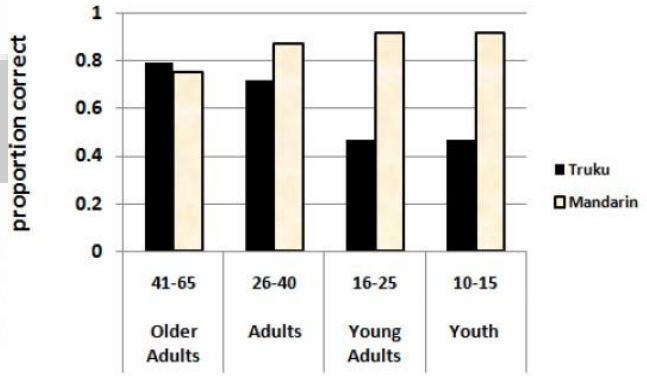


FIGURE 2b. Accuracy on the naming task across four cohorts in Medium-frequency items

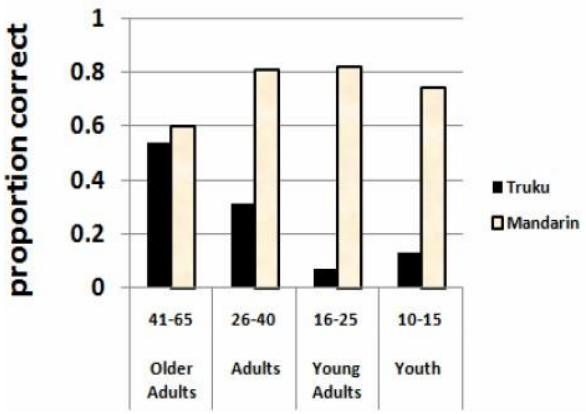
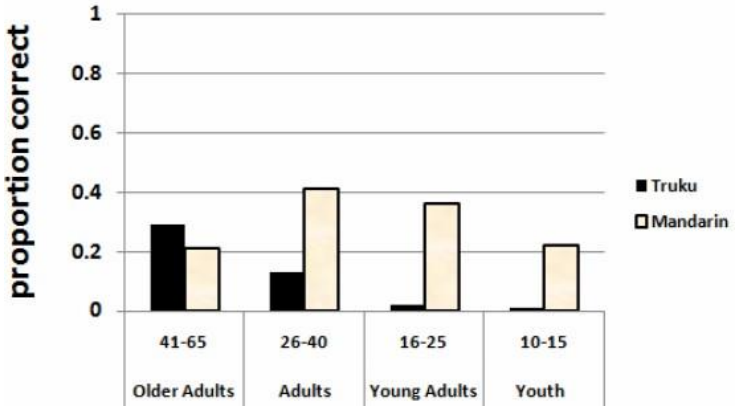
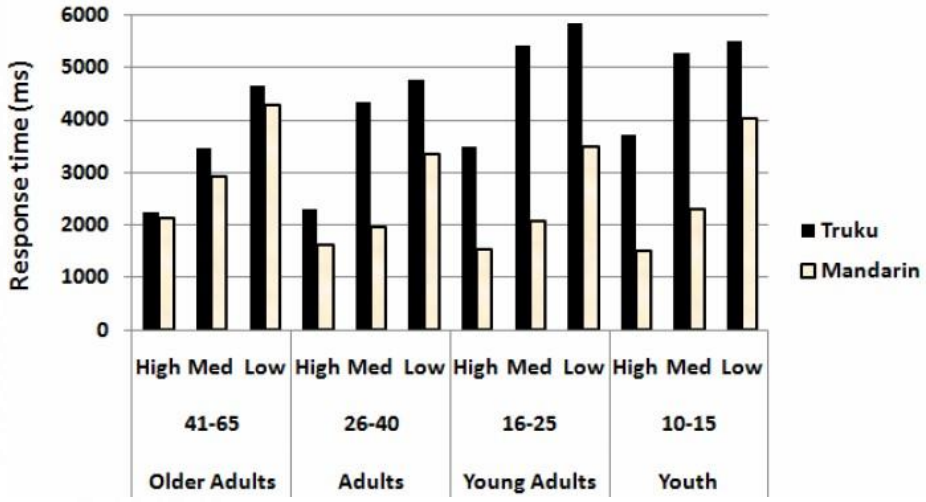


