

Francesca Dumančić
Filozofski fakultet, Zagreb
fdumanci@m.ffzg.hr

Foreign Language Effect in moral decision-making: A literature review

Research has shown that decision-making outcomes can depend on the language in which a problem is presented to the reader, a phenomenon known as the foreign language effect. Although this is a relatively new area of research, it is rapidly growing. The effect has been documented across various domains including cognitive biases, risk perception and moral judgment, as well as real behavior such as lying.

This review focuses on the moral foreign language effect, which is manifested as more lenient moral evaluations or less severe condemnation of moral transgressions when judgments are made in a foreign language rather than in one's native language. First, the moral foreign-language effect is described, and its proposed underlying mechanisms are compared. Then, the limits of the effect are discussed and recommendations for future research are offered.

1. Method

A comprehensive literature search was conducted to identify relevant studies on FLE in the area of moral reasoning. The search was conducted using Google Scholar, and the search query was "foreign language effect". No restrictions were placed on the type of study during the initial search.

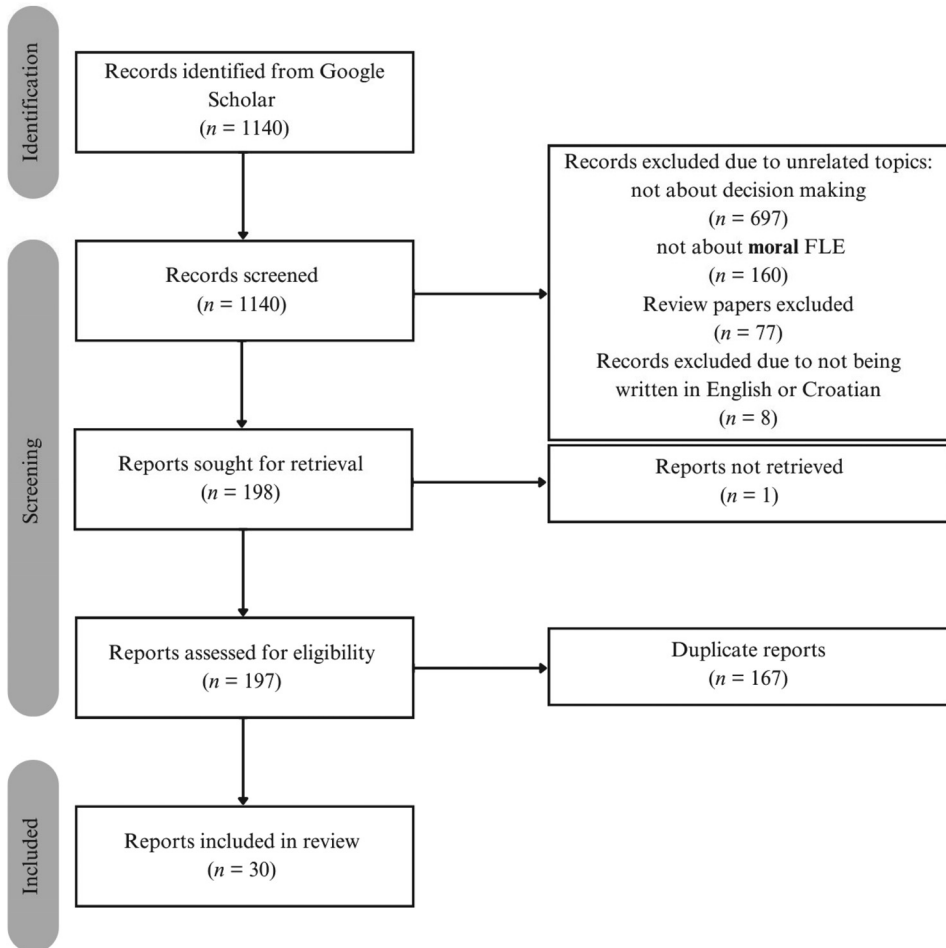


Figure 1.
Flow diagram of the research article selection

Figure 1 shows an overview of the search process. The initial search yielded a total of 1140 articles that were subjected to further review.

