

Does age of
acquisition have an
influence on lexical
access and selection
in late...



Title: Does age of acquisition have an influence on lexical access and selection in late bilinguals?

Introduction:

This dissertation will be a critical review of data primarily from linguistic and other cognitive science studies into the nature of lexical access. It will primarily focus on lexical recall in older bilinguals and how age of acquisition may play a role on one's ability to recall words in their first language or second language and contrast it to monolingual speakers and other bilinguals whose age of acquisition differs to see if there is a difference in their lexical recall and whether there are benefits or disadvantages.

Motivation

The motivation of this research is to find more about the bilingual mind and lexicon. Linguistics has challenged ideas throughout history such as the concept of 'semilingualism' which argued that learning a L2 (second language) would be detrimental to their L1 (first language) in areas such as their lexicon and you cannot be proficient at two languages. General enquiries towards a layman and you would not be hard-pressed to find that most people will not be hesitant to say that learning an L2 will influence their L1 and most of the time in a negative way when addressing areas such as lexical recall. They might often wonder if there could be enough room in their lexicon for another language and not cause confusion.

In recent years, bilingualism has emerged as a hot-topic in education and linguistics as it promoted the idea of improving ones cognitive abilities such as memory and intriguingly provided protection from diseases such as <https://assignbuster.com/does-age-of-acquisition-have-an-influence-on-lexical-access-and-selection-in-late-bilinguals/>

Alzheimer's in older ages, however the concept of semilingualism has never truly been dispersed.

By focusing on older bilinguals this research will help to better understand such areas as lexical atrophy and cognitive decline that older bilingual speakers may deal with and observe the cognitive improvements, if they exist, research should suggest superior cognitive improvement in older bilinguals in comparison to their monolingual counterparts. We can also observe if there is any improvement in lexical recall with age, perhaps if the lexical recall ability becomes much less significant and experiences much more equilibrium between their L1 and L2 with age.

Review of Literature

Speaking in L2 is said to be overall slower and less accurate when seen in picture naming experiments (Gollan, Montoya, Cera, & Sandoval, 2008). However this bilingual disadvantage in picture naming tasks is not just observed when bilinguals have to speak in their L2, it is also observed when they are speaking in their L1 (Ivano & Costa 2008). Vocabulary deficits have been also observed for fluently bilingual children when compared to monolingual children of similar ages (Oller & Eilers, 2002). Magiste (1979) further measured the speed of German-speaking children in Sweden that are learning Swedish performed on similar tasks. The result was that they performed slower not just in their L1 but their L2.

In adult bilinguals, longer naming times (Gollan, Montoya, Fennema-Nostestine & Morris, 2005) with more errors in picture naming experiments (Roberts, Garcia, Desrochers, & Hernandez, 2002) but when bilinguals

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attempt to classify picture names into categories, monolingual and bilingual speakers were equal in the former experiment.

This entails some 'semilingualistic' tendencies in bilingual speakers if this is occasionally the case as their L2 acquisition has affected their linguistic capabilities.

The bilingual proficiency should be taken into account (i. e. balanced bilinguals). The inhibitory control model (1998, Green) proposed that in the inhibitory control model, competing potential outputs of the 'lexico-semantic system' will be inhibited depending on the goals of the speaker and what language they want to use. This would suggest that one would have to suppress a language when speaking another ensuring correct lexical usage in the target language they are using. It also appears that language proficiency can influence bilingual control mechanisms (Costa & Santesteban 2004) these control mechanisms are put at play during speech production and they are different between high proficiency bilinguals and low proficiency. Low Proficiency bilinguals seem to rely on active suppression of their L1 when speaking in their L2 in contrast to high proficiency bilinguals, which instead would not have to rely so much on suppression of one of their languages and could auto select their language output with lesser interference from the language they do not intend to use. A study also suggests that bilingualism also influences ones speech perception by listeners with normal hearing abilities (Rogers, Lister, Febo, Besing & Abrams, 2006) demonstrating the inhibition effect.

Neuroimaging has also made observations in the bilingual brain and its relation between high and low proficient bilinguals. It appears that balanced bilinguals use the same cortical areas during lexical retrieval in both languages. In contrast lower proficient bilinguals will use additional areas (Abutalebi, 2008; Abutalebi & Green, 2007). Cortical activity has also been measured during lexical retrieval (Perani et al., 2003). This suggests that during a production task, AoA may influence the pattern of brain activation in bilinguals.

As is often experienced and shown, bilinguals have more 'tip-of-the-tongue' phenomena than monolinguals (Gollan & Silverberg 2001). This may be due to suppression and assuming that age-of-acquisition plays a role, it is possible to suggest that bilinguals who acquired their L2 at a younger age may experience less tip-of-the-tongue phenomena's when compared to late acquisition due to 'entrenchment'.

In further lexical access studies Silverberg & Samuel (2004) looked at the effects of proficiency in the L2 language, and how age of acquisition will influence the second language learner and processing. The study composed of 3 groups, one of which was of early L2 learners, one of late proficient L2 learners, and the last was of less proficient L2 learners. Three types of tests of L2-L1 priming was used.

Semantic primes

PRIME= nail, TARGET= Tornillo" screw

Mediated form primes

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PRIME= toro, TARGET=" TOR" NILLO

Form Primes

PRIME=" torture", Target=" TOR" NILLO

Semantic and mediated primes provided strong positive priming effects for early L2 learner group. For the late L2 learners, there was no effect from semantic and mediated groups.

