Multilingualism, Language Learning and Social Cognition

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the benefits of learning languages

bilingual people are sexy

French Russian Spanish German Hebrew

270 British dating agencies agreed that people who speak a foreign language are **more attractive.**

the sexiest accents

Irish Italian Brazilian Portuguese Spanish French British

Love

Children raised by bilingual couples are more likely to have better **memory** and **overall intelligence.**

63% of those surveyed have dated someone who speaks a different language.

95% of those surveyed think that learning a second language would improve their brain power.

Students who study a foreign language for **4** or more years outperform their classmates.

Intelligence

mental benefits of learning languages

Memory Multi-tasking Aptitude Health Attention

Bilinguals find it easier to learn a **third language** than monolinguals do to learn a second.

People who speak 2+ languages are **4x** less likely to have **cognitive impairment.**

benefits of speaking a country's native language when traveling

Saving Money Safety Ordering Food Getting a Job Making Friends

An increase of **3x** over 20 years

US students who studied abroad for credit.

Each year the number of international students increases by **12%**

800,000 → 3,500,000

1975 2009

Travel

97% of those surveyed said that knowing another language makes traveling to other countries easier.

98% of those surveyed thought that learning a second language would help their career.

Money

Over **1/3 of businesses** want people specifically for their language skills.

Multilingual employees can expect a salary uplift of up to **20%** in certain jobs.

occupations in which speaking 2+ languages is beneficial

Journalist Computer Games Designer Marketing Manager Tourist Guide Engineer Doctor

KAPLAN INTERNATIONAL COLLEGES

Sources:

UNWTO World Tourism Barometer
UNESCO
British Council
CILT
CBI

American Academy of Neurology
Connecticut State Department of Education
Pentucket Regional School District
Northwestern University
Kormi-Nouri R, Moniri S, & Nilsson L.G.

Chicago Tribune
Survey of 1728 prospective Kaplan students
http://learninglanguages.com
http://www.ranker.com/

Whilst employability and health benefits are clearly very important, parents and pupils won't be convinced of the benefits of learning new/additional languages – becoming bilingual and multilingual – unless there is evidence of cognitive benefits that will impact the learners' education and social development.

Over emphasis on the economic benefits of language learning may also affect people's attitudes towards different languages: some may be regarded as more useful than others

Cognitive benefits of bi-/multi-lingualism

- Executive control: attention and memory
- Relatively little on ‘social cognition’

Social Cognition

- Perception, and understanding of other people in context
- attitude, prejudice, stereotype, identity/identification, self-concept, discrimination, persuasion
- Context-sensitive behaviour: decision-making
- Creativity

Bilingualism is a social experience

- *Context sensitive: no two bilingual use their languages in exactly the same way all the time:*

Birth order
Gender
Family structure
Community structure
Social status of the languages
Education
Employment
Health conditions
Attitudes

At home
In the community
At school
At work
With different addressees
On different topics
Through different communication channels
For different purposes

- Languages themselves are socio-historical constructs

- Language learning is therefore also a social experience:

- community context, socio-economic class (access to learning resources), gender, ethnicity, attitude, etc.

- How does variable, context-sensitive bilingual experience, including variable and context-sensitive behaviour, affect social cognition?

- Tolerance of Ambiguity
- Empathy
- Creativity

- with Jean-Marc Dewaele and Anatoliy Kharkhurin

- 2014 A control process model of codeswitching (with David Green). *Language, Cognition and Neuroscience* 29,4: 499-511

- 2014 The role of codeswitching in bilingual creativity and selective attention (with Anatoliy Kharkhurin). *International Journal of Bilingual Education and Bilingualism.* DOI: 10.1080/13670050.2014.884211
- 2013 Is multilingualism linked to a higher tolerance of ambiguity? *Bilingualism: Language and Cognition*. 16.1: 231-240 (with Jean-Marc Dewaele)
- 2012 Multilingualism, empathy and multicompetence. *International Journal of Multilingualism* 9.4: 352-366 (with Jean-Marc Dewaele)

Code-Switching as a *defining* feature of being bilingual

- Most bilinguals and multilingual mix and switch between different languages naturally in social interaction
- (Some) Bilinguals can behave as if they were monolingual by using only one of the languages they know.
- SOME, because there are different types of bilinguals. For some, separation is neither a possibility nor a need.
- Yet, CS has received relatively little attention in cognitive psychology of bilingualism.
- Most of the existing work is on differentiation/separation/deactivation.