To be included in this review, articles had to meet the following criteria:

- (1) The study must explicitly examine the FLE in the context of moral reasoning.
- (2) The article must be an empirical study.
- (3) The article must have undergone a review process.
- (4) The article must be written in either English or Croatian.

After eliminating the articles that did not meet the inclusion criteria, 198 articles remained. Of these, one was not accessible. When duplicate articles were removed, 30 articles remained and were included in the review.

The selected studies were systematically catalogued into evidence tables to facilitate data analysis and comparison. These tables recorded, among other things, the research question, the moral dilemmas used, the specific questions asked at the end of the moral dilemma, the emotion measures used, and other relevant information.

2. Results of the literature review

2.1. Is moral foreign language effect a real effect?

When FLE was first documented, it was crucial to confirm that it was a real effect and not a coincidence. In Costa et al.'s study (2014b), participants responded to the footbridge dilemma on a binary scale (yes/no). The fact that 44% of participants in the L2 situation chose to push a person off the footbridge, compared to 18% who chose to do so in the L1 situation, raised concerns that they might not have fully understood the dilemma and responded randomly, driving responses toward 50%. However, FLE has been replicated across multiple studies and different language pairs (Brouwer 2019; Caldwell-Harris & Ayçiçeği-Dinn 2020; Chan et al. 2016; Cipolletti et al. 2016; Corey et al. 2017; Costa et al. 2014b; Costa et al. 2019; Dylman & Champoux-Larsson 2020; Geipel 2015; Geipel et al. 2015a; Geipel et al. 2015b; Geipel et al. 2016; Hayakawa et al. 2017; Hayakawa & Keysar 2018; Muda et al. 2018; Muda et al. 2020; Musty & Andrews 2017; Nguyen 2019; Romero-Rivas et al. 2020; Shin & Kim 2017; Tonković et al. 2020; Wong & Ng 2018) and even dialects of the same language (Miozzo et al. 2020).

Even studies that found no FLE did not dismiss its existence. Instead, their authors noted that their goal was to explore the limits of the effect. For example, Čavar and Tytus (2018) and Winskel and Bhatt (2019) were interested in participants who were highly acculturated in their L2 country and whose L2 became their dominant language. Dylman and Champoux-Larsson (2020) and Brouwer (2019) were interested in the role of linguistic similarity between L1 and L2, as well as cultural relevance of L2. Hayakawa et al. (2017), Muda et al. (2018), Zanfardin (2018) and Białek et al. (2019) used a different analysis that will be discussed later. While they found no evidence for moral FLE in the traditional analysis, they found a difference in the degree of concern people show for potential victims in their L1 and L2. Finally, Scherlippens (2019) reported moral FLE in the opposite direction (less severe condemnation of moral transgressions when judgments are made in L1 compared to L2), but also noted that there were serious problems with data loss, as participants' original responses were not recorded due to a software error and had to be retrieved later from memory.

Furthermore, most studies included a measure of language proficiency – self-rated (Białek et al. 2019; Brouwer 2019; Chan et al. 2016; Costa et al. 2014b; Costa et al. 2019; Dylman & Champoux-Larsson 2020; Geipel et al. 2015a; Geipel et al. 2015b; Geipel et al. 2016; Miozzo et al. 2020; Tonković et al. 2020; Winskel & Bhatt

2019; Wong & Ng 2018), objective (Čavar & Tytus 2018; Driver 2020; Scherlippens 2019) or both (Corey et al. 2017; Nguyen 2019), and/or a measure of scenario comprehension – self-rated (Białek et al. 2019; Driver 2020; Geipel et al. 2015a; Geipel et al. 2016; Muda et al. 2018; Winskel & Bhatt 2019) or objective (Chan et al. 2016; Cipolletti et al. 2016; Geipel 2015; Hayakawa et al. 2017; Scherlippens 2019). While moral FLE seems to weaken as L2 proficiency increases (e.g. Costa et al. 2014b), it cannot be fully explained by insufficient L2 comprehension.