Highly proficient late learners showed more inhibitory effects of form primes. There were priming effects for words related in meaning and in orthographic form for early L2 learners. For late proficient L2 learners, only form-related priming effects worked.

Silverberg & Samuel (2004) suggest that AoA plays a rather profound role in how bilinguals access words in their L2 and suggests that the semantic/conceptual level is shared by both L1 and L2 when in early acquisition only. To be put into comparison with the late learners of an L2, regardless of their efficiency in their second language (high efficiency or low), the priming effects aren't as powerful and therefore are not shared by the semantic/conceptual level but only by the phonological form. This study not just shows the effect of AoA on bilinguals, but also shows the organisation and architecture of the bilingual lexicon.

This may be in tune with the 'critical-period hypothesis'; the idea that younger children will learn an L2 much more efficiently and quickly in comparison to an older L2 learner. This is because of the idea of

Entrenchment as mentioned before, as consolidation of L1 happens, it <https://assignbuster.com/does-age-of-acquisition-have-an-influence-on-lexical-access-and-selection-in-late-bilinguals/>

becomes more resistant to change when adapting to or learning an L2 (Hernandez, Li, & MacWhinney, 2005).

Ellis and M. Ralph (2000) noted that early learned words are recognised and produced faster than later learned words and proposed a 'mapping hypothesis'. The age at which an item is acquired will affect not just the speed for words, but also objects and faces. It suggests that the connections between representations are superior for early acquired words than late acquired words. Representations would mean for example, the link between the meaning and the phonological form. It appears then that AoA effects come about due to the nature of the lexical network.

The general consensus is that being a bilingual speaker will improve cognitive function. Bilingualism usually suggests improved cognitive performance across ages. Various studies have suggested that bilingualism has shown to accelerate the development of executive control in children (Bialystok 2001; Carlson & Meltzoff, 2008) and Perceptual analysis (Bialystok & Shapero, 2005). Research on this area has been traditionally looking at children in education but it is suggested that these cognitive benefits persist in older ages. (Costa, Hernandez, & Sebastian-Galles, 2008) and it also seems to protect older bilingual adults against the decline of these processes as one ages (Bialystock, Craik, Klein, & Viswanathan, 2004; Bialystock, Craik, & Ryan, 2006) Being a Bilingual also suggests a 4 year delay in development of dementia than when compared to monolinguals (Bialystok, Craik, & Freedman, 2007). In language processing, when researching older bilinguals has shown similar results and shown faster bilingual responding to conflict conditions in the Stroop task (Bialystok, Craik & Luk, 2008a) and flanker task <https://assignbuster.com/does-age-of-acquisition-have-an-influence-on-lexical-access-and-selection-in-late-bilinguals/>

(Costa, Hernandez, & Sebastián-Galles, 2008). However it appears that AoA also plays a role in language processing (Izura & Ellis 2004).

These are some of the most common and frequently cited studies that are referred in supporting the cognitive improvement hypothesis. It may call for further investigation into older age and investigate lexical recalls in bilinguals and compare it to monolinguals and perhaps find a lower degradation rate in bilinguals as they age.

Neuroimaging has also shown the growing evidence that grey matter as well as more efficient structural connectivity has a strong correlation with bilingualism in general (Abutalebi et al., 2015). Strongly suggesting that cognitive decline is less severe in bilinguals and may show contrast when put in comparison in lexical recall experiments assessing age effects and decline.

Bialystok et al (2008) wanted to investigate the differences of young and older adults. Monolinguals and bilinguals put into four groups completed tasks that assessed either language proficiency and lexical access or non-verbal executive functioning (Bialystok et al 2008). It shown that younger participants had higher levels of performance on most tasks performed in the experiment, however older adults were superior on tasks that measured their vocabulary. Vocabulary knowledge and word-recognition ability has been shown to have no change across adult lifespan (Botwinck, 1977, Wingfield & Stine-Morrow, 2000) as older individuals continue to acquire new words throughout their life. There was also evidence for suggesting that bilingualism may compensate to some extent for age related decline of

executive functions. Executive functioning and lexical retrieval may seem like different entities however some evidence for a correlation between lexical retrieval has been shown as neuroimaging shows frontal lobe activation (Nolde, Johnson, & Raye, 1998) and other studies to suggest frontal lobe damage will impair episodic memory (Wheeler, Stuss, & Tulving, 1995). Bilingual older adults have been proven to outperform monolinguals in executive function tasks such as in inhibitory control and working memory (Abutalebi & Green, 2007; Blumenfeld & Marian, 2010; Prior & Gollan, 2011) .

Another thing to bear in mind when assessing bilinguals is the possibility of lexical attrition, as thought and studied previously, environment will play an influence on lexical attrition i. e in the case of immigration from another country. In monolinguals lexical skills have presented problems in older age.

Methodology:

Using statistical and quantitative data and comparing studies results a conclusion will be attempted to be drawn up through comparing age, lexical access rates, and age-of-acquisition and to see if there will be a correlation between these factors. Observe cognitive benefits and decline throughout the research.

Research Questions

Questions to be addressed throughout this dissertation will be

- 1) How does AoA influence lexical recall in older ages

2) Does L2 acquisition (Early or / late) influence lexical access or cause L1 attrition in older bilinguals

3) How consistent is the supposed cognitive benefits throughout a bilinguals life and how is it related to lexical recall

Potential Problems

Gathering qualitative data for on bilingual proficiency and the age-of-acquisition of older speakers.

Making sure not to undermine the cognitive capacities of monolinguals or to exaggerate bilingual cognitive capacities and benefits.

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