Beatens Beardsmore (1987/2003) *Who's afraid of bilingualism?*

- Parental fears
- Schools fears
- Cultural fears
- Policy fears
- Politico-ideological fears

- Not about having/knowing different languages
- But about Mixing and Switching between them

- Linguistic purism – one language at a time (Census 2021!)

Tolerance of Ambiguity, language proficiency and code-switching

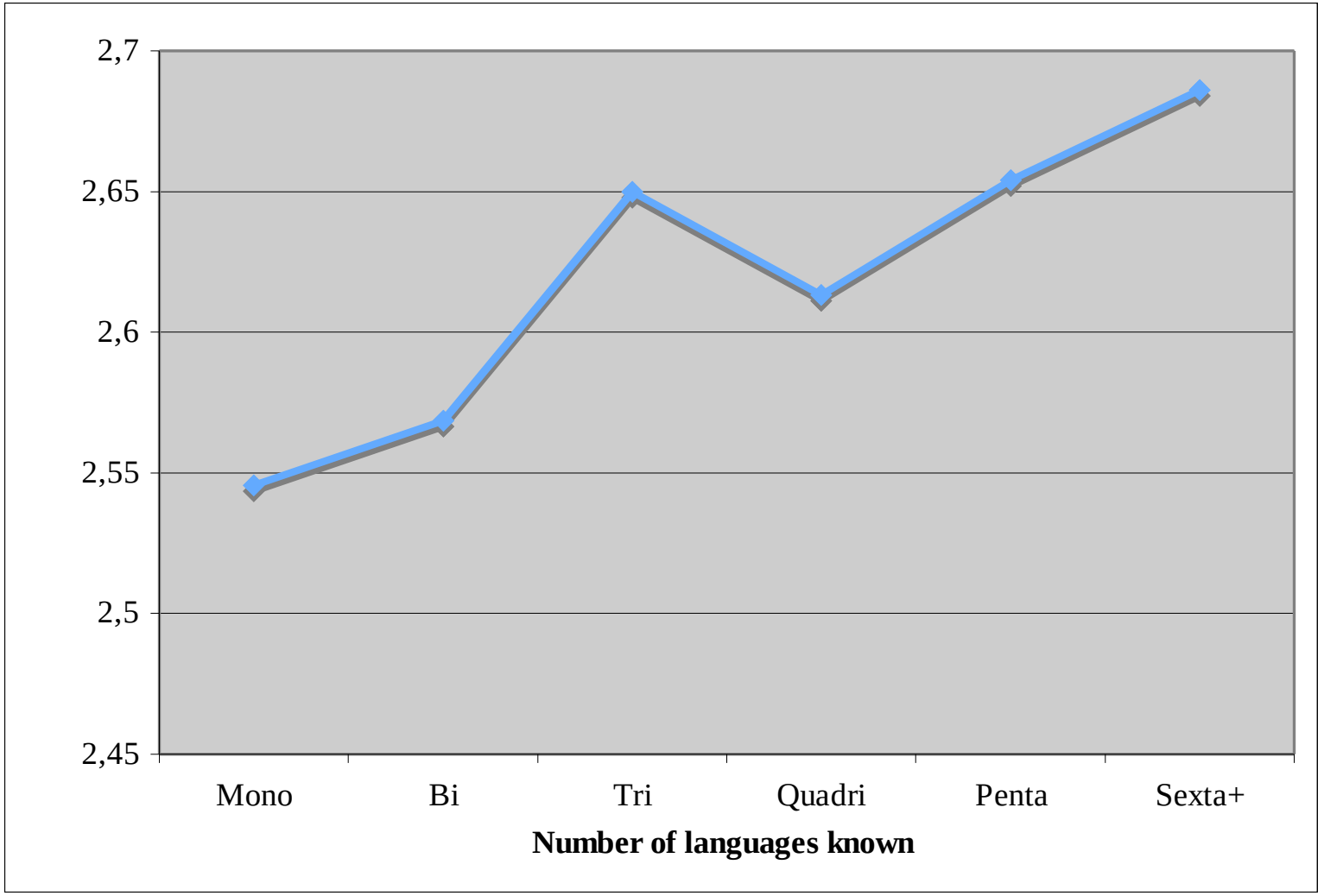
- TA is ‘‘tendency to perceive ambiguous situations as desirable’’ (Budner 1962: 29).
- “TA refers to the way an individual (or group) perceives and processes information about ambiguous situations when they are confronted by an array of unfamiliar, complex or incongruent cues” (Furnham 1994: 403)
- => correlated with **Openness** (behaviour: wide interests, imaginative & insightful, linked to activity in dorsolateral cortex; considered primarily a cognitive trait) & **Rigidity** (inflexibility, difficulty making transitions, adherence to set patterns, linked to deficit of the executive functions (frontal lobe).