Another explanation suggested that participants automatically perceive people described in L2 scenarios as out-group members (Caldwell–Harris 2014). Since feeling socially connected to the characters portrayed in a scenario influences moral judgment (e.g. Bloom 2011; Greene 2013), L2 could reduce emotional engagement and encourage a cost–benefit approach. However, Geipel (2015) used scenarios clearly stating that all characters described, both in L1 and L2 scenarios, were in-group members, yet moral FLE remained.

Replication of moral FLE in various languages and ruling out alternative explanations have been crucial in establishing moral FLE as a real effect. However, Bauman et al. (2014) criticized sacrificial dilemmas typically used in moral FLE research for their lack of experimental, mundane, and psychological realism and therefore low external validity. For this reason, such dilemmas may not trigger the same psychological processes as other moral situations. To address this, researchers have begun to incorporate non-sacrificial dilemmas (Geipel 2015; Geipel et al. 2016) and everyday situations (Geipel 2015; Geipel et al. 2016; Tonković et al. 2020) in their studies. The persistence of moral FLE in these contexts further supports its validity and underscores the need to investigate its underlying mechanisms.

2.2. What is the underlying mechanism of moral foreign language effect?

To understand moral FLE, it is crucial to understand the processes involved in moral judgment in general. Early research focused on moral reasoning (Rozin et al. 1999), often neglecting the emotional basis of morality. However, according to the Dual-process theory of moral judgment (Greene et al. 2001), moral judgment is driven by an interplay of System I, intuitive and automatic system sometimes described as the emotional system, and System II, controlled, effortful and rational system driven by the conscious evaluation of the potential outcomes. While any decision may be the result of either of these systems, System I is considered to be dominant in highly emotional contexts and it generally supports deontological judgments (adhering to moral norms), whereas System II prevails in less emotional contexts and supports utilitarian reasoning (maximizing overall welfare). For example, in the Footbridge dilemma, a utilitarian response involves pushing one person off a bridge to save five workers, while a deontological response rejects this action since it would be against the “do no harm” norm (Greene et al. 2008).

Two main explanations have been proposed for why moral judgment in L2 tends to be more utilitarian (or less deontological) than in L1. The first explana-

tion suggests that reading the dilemma in L2 might promote the use of more controlled processes compared to reading the dilemma in L1. This idea is supported by research that has revealed that L2 processing recruits brain areas related to control processes to a greater extent than L1 processing (Branzi et al. 2016). Put differently, L2 processing is less fluent than L1 processing (Costa & Sebastián-Gallés 2014) and L2 comprehension requires more cognitive resources (Hasegawa et al. 2002). Miller and Keenan (2011) attribute this difference between L1 and L2 to L2 users having to devote more cognitive resources to lower-level processes such as word identification and semantic processing. The increased processing difficulty might signal a need for more careful consideration leading to a more deliberative mode of thinking (Hayakawa et al. 2016). This explanation is known as “increased deliberation account” (Geipel et al. 2016), “heightened utilitarianism” (Hayakawa et al. 2017) and “increased utilitarianism hypothesis” (Corey et al. 2017).

If this hypothesis is correct and if L2 does lead to an increased deliberation, FLE should be present in the emotional footbridge dilemma that typically supports deontological responses in L1, but not in less emotional ones like the switch dilemma (flipping a switch diverts a trolley to kill one person instead of five) that typically supports utilitarian responses in L1. This dilemma is considered less emotional than the footbridge dilemma because, contrary to pushing a person, there is no general rule prohibiting pushing a switch (Geipel et al. 2015b). Consistent with the prediction of increased deliberation account, FLE was not found in the switch dilemma (e.g., Cipolletti et al. 2016; Costa et al. 2014b). As Geipel et al. (2016) noted, the increased deliberation account is also consistent with the finding that L2 increases moral leniency towards relatively harmless taboo actions such as saying a white lie (Geipel et al. 2015a), but it cannot explain why L2 reduces confidence in one’s conclusions (Geipel et al. 2015a). Deliberation should increase certainty in one’s conclusions (Mata et al. 2013). This account also cannot explain why L2 promoted more lenient moral evaluations towards harmful actions such as selling someone a defective car (Geipel et al. 2015a). These actions undermine the aggregate benefit and should be condemned on utilitarian grounds.

