Bilingualism: Language and Cognition 21 (5), 2018, 952–956 © Cambridge University Press 2018 doi:10.1017/S1366728918000123

RESEARCH NOTE

Does bilingualism really affect social flexibility?*

MARC LLUÍS VIVES
Center for Brain and Cognition, Universitat Pompeu Fabra, Barcelona, Spain
LYDIA REPKE
Research and Expertise Centre for Survey Methodology (RECSM), Universitat Pompeu Fabra, Barcelona, Spain
GESIS - Leibniz Institute for the Social Sciences, Mannheim, Germany
ALBERT COSTA
Center for Brain and Cognition, Universitat Pompeu Fabra, Barcelona, Spain
Institució Catalana de Recerca i Estudis Avançats (ICREA), Barcelona, Spain

(Received: November 14, 2017; final revision received: January 17, 2018; accepted: January 17, 2018; first published online 4 June 2018)

Ikizer and Ramirez-Esparza (2017) reported a study suggesting that bilingualism may have a positive impact on people's social skills. They found that a) bilinguals scored higher on a scale that is supposed to reveal social flexibility, and that b) they also report having social interactions more frequently than monolinguals. The authors relate this advantage in social flexibility to the need of exercising language switching in bilingual speakers. In this commentary, we argue that their arguments are not theoretically sound and that their observations are not compelling enough to reach this conclusion.

Keywords: social flexibility, bilingualism, task-switching

What are the collateral effects of using two languages on a regular basis? Does bilingualism have an impact on cognitive domains other than language, such as attention, mentalizing, and creativity? The studies exploring these issues usually compare the performances of bilinguals and monolinguals in tasks related to various mental constructs (e.g., inhibition, monitoring, etc.). Regardless of whether one has a well-articulated theory to hypothesize an effect of bilingualism, research exploring differences between groups of individuals (e.g., women vs. men; African Americans vs. Caucasian Americans) needs to be conducted with special care given the results' potential social consequences. Here we discuss recent results by Ikizer and Ramirez-Esparza (2017), suggesting that bilinguals are more socially flexible than monolinguals. We argue that their arguments are not theoretically sound and that their observations are not compelling enough.

* We thank our colleagues from the Behavioral and Social Sciences research group at the Universitat Pompeu Fabra for their fruitful comments. Marc-Lluís Vives was supported by a grant from the Government of Spain (BES-2015-071581).This research has been funded by the Spanish Ministry of Economy and Competitiveness (PSI2014-52181-P), the Catalan Government (SGR 2017-268), and the European Research Council under the European Community's Seventh Framework (FP7/ 2007–2013 Cooperation Grant Agreement 613465-AThEME).

Address for correspondence:
Albert Costa, Center for Brain and Cognition, Universitat Pompeu Fabra, c/ Ramon Trias Fargas 25–27, Office 24.311, 08005 Barcelona, Spain.
costalbert@gmail.com

Theoretical motivation

Ikizer and Ramírez-Esparza hypothesized that the regular usage of two languages could improve social flexibility. They neither proposed any specific theoretical definition of this term nor did they explain which frequency of daily switching is needed. Yet, they suggested that the manifestation of such a construct could be defined as a) the ease with which people can switch and adapt between different social environments and b) the accuracy with which social cues are read. We agree that showing that the usage of two languages aids these two processes could have important implications for society.

Their hypothesis is based on the assumed greater cognitive flexibility associated with bilingualism. The authors embrace the idea that bilingualism positively affects the ease with which people can switch between different tasks. However, this evidence on the advantage of bilingualism on task switching has been called into question repeatedly (Branzi, Calabria, Gade, Fuentes & Costa, 2016; Hernández, Martin, Barceló & Costa, 2013) – information that the authors conveniently ignore. Still, let us assume that they are correct and that bilingualism helps to switch between task sets. Is this evidence enough to argue that bilingualism will affect switching between social contexts? Not really. This is because people's performances in language-switching tasks and language-free switching tasks often do not correlate or

do so minimally (Calabria, Hernández, Branzi & Costa, 2012; Cattaneo, Calabria, Marne, Gironell, Abutalebi & Costa, 2015; but see Declerck, Grainger, Koch & Philipp, 2017). Hence, it is not immediately obvious that practice in language switching translates into better switching abilities in other cognitive domains.[1]

More obscure is the reason to expect an effect of bilingualism on reading social cues accurately. The authors seem to resort again to the fact that bilinguals are better at switching between tasks that involve social cues (Marzecová, Bukowski, Correa, Boros, Lupiáñez & Wodniecka, 2013). However, this result can be accounted for by assuming a more efficient inhibitory control without making reference to the ability to read social cues, as the authors of that study acknowledge. Thus, it is not immediately obvious why bilingualism should affect the ability to perceive social cues.