- **In SLA, studies have shown that good language learners are more tolerant of ambiguity.**

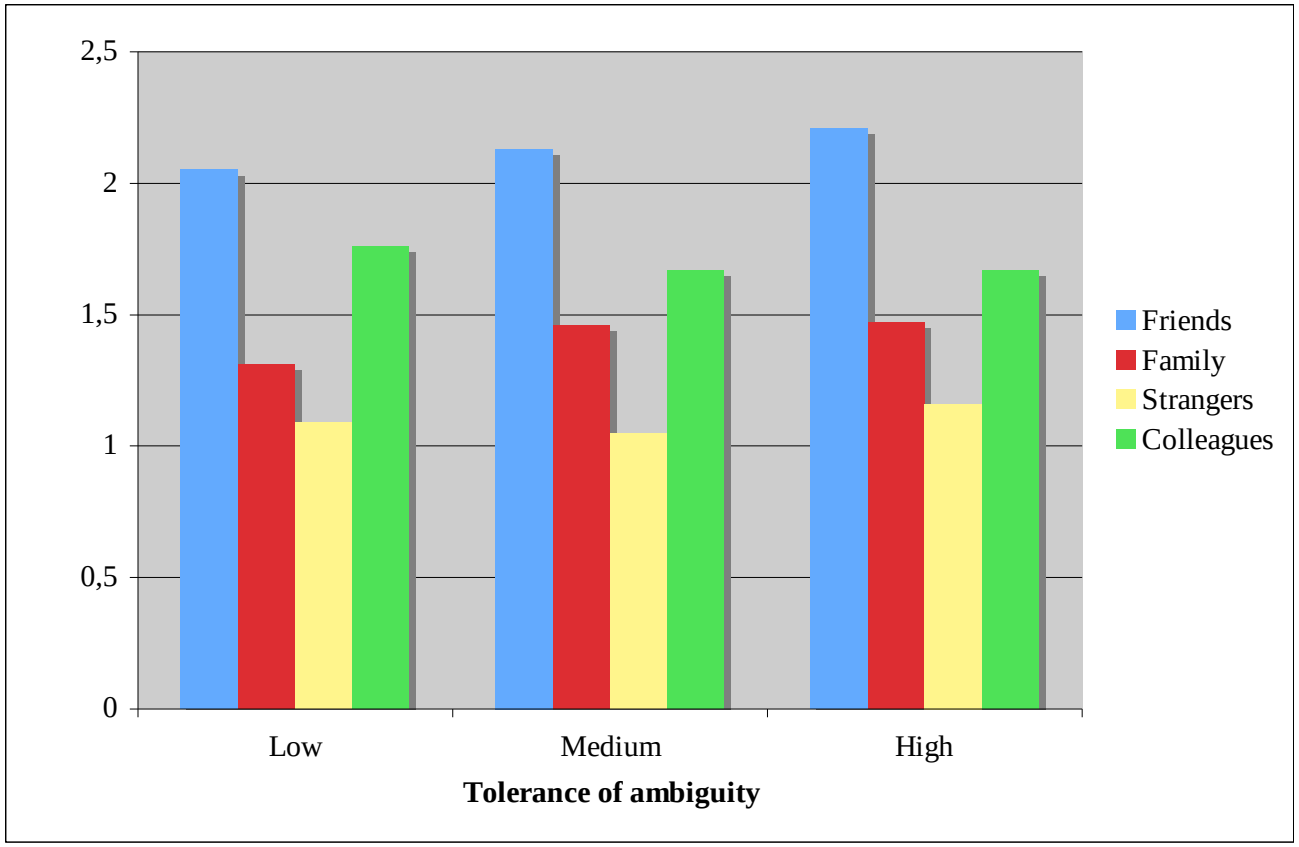
- Multilingual Use Questionnaire with 18 questions related to sociobiographical background, frequency of codeswitching and attitudes towards CS etc.
- Adapted version of Herman's (2010) 'Tolerance of Ambiguity' Questionnaire
- N = 2,158 (1,589 females, 457 males)