The second explanation focuses on diminished emotionality of L2 and dampened automatic responses, making deontological responses less frequent. This account is known as “reduced intuition account” (Geipel et al. 2016), “blunted deontology” (Hayakawa et al. 2017) and “decreased deontology hypothesis” (Corey et al. 2017). L2 might be less emotional than L1 because the memorial basis for emotion is autobiographical (Conway & Haque 1999). Words are linked to emotionally relevant personal memories and experiences are encoded together with the linguistic context in which they occur. While L1 is usually learned and used in a highly emotional context, through interaction with different people and in different situations, L2 is commonly learned later in life and is used mostly in a classroom setting with a few opportunities for integration of word representations with autobiographic memories (Pavlenko 2017). Research shows that L2 activates memories of

experiences and their associated emotional content less forcefully than L1 (Geipel et al. 2016) and that reading emotionally charged passages of text in L2, compared to L1, elicits less activation in brain areas related to emotional processing (Hsu et al. 2015). Furthermore, participants in a study conducted by Harris et al. (2003) demonstrated greater autonomic arousal to taboo words and childhood reprimands in their L1 compared to their L2. The perceived emotional force of swearwords and taboo words in multilingual speakers is highest in the L1 and gets lower in languages learned subsequently (Dewaele 2004). More recent research suggests that using L2 reduces the vividness of mental imagery (Hayakawa & Keysar 2018). Namely, L2 induced weaker sensory experiences such as sight and touch than L1 and this reduction in mental imagery partly accounted for the previously observed FLE in moral choice. Finally, multilinguals judged the phrase “I love you” to be the strongest in their L1 (Dewaele 2008) and L1 is often reported as the language of emotional expressiveness (Sechrest et al. 1968).

Stemming from the same explanation, access to norms might be more difficult in L2 and that might cause dampened emotions when norms are violated (Geipel et al. 2015b). Importantly, Geipel et al. (2016) noted that the reduced intuition account can explain findings that the increased deliberation account could not explain. According to this account, being more lenient toward harmful actions when using L2 is to be expected because L2 use attenuates the aversive response these actions typically trigger thus making them seem more acceptable. The reduced intuition account can also explain why people are less confident in their moral evaluations in L2. People use their initial emotional reaction to a dilemma as information that guides their decision (Loewenstein et al. 2001), sometimes without engaging in deliberative reasoning. The strong aversive reaction that promotes moral condemnation might be the same that inspires confidence in one’s judgment. Since that reaction is dampened in L2, there is a piece of missing information that decreases the confidence in conclusions.

To conclude, the reduced intuition account focuses on dampened emotionality of L2 and explains previous findings in the domain of moral FLE. Emotions were found to mediate the relationship between language and outcomes of decision-making processes in areas of FLE research such as risk and benefit perception (Hadjichristidis et al. 2015). However, in the area of moral FLE the results are inconclusive. While Geipel et al. (2015a) found that emotions mediated the relationship between language and moral decisions, Geipel et al. (2015b) and Chan et al. (2016) found no such mediation. This finding seems not to be in favour of the decreased deontology account. However, it is important to note that so far researchers focused on emotions such as being upset, worried and sad, which are not moral emotions. In contrast to standard emotions (e.g. happiness, sadness, or surprise) focused on one’s own interest, moral emotions are linked to the interests or welfare either of society as a whole or at least of person other than self. They inspire prosocial action tendencies as a response to one’s own behaviour (e.g. shame, embarrassment,

guilt) or behavior of others (e.g. contempt, anger, disgust) (Haidt 2003). Thus, in future research it might be of interest to test whether moral emotions mediate the relationship between language and outcomes of moral decision-making processes.