More interesting, perhaps, are the studies suggesting an effect of bilingualism on the development of theory of mind. The authors argue that bilingualism can have an effect on how quickly children can pass certain tests that require mentalizing (Goetz, 2003). This is probably the case (see Fan, Liberman, Keysar & Kinzler, 2015 for further evidence in perspective taking). However, this does not mean that the same phenomenon would be present in adulthood. One thing is that being exposed to two languages during childhood speeds up the development of certain cognitive abilities, and another one is that this experience affects performance when individuals have already acquired such abilities. At present, the evidence we have about this issue in adulthood, as they argued, is very limited (Rubio-Fernández & Glucksberg, 2012), and it too may suffer from similar shortcomings as the ones raised below.

Given these considerations, the authors' main proposal that *"bilinguals have increased social flexibility and that they can switch with ease and adapt between different social environments"* seems somewhat weakly justified (2017: 2). Still, even if the first part of the proposal would have ended up being true, it is not immediately obvious why this should affect the frequency with which interactions occur. Actually, one could argue that this relationship goes in the opposite direction and that people that have frequent interactions develop better social skills. Beyond the merits of the hypothesis itself, one should evaluate the reported facts and whether they warrant the authors' conclusions.

The evidence

Ikizer and Ramírez-Esparza asked two groups of participants to answer two questionnaires via Mturk. The first questionnaire involved a subset of 40 statements from the Trait Emotional Intelligence Questionnaire (TEIQue; Petrides, 2009). Eighteen items were supposed to inform about social flexibility and 22 were added as controls for emotional intelligence. Participants had to rate each statement on a 7-point Likert scale ranging from 1 (*completely disagree*) to 7 (*completely agree*). The second questionnaire was an adaptation of the social interaction scale from Ybarra, Burnstein, Winkielman, Keller, Manis, Chan and Rodriguez,(2008) that included 12 items to measure the frequency of participants' social interactions.

After running a factor analysis with the responses for both questionnaires, two factors were extracted. In factor 1 (labeled as positive outlook scale), 12 items were retained. In factor 2 (labeled as social flexibility scale), 11 items were retained. The most important result is that bilinguals scored higher on the social flexibility scale than monolinguals (with a difference of .41 between groups on a scale ranging from 1 to 7). No differences were observed for positive outlook between groups. Furthermore, bilinguals also scored higher on the social interaction scale. Thus, bilinguals not only reported having higher social flexibility but also having social interactions more frequently. In addition, the effect on frequency of social interactions was mediated by social flexibility.

The shortcomings

Several shortcomings of this study are major enough to prevent the strong conclusion drawn by the authors: "*The findings from this investigation suggest that, as bilinguals switch between two languages, they develop the ability to adapt to new environments, cope with change, and attend to others' perspectives."* (2017: 10). To be fair, some of these shortcomings are acknowledged by the authors, but we think they seriously compromised any sound conclusion.

A close inspection of the items retained and excluded from the social flexibility scale questions the validity of the construct itself. For example, items such as "Others admire me for being relaxed" is retained in the scale while "I normally find it difficult to adjust my behavior according to the people I'm with" is excluded. Apparently, if anything, it should have been the opposite. In fact, social flexibility should not need to reflect how people admire you, but rather should be more related to adjusting one's behavior according to the social context. A similar case can be made for items such as "I don't mind frequently changing my daily routine" vs. "I usually find it difficult to change my attitudes and views", where the first one is retained and the second one excluded. Arguably, changing views and attitudes should index flexibility. We have approached this issue informally, by asking a group of people ($N = 25$) to decide (1 = yes, 0= no) whether the 28 statements (excluding the ones of factor 1) are related to social flexibility, as defined by the authors. Out of the 11

[1] Another shortcoming of this argument comes from the fact that task-switching studies oftentimes involve constant switches between task sets, a situation that is unlikely in social contexts.

https://doi.org/10.1017/S1366728918000123 Published online by Cambridge University Press

items that had the highest scores in our sample, only 8 were included in the final scale the authors used (see Table 1 in Appendix). Although these results are admittedly limited, they reveal that it is not immediately obvious that the items retained reflect the construct of social flexibility, at least, as it is vaguely defined by the authors. The scales also lack indexes of reliability and information on whether the measure captures a trait or a state.[2]