Effect of multilingualism on Tolerance of Ambiguity

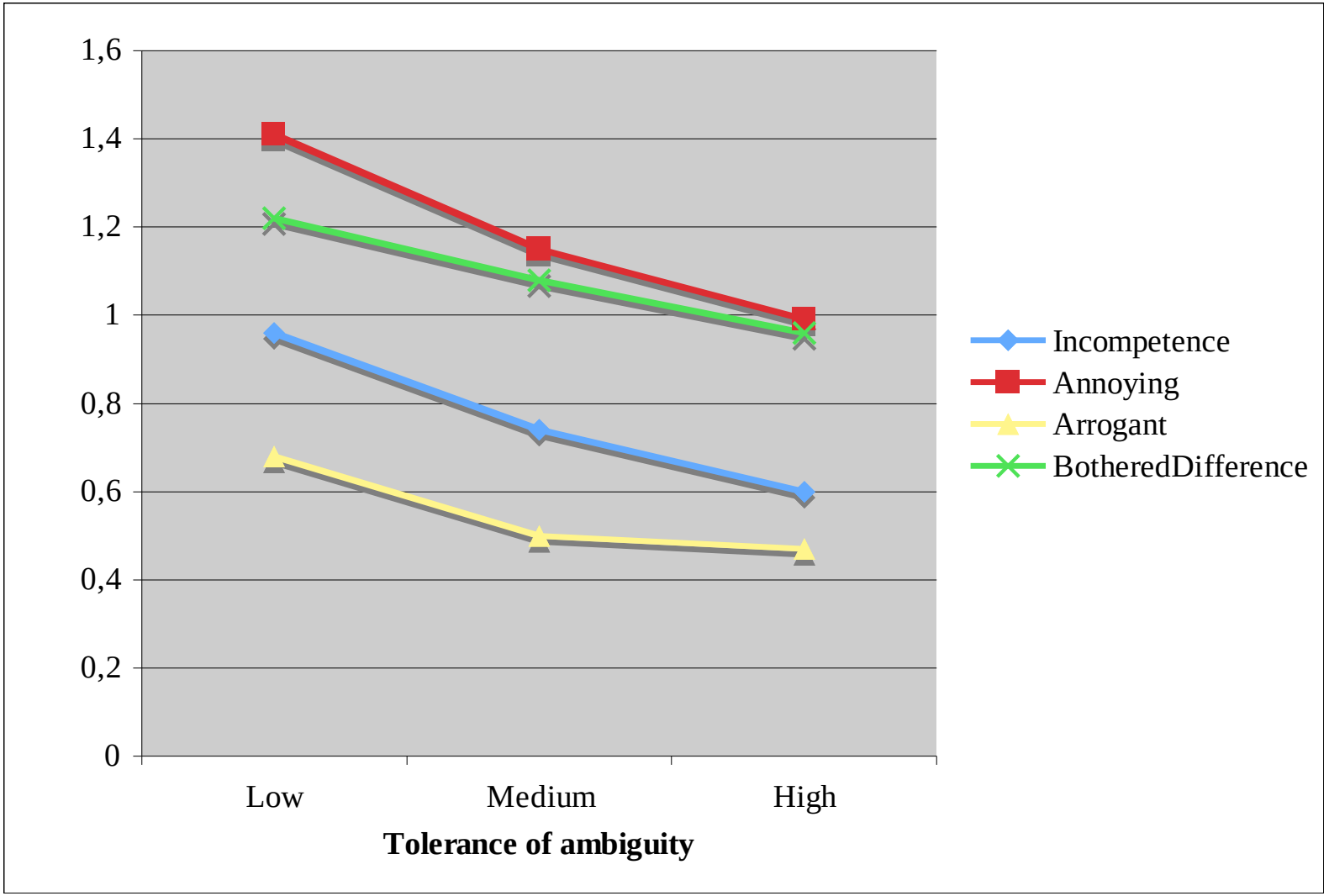
F =2.33, $p < 0.041$ $eta^2 : 0.006$



Effect of TA on self-reported frequency of CS (ANOVAs)



Effect of TA on Attitudes toward CS



Results

- Participants who know more languages score high on TA
- TA *not* linked to **proficiency**
- TA *not* linked **frequency** of CS
- TA linked to **attitudes** towards CS - high TA less likely to view CS negatively or to be bothered by being different!

Empathy

- Empathy - the ability ‘to tune into how someone else is feeling, or what they might be thinking’ (Baron-Cohen & Wheelwright, 2004, p. 193).
- Empathy plays a crucial role in social interactions as it allows us ‘to understand the intentions of others, predict their behaviour, and experience an emotion triggered by their emotion’ (p. 193).
- Linguists working on CS often claim that multilinguals can collaboratively build sentences with elements from different “languages”.
- Potential to test multilinguals’ Theory of Mind.
- Cognitive empathy - ‘‘the intellectual/imaginative apprehension of another’s mental state’’
- Emotional empathy - ‘‘an emotional response to . . . emotional responses of others’’’ (Lawrence, Shaw, Baker, Baron-Cohen, & David, 2004, p. 911).

- In SLA, learners with higher Cognitive Empathy has been shown to have better attainment, and vice versa.

- Instrument: Baron-Cohen and Wheelwright's (2004) Empathy Quotient questionnaire.

Findings

- A total of 2,158 multilinguals (1,589 females, 457 males) completed a language use questionnaire and the Baron-Cohen/Wheelwright EQ questionnaire, focusing on Cognitive Empathy.
- Participants *knowing more languages* did *not* score higher on cognitive empathy than those knowing fewer – **knowing more languages alone does not enhance Cognitive Empathy**.
- Participants who *use multiple languages more frequently* scored significantly higher on cognitive empathy.
- Participants who habitually code-switch between multiple language showed **a stronger effect** on cognitive empathy than mere proficiency in multiple languages.

CS and selective attention, and creativity

- with **Anatoliy Kharkhurin**

- Kharkhurin - effect of speaking several languages on an individual's creative capacities.
- Individuals who know many different languages have better/enhanced selective attention, i.e. control and separation
- Selective attention is crucial to creativity, i.e. divergent thinking
- Using the Stroop task, Kharkhurin revealed that bilinguals who are better at focusing on relevant information i.e. selective attention, tend to also activate a larger number of possible solutions to a problem (i.e., generative capacity).
- It also revealed that bilinguals with high language skills may utilize the inhibition mechanism of selective attention to enhance the extraction of innovative and useful ideas (i.e., innovative capacity) presumably by suppressing the interference of the ideas that fail to satisfy task requirements.
- **Kharkhurin, 2011, made a logical though speculative conclusion that habitual CS where multiple languages are simultaneously activated may hinder selective attention and therefore may have negative impact on creative performance.**