Overall, the reduced intuition account currently has more empirical support than the increased deliberation account, but the two are not mutually exclusive. Some researchers propose that FLE results from a combination of both processes – L2 simultaneously promotes controlled processing and dampens automatic responses. Costa et al. (2014b) suggest that L2 increases psychological distance, weakening System I emotional reactions while reinforcing System II reasoning. However, differentiating between these three hypotheses is challenging. Conway and Gawronski (2013) noted that traditional research, which typically relies on dilemmas like the Footbridge dilemma, does not allow for this distinction. The dual-process model posits that System I and System II function independently (Wang et al. 2017), yet moral dilemmas often treat utilitarian and deontological responses as two ends of the same continuum. Thus, a higher frequency of choices to sacrifice one person to save the lives of five people when using L2 compared to L1 can be interpreted as increased utilitarian responding in L2, decreased deontology responding in L2 or both.

To address this, Hayakawa et al. (2017), Muda et al. (2018), Zanfardin (2018) and *Biatek* et al. (2019) used Process dissociation technique (Conway & Gawronski 2013) to experimentally separate deontological responding indicative of System I and utilitarian responding characteristic of System II.

In typical research of moral FLE, it is not unusual to use only one dilemma (e.g. Costa et al. 2019; Dylman & Champoux-Larsson 2020; Scherlippens 2019). However, authors that used the process dissociation technique used approximately 20 moral dilemmas, half of them incongruent and half congruent. Traditional moral dilemmas, such as the footbridge dilemma, are incongruent in the sense that deontological and utilitarian concerns conflict. Congruent dilemmas are structurally identical to incongruent dilemmas except for the fact that deontological and utilitarian considerations agree. For example, if the choice concerns sacrificing one life to prevent five people from being mildly injured (instead of them being killed), neither deontological nor utilitarian concerns would endorse sacrificing the one person. Participants still have to answer whether it is appropriate to perform the action described in the dilemma. This allows authors to calculate separate U (utilitarianism) and D (deontology) parameters. The process of doing so is detailed in Hayakawa et al. (2017). They found that L2 use decreased deontological responding but did not increase utilitarian responding. This suggests that using an L2 affects moral choice not through increased deliberation but by blunting emotional reactions associated with the violation of deontological rules. Zanfardin (2018), however, found the opposite – L2 use decreased utilitarian responding. Interestingly, Muda et al. (2018) and *Biatek* et al. (2019) found that L2 reduced both deontological and utilitarian inclinations. Muda et al. (2018) concluded that reading

dilemmas in L2 reduced concern for all potential victims – the fewer to be harmed and the majority to be saved.

While previous research suggests that processing moral dilemmas in L2 influences utilitarian and deontological response tendencies, Białek et al. (2019) noted that the two kinds of moral inclinations were confounded with general action tendencies. Building on previous work, authors used CNI model of moral decision-making (Hütter & Klauer 2016) that quantifies three determinants of moral judgment: sensitivity to consequences (C parameter; similar to U parameter), sensitivity to norms (N parameter; similar to D parameter) and a general preference for inaction over action regardless of consequences and norms (I parameter). In line with the results of Muda et al. (2018), the results of this study suggested that L2 reduces both sensitivity to consequences and sensitivity to norms without affecting general action tendencies.

Put together, results are not in favor of any of three previously described hypotheses. Instead, they align with a fourth explanation – FLE results from both blunted deontology and blunted utilitarianism in L2 compared to L1.

2.3 What are the limits of FLE?

Factors that were found to modulate the magnitude of FLE can be grouped into three categories: participant characteristics, L1 and L2 characteristics, and dilemma characteristics.