Perhaps the major shortcoming, as the authors point out, refers to the samples tested. First, the monolingual sample ($n = 465$) is more than twice as big as the bilingual one ($n = 206$). This is problematic because small samples have higher margins of error than big samples and, thus, the likelihood that the reported results are close to the true scores is lower for smaller samples. This does not necessarily compromise the statistical analyses, but raises issues about the precision in the estimation of the different means for the two groups. This problem could have been alleviated by doing some sort of sub-sampling of the monolingual group or bootstrapping and compare them to the bilingual group.

Second, the exclusion criterion was different between the two groups in a crucial respect. In the monolingual group, bicultural participants were excluded. This is surprising given that the same criterion was not followed in the bilingual group, likely because this would have led to the exclusion of the vast majority of bilingual participants. As a consequence, the two samples are very unbalanced in several aspects. For example, almost half (45.7%) of the bilinguals were of Asian or Latin ethnicity, while these ethnicities only accounted for 2.4% of the monolingual sample (incidentally, the percentages for the monolingual group in Table 1 are incorrect). The two samples are also different in terms of educational level, where almost a third of the monolingual group (31.8%) had a high school degree or less, while this is the case for only 12.1% of the bilinguals. Thus, the bilingual group tended to be more bicultural and more educated. It is unclear what information one can gather from analyses that control for these variables when the imbalance in the samples is so large.

The imbalance in the cultural properties of the two samples is worrisome because of various reasons. First, people compare themselves to other individuals of their own group when evaluating personal features. For example, ranking oneself when presented with the statement "Others admire me for being relaxed" would probably depend on whom we compare ourselves to: that is, it will depend on the reference group we use. It is possible that Latinos use the Latino reference group while White Americans use the Western reference group (see Heine, Lehman, Peng & Greenholtz, 2002). Are these two reference groups similar in the way they respond to the two scales? We do not know. This is even more problematic for bicultural individuals since it is hard to know which cultural reference group they use, or even if they are consistent in using such a group. To make things more complicated, the scales do not have cross-cultural validity, and therefore we cannot be sure that they measure the same construct across cultural groups. To alleviate these concerns, one should gather data from monolingual (and monocultural) individuals. This would provide the norms of the corresponding reference group, and allow a fairer comparison (although this would not completely solve the problem because biculturalism could still be a confounding factor when assessing the reference group).

Second, the inclusion of different cultures in the two groups is also a source of concern (i.e., Latin and Asian cultures vs. North American culture). Latin and Asian cultures are known to be more collectivist than North American (Western) societies, and hence it is likely that this difference affects the view of how flexible people think they are (for related evidence in perspective taking, see Wu & Keysar, 2007). Third, differences in educational level are also problematic, because higher educated people (in this case the bilingual group) tend to have more functional inhibitory control processes (van Hooren et al., 2007), which according to the authors is a fundamental mechanism behind social flexibility.

Beyond these results on social flexibility, bilinguals report having more frequent social interactions than monolinguals (e.g., they get together with their friends more often). An interpretation of this result might be compromised by potential memory biases associated with contrast effects that may favor higher memory recollection for bilinguals. Using different languages with different people may help to recall social interactions, given that language may act as a contrastive feature of such experience. That is, the need to identify the language you have to use for each person you interact with may help to make that experience more salient and to some extent more memorable. You recall that you talked about the weather with your neighbor in the elevator, in Barcelona, because you used German to speak with her (a highly contrastive feature of such an interaction in that scenario); otherwise perhaps you forget such an uninteresting interaction. Also, speaking two languages may broaden the spectrum (not necessarily the frequency) of individuals one can engage with and, thus, eventually lead to a more diverse social network with people from a variety of social domains. More varied interactions (not necessarily involving different cultures) may also affect the salience of memories. Likewise, it is easier to

[2] Interestingly, only 24% of participants evaluated the item "Others admire me for being relaxed" as related to social flexibility, while there was much more agreement in other items that were excluded from the construct. For example, "I normally find it difficult to adjust my behavior according to the people I'm with" reached an 88% agreement as an item indexing social flexibility.

https://doi.org/10.1017/S1366728918000123 Published online by Cambridge University Press

remember a given meal if we keep changing restaurants than if we go always to the same one. Hence, when evaluating how often we have interactions, the higher their variety the more available they might be.