CS and selective attention, and creativity

- The performance of 166 multilingual college students in UAE (59 male and 107 female, all Arabic-English bilingual with various other languages) with different code-switching behaviors and attitudes was tested on a battery of creativity and cognitive measures.
- Participants' creative abilities were assessed using the Abbreviated Torrance Test for Adults (ATTA, Goff & Torrance, 2002). It has three paper and pencil activities.
- In Activity 1, participants were asked to suppose that they could walk on air or fly, and then to identify the troubles that they might encounter. This activity provided verbal fluency and originality scores.
- In Activity 2, participants were presented with two abstract and incomplete figures and were asked to draw pictures with these figures and to attempt to make these pictures as unusual as possible. This activity provided figural fluency, originality, and elaboration scores.
- In Activity 3, the participants were presented with a group of nine triangles arranged in a 3 x 3 matrix and were asked to draw as many pictures or objects as they could using those triangles. This activity provided figural fluency, originality, elaboration, and flexibility scores.
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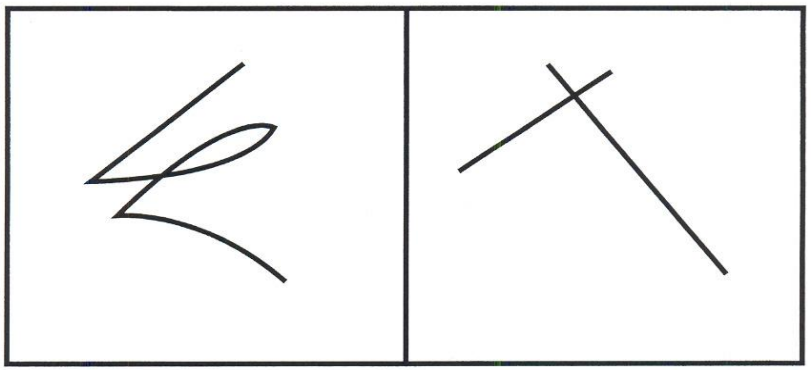
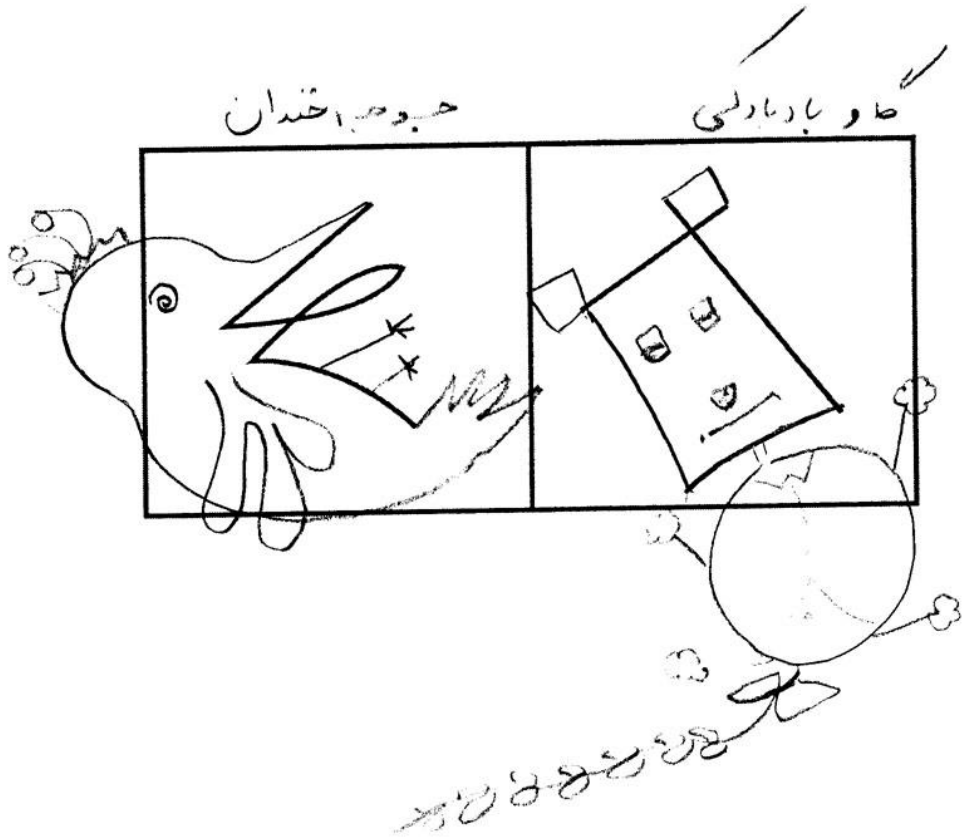
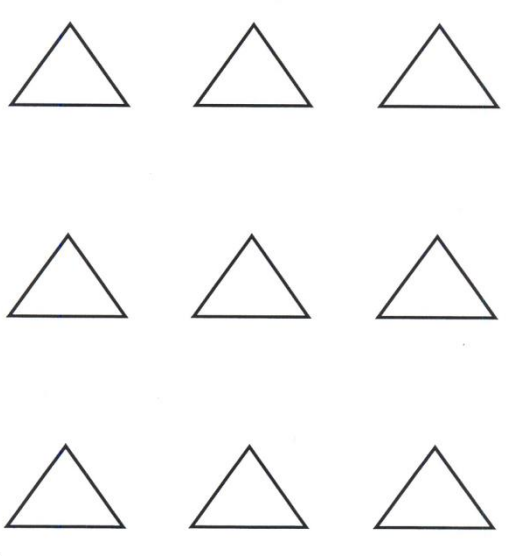
ATTA Activity 2