FIGURE 2c. Accuracy on the naming task across four cohorts in Low-frequency items



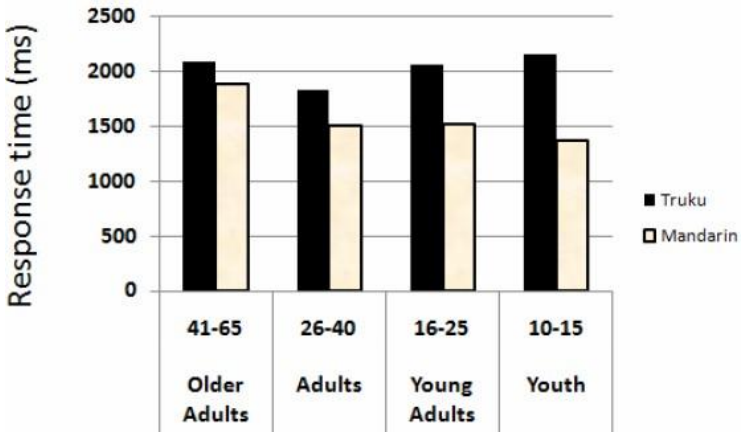
Response Times/RTs.:

Mean response time (accurate and inaccurate responses)



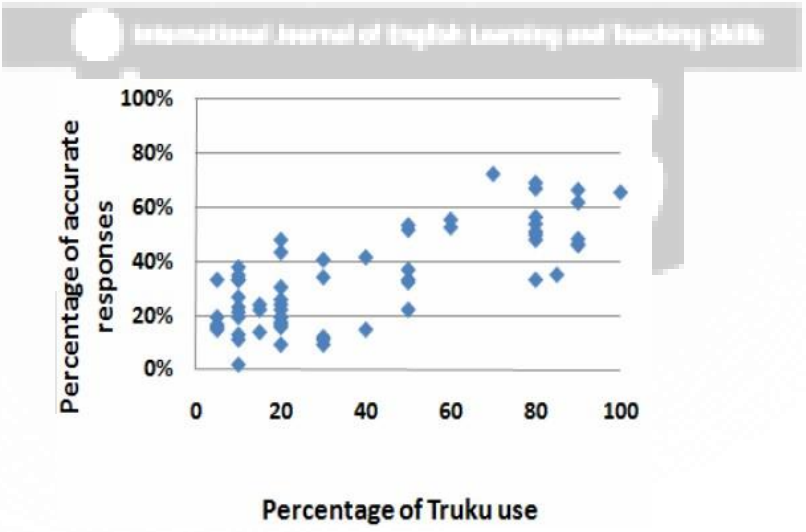
Accurate Responses:

Mean response time for high accuracy items in match-by-participant analysis

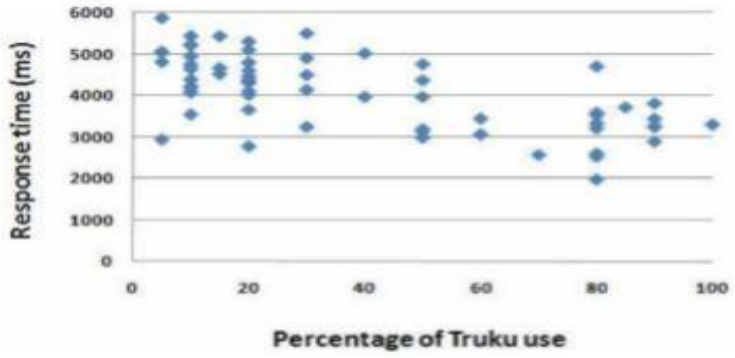


Percentage Of Language Use:

Correlation between accuracy and reported percentage of use in Truku across all cohorts.



Correlation between response times and reported percentage of use in Truku across all cohorts.



Conclusion

Psycholinguistic studies of the clinical syndromes of aphasia have provided some important informations about neurobiology. The neural systems underlying a particular deficit is not provided in behavioural studies. Determination of activation of a neural area is not indicated by Neuroimaging studies which is necessary for a particular linguistic function. Technological advances are now available for detailed mapping of lesion profiles coupled with careful clinical examination and classification of patients hold the promise of not only gaining a deeper understanding of the functional and neural architecture of language but also providing critical insights into the bases of language deficits that can be used in developing rehabilitation programs for patients with aphasia.