According to this explanation, the higher frequency in social interactions reported by bilinguals does not stem from differences in the actual frequency of such interactions. Rather, it may be a consequence of how easily memories come to mind, and the more contrastive a given social interaction has been the easier it is retrieved.

It is true that the authors devote a large part of the general discussion to the potential confounders and limitations of their study. The issue then is whether indeed bilingualism is the most probable factor behind their observations. Contra their conclusion, we do not think so. We believe that cultural and educational differences together with bicultural status and memory availability are more likely to be behind the effect than language profiles. As the authors suggest, information on the language-switching profiles is fundamental to investigate whether language control is behind this phenomenon, and this is especially relevant for the type of bilinguals tested in the study, which may be placed in somewhat diglossic contexts. Thus, unless independent evidence suggesting that language-switching activity leads to higher degrees of social flexibility is brought to the table, the conclusion reached by the authors seems, at least, premature.

Bilingualism promoting social flexibility: could that still be the case?

Is there any other reason to hypothesize that bilingualism may, at the end, indeed affect people's social flexibility. Perhaps. Learning and using two languages may effectively lead to carving the world in slightly different ways (Athanasopoulos, Bylund, Montero-Melis, Damjanovic, Schartner, Kibbe, Riches & Thierry, 2015; Thierry, 2016). This, in turn, may promote a greater repertoire of how to look at the world and, hence, foster cognitive flexibility, regardless of whether this involves inhibitory processes. Still, one should articulate how this supposedly greater cognitive repertoire would translate into higher social flexibility.

Moreover, knowing a second language might augment the pool of people one could interact with and, thereby, might increase variability in social experiences, which in turn may enlarge exposure to different social behaviors and norms. As a consequence, one could expect bilinguals to show greater behavior-flexibility within the social domain. Of course, whether this is indeed the case is currently unknown.

As we said at the outset, special care has to be exercised when assessing differences between groups of individuals given the potential social consequences that the results may have. Imagine, for the sake of the argument, that the results would have turned out to be the opposite and that bilinguals would have shown a reduction in social flexibility. Would then the authors have started their article by asking the question: Is bilingualism worse than monolingualism? We doubt so.

Appendix

Table 1. *Percentage of participants that assessed each item as being characteristic of social flexibility.*

Items	%
1. I tend to "back down" even if I know I'm right.	56%
2. On the whole, I'm able to deal with stress.	44%
3. I feel that I have a number of good qualities.	12%
4. I usually find it difficult to change my behavior.	72%
5. I normally find it difficult to adjust my behavior according to the people I'm with.	88%
6. I don't seem to have any power at all over the other people's feelings.	52%
7. Expressing my emotions with words is not a problem for me.	48%
8. Even when I'm arguing with someone, I'm usually able to take their perspective.	100%
9. Imaging myself in someone else's position is not a problem for me.	100%
10. Generally, I'm able to adapt to new environments.	100%
11. I would describe myself as a flexible person.	76%
12. On the whole, I can cope with change effectively.	100%
13. I'm normally able to "get into someone's shoes" and experience their emotions.	96%
14. I would describe myself as a good negotiator.	80%
15. Others admire me for being relaxed.	24%
16. I often find it difficult to see things from another person's viewpoint.	80%
17. I can handle most difficulties in my life in a cool and composed manner.	52%
18. I can deal effectively with people.	100%
19. I'm usually able to influence the way other people feel.	*56%*
20. I generally believe that things will work out fine in my life.	8%
21. I believe I'm full of personal strengths.	12%
22. On the whole, I'm pleased with my life.	24%
23. On the whole, I'm a highly motivated person.	12%
24. I'm usually able to find ways to control my emotions when I want to.	56%
25. I don't mind frequently changing my daily routine.	72%

https://doi.org/10.1017/S1366728918000123 Published online by Cambridge University Press

Table 1. *Continued.*

Items	%
26. I usually find it difficult to change my attitudes and views.	72%
27. I often pause and think about my feelings	40%
28. It is very important to get along with all my close friends and family.	60%

Note 1. Items that were originally included in the social flexibility scale are italicized.