ATTA Activity 2



ATTA Activity 3



ATTA Activity 3

Results

- The study revealed both effects: habitual CS-ers performed less well in some of the selective attention tasks; yet at the same time, showed better creative capacities.
- Specifically, CS for special communication purposes was found to have a negative effect on selective attention tasks, but not for creativity.
- On the other hand, CS induced by a particular emotional state and by a lack of specific vocabulary in a target language appeared to relate to increase in both generative and innovative capacities.
- In other words, different types of CS lead to different results.

- Participants who code switch are likely to consider several alternatives in different languages to select a lexical entry that communicates their message in the best possible manner. The success of this process partially relies on the ability to keep the entries in several languages active.
- Code switchers seem to be unlikely to focus on one language and suppress the other; that is, they should be less readily involved in interference suppression. This explains the findings that individuals who code switch to achieve special communication effect might be less involved in habitual interference suppression and therefore showed poorer selective attention performance.

- At the same time, habitual **code-switchers exercise more verbal creative capacity, which compensates for the lack of selective attention**.
- In an attempt to convey the message with special communication effects, **they deliberately code switch to achieve an expressive and creative performance**.

Implications for Language Learning

- Bilingualism impacts on social cognition: e.g. tolerance of ambiguity, empathy, and creativity, in complex ways
- Code-switching in particular shows positive benefits for social cognition
- CS is feared even by people who are highly proficient bilinguals – *is it causing confusion in young children? Is it an indication of poor linguistic competence and cognitive control?*
- In language teaching classrooms, one language only and one language at a time are still the dominant policy

- There are of course practical constraints (e.g. time) on how much linguistic diversity is feasible in one class
- But the socio-cognitive benefits of allowing more languages to be used in learning clearly cannot be ignored
- Knowledge of other language, especially home and community languages, must be used actively as a resource in additional language learning, to encourage *positive transfer*

- Social context and individual difference need to be taken seriously
- Giving value to the diversity bilingual and multilingual language users and language learners, and the ‘ecology’ of the language learning context

Thank you

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