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Representational Complexity of Persian Relative tenses during listening Comprehension

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Abstract

The main question of the present study is that of psycholinguistic reality of Relative Tense in Persian; How Persian tenses are processed? Cross modal lexical decision tasks applied by dmdx software program have been used here to examine relative tense processing during sentence processing. Theoretical framework used here is that of Comrie (1985) linguistically and Shapiro (1990) psycholinguistically. Independent variable is the type of tense used in the verb form and the dependent variable is subjects' reaction times to visual stimuli. 25 university students aged 18-30 participated in experiments who were divided into two groups; male and female participants. The results of the first experiment showed that sentences containing non-finite relative tense verbs, are processed later than the other tenses (present perfect, past perfect, and subjunctives). The explanation is to be found in the un-markedness of non-finites (lacking mood, tense, number). The results of the second experiment also showed that converting simple sentences to the complex ones will erase the meaningful differences in the participants' reaction times. This shows that the independent variable of sentence type is much more effective on cognitive load than tense type. In these two experiments the gender of the participants is not effective. The findings can be used in curriculum design for non-natives of Persians as it shows the cognitive load of relative tenses across memory.

***Keywords*:** Reaction time, Listening comprehension, Representational complexity, Cognitive load, Absolute and relative tense

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1. Introduction

Different linguists have proposed different definitions for tense. This study investigates processing of sentences containing different relative tenses of Persian by the cross-modal lexical decision method. This psycholinguistic method has been used classically by Shapiro (1990) to estimate the cognitive load across the mind. The main question of this inquiry is the psycholinguistic reality of tense complexity hierarchy arranged for relative one. The theoretical framework is mainly based on episodic processing in which mental representations of linguistic items are not as abstract as it seems, but it is subject to the sensory input by which the representation is formed. Also the classification of Comrie (1985) on tenses has been applied here. He divided tenses into two broad categories of past/ non past. Absolute and relative types of the Persian tense have been elaborated and analyzed in detail.

Research Question(s)

The main question of the present study is that of psycholinguistic reality of Relative Tense in Persian; How Persian tenses are processed?

2. Literature Review

Theoretical framework applied here is that of Comrie (1985) linguistically and Shapiro (1990) psycholinguistically. Mahmoodi-Bakhtiari (2002) has written in detail about the nature and function of variety of absolute and relative tenses in Persian.

3. Methodology

The main question of the present study is that of psycholinguistic reality of Relative Tense in Persian. Cross modal lexical decision has been used here to examine relative tense processing during sentence comprehension. Theoretical framework applied here is that of Comrie (1985) in linguistics and Shapiro

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(1990) in psycholinguistics. Independent variable is the type of tense used in the verb form and the dependent variable is subjects' reaction times. 25 students of universities aged 18-30 participated matched across some specific factors in this study. The results of the first experiment showed that sentences containing non-finite relative tense verbs, are processed later than the other tenses (present perfect. past perfect, and subjunctives). That may be related to the un-markedness of non-finites. The results of the second experiment also showed that converting simple sentences to the complex ones will erase the meaningful differences in the participants' reaction times. In these two experiments the gender of the participants is not effective. The findings can be used in curriculum design for non-natives of Persians, for it shows the cognitive load of relative tenses across memory.

4. Results

It was found out that, in terms of psycholinguistics, Persian has two absolute tenses : Past and present; as well as four relative tenses: the perfective. the pluperfect, the subjunctive, and the relative past. The main question of the present study is that of psycholinguistic reality of tense in Persian. Cross modal lexical decision has been used here to examine tense during sentence processing. The Persian language has a variety of absolute and relative tenses, each of which is used as needed, and Mahmoodi-Bakhtiari (2002) has written in detail about the nature and function of each, and since this work is a comprehensive description of the topic of time in Persian provides the basis for data collection of the present study. Since this work provides a comprehensive description of the topic of tense in Persian, it is the basis for collecting data from the present study. The two main research questions are: a) Which types of relative tenses is processed faster than the others and why? B) According to data from Persian language, what is the mental representation of grammatical relative tense in Persian? The two hypotheses corresponding to the questions of this research are that there is a significant difference between

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the processing time of sentences containing different types of relative tenses and also the complexity of these representations has a psychological reality. In order to answer the questions, two experiments have been developed. The results of the first experiment showed that sentences containing non-finite relative tense verbs, are processed later than the other tenses (present perfect, past perfect, and subjunctives). The explanation is to be found in the un-markedness of non-finites (lacking mood, tense, number). The results of the second experiment also showed that converting simple sentences to the complex ones will erase the meaningful differences in the participants' reaction times. This reveals that the independent variable of sentence type is much more effective on cognitive load than tense type. In these two experiments the gender of the participants is not effective.

If the cognitive burden/load may be considered as the basis of learning, this research can have implications for teaching Persian language. The high reputation of using reaction time in psychological research, especially in the field of cognition and language processing, is something beyond theoretical interest. The choice of mean reaction time as a dependent variable in widely used cognitive experiments is due to convenience. In this study, reaction time to the auditory stimulus is the basis for measuring cognitive load. Cognitive load refers to the amount of mental energy needed to perform a task. This mental energy can be nourished by memory, storage and retrieval. The concept of cognitive burden can be used in teaching Persian language and the research results can be considered in compiling educational materials .

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