References

Athanasopoulos, P., Bylund, E., Montero-Melis, G., Damjanovic, L., Schartner, A., Kibbe, A., Riches, N., & Thierry, G. (2015). Two Languages, Two Minds: Flexible Cognitive Processing Driven by Language of Operation. *Psychological Science*, 1–9. https://doi.org/10.1177/0956797614567509

Branzi, F. M., Calabria, M., Gade, M., Fuentes, L. J., & Costa, A. (2016). On the bilingualism effect in task switching. *Bilingualism: Language and Cognition*, 1–14. https://doi.org/10.1017/S136672891600119X

Calabria, M., Hernández, M., Branzi, F. M., & Costa, A. (2012). Qualitative differences between bilingual language control and executive control: Evidence from task-switching. *Frontiers in Psychology, 3*(*JAN*). https://doi.org/10.3389/fpsyg.2011.00399

Cattaneo, G., Calabria, M., Marne, P., Gironell, A., Abutalebi, J., & Costa, A. (2015). The role of executive control in bilingual language production: A study with Parkinson's disease individuals. *Neuropsychologia, 66*, 99–110. https://doi.org/10.1016/j.neuropsychologia.2014.11.006

Declerck, M., Grainger, J., Koch, I., & Philipp, A. M. (2017). Is language control just a form of executive control? Evidence for overlapping processes in language switching and task switching. *Journal of Memory and Language, 95*, 138–145. https://doi.org/10.1016/j.jml.2017.03.005

Fan, S. P., Liberman, Z., Keysar, B., & Kinzler, K. D. (2015). The Exposure Advantage: Early Exposure to a Multilingual Environment Promotes Effective Communication. *Psychological Science, 26*(*7*), 1090–1097. https://doi.org/10.1177/0956797615574699

Goetz, P. J. (2003). The effects of bilingualism on theory of mind development. *Bilingualism: Language and Cognition, 6*(*1*), S1366728903001007. https://doi.org/10.1017/S1366728903001007

Heine, S. J., Lehman, D. R., Peng, K., & Greenholtz, J. (2002). What's wrong with cross-cultural comparisons of subjective Likert scales?: The reference-group effect. *Journal of Personality and Social Psychology, 82*(*6*), 903–918. https://doi.org/10.1037//0022-3514.82.6.903

Hernández, M., Martin, C. D., Barceló, F., & Costa, A. (2013). Where is the bilingual advantage in task-switching? *Journal of Memory and Language, 69*(*3*), 257–276. https://doi.org/10.1016/j.jml.2013.06.004

Ikizer, E. G., & Ramírez-Esparza, N. (2017). Bilinguals' social flexibility. *Bilingualism: Language and Cognition*, 1–13. https://doi.org/10.1017/S1366728917000414

Marzecová, A., Bukowski, M., Correa, Á., Boros, M., Lupiáñez, J., & Wodniecka, Z. (2013). Tracing the bilingual advantage in cognitive control: The role of flexibility in temporal preparation and category switching. *Journal of Cognitive Psychology, 25*(*5*), 586–604. https://doi.org/10.1080/20445911.2013.809348

Petrides, K. V. (2009). Technical manual for the trait emotional intelligence questionnaires (TEIQue). *London: London Psychometric Laboratory*. https://doi.org/10.1017/CBO9781107415324.004

Rubio-Fernández, P., & Glucksberg, S. (2012). Reasoning about other people's beliefs: Bilinguals have an advantage. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 38*(*1*), 211–217. https://doi.org/10.1037/a0025162

Thierry, G. (2016). Neurolinguistic Relativity: How Language Flexes Human Perception and Cognition. *Language Learning, 66*(*3*), 690–713. https://doi.org/10.1111/lang.12186

van Hooren, S. a H., Valentijn, a M., Bosma, H., Ponds, R. W. H. M., van Boxtel, M. P. J., & Jolles, J. (2007). Cognitive functioning in healthy older adults aged 64–81: a cohort study into the effects of age, sex, and education. *Neuropsychology, Development, and Cognition. Section B, Aging, Neuropsychology and Cognition, 14*(*1*), 40–54. https://doi.org/10.1080/138255890969483

Wu, S., & Keysar, B. (2007). The effect of culture on perspective taking. *Psychological Science, 18*(*7*), 600–606. https://doi.org/10.1111/j.1467-9280.2007.01946.x

Ybarra, O., Burnstein, E., Winkielman, P., Keller, M. C., Manis, M., Chan, E., & Rodriguez, J. (2008). Mental Exercising Through Simple Socializing: Social Interaction Promotes General Cognitive Functioning. *Personality and Social Psychology Bulletin, 34*(*2*), 248–259. https://doi.org/10.1177/0146167207310454