Among participant characteristics, L2 proficiency is the most studied. Research suggests that higher L2 proficiency reduces moral FLE (e.g. Costa et al. 2014b), but proficiency alone is unlikely to cause a language to be experienced as emotional. Anoooshian and Hertel (1994) argue that the age of acquisition of a language, although often positively correlated with proficiency (Moyer 1999), is more important when it comes to the emotional resonance of a language. The Context of learning theory (Harris et al. 2006) suggests that a language gains a distinctive emotional feel when it is learned in an emotionally rich setting. Caldwell–Harris (2014) noted that emotional resonances are stronger when a language is learned via immersion, rather than in a classroom setting. Future research should pay more attention to these factors. Additionally, native language does not always remain dominant. Čavar and Tytus (2018) studied Croatian–German successive bilinguals. Participants were Croatian emigrants to Germany or Austria and children of said emigrants. While 93% reported Croatian to be their native language, 56% reported German as their dominant language. No FLE was found in this study, highlighting language dominance as another important factor.

Regarding language characteristics, the degree of linguistic similarity between L1 and L2 and the cultural influence of L2 play a role in moral FLE. Dylman and Champoux–Larsson (2020) found no FLE for linguistically similar L1 and L2 – Swedish and Norwegian. They also found no FLE in Swedish–English bilinguals but found it in Swedish–French bilinguals. Authors attribute this finding to English

having an influential role in Swedish culture – it is taught in Swedish schools and Swedes are exposed to a large amount of English through media, so English is likely highly emotional for Swedes even though it is their L2.

Dilemma characteristics also matter. Moral FLE appears in emotional dilemmas, but not in less emotional or neutral ones. One way to manipulate the emotionality of a dilemma is through manipulating the degree of wrongness of the action described in a dilemma. Moderate wrongdoing elicits moral FLE, while extreme or negligible wrongdoing does not (Tonković et al. 2020). Interestingly, moral FLE is stronger when participants judge actions as their own rather than another person's (Corey et al. 2017). Finally, presentation mode may also influence moral FLE as Harris et al. (2003) suggested that presenting text visually rather than hearing it spoken might reduce moral FLE. However, results are inconclusive. Brouwer (2019) found evidence that the magnitude of FLE might be decreased when moral dilemmas are read in comparison to the same dilemmas being heard (Brouwer 2019), but Muda et al. (2020) reanalyzed the same data and did not find the difference in the magnitude of moral FLE between different modalities of presentation.

3. Conclusion and recommendations for future research

Moral FLE is a recent discovery, and we are still far from having a full understanding of the effect. Advancing our understanding requires a systematic review of past research, which is challenging due to varied methodologies developed by different groups of researchers. Different studies used modified versions of the same dilemmas, altering the number of characters, their characteristics, emotional intensity and judgment framing. Some asked participants to judge others' actions, while others asked them to judge their own. These variations complicate comparisons as distinct brain regions are activated when judging one's own versus others' moral transgression (Berthoz et al. 2006). Additionally, studies often conflated moral judgment (e.g. *Is it appropriate to do X?*) with a choice of behaviour (e.g. *Would you do X?*), even though decision-making research suggests that choice often involves heuristics, while judgment often involves holistic processes where individuals examine a more complete set of information (Billings & Scherer 1988). Further, participants were sometimes asked to judge how morally described actions were and sometimes they had to judge the wrongness of the action. The first question suggests that action was acceptable. In contrast, the second question implies that action was not acceptable.

Another major challenge in comparing the results of previous studies is the lack of or inconsistent definition of L2. Of 30 reviewed studies, only one provided a clear definition of L2 (Geipel et al. 2015b). Another six studies reported some inclusion criteria (e.g. participant did not learn their L2 from childhood and at home (Driver 2020; Hayakawa et al. 2017), L2 is not the dominant language of the participants (Hayakawa & Keysar 2018; Costa et al. 2019), participants parents are not

native speakers of L2 and participant did not live in a L2 country for more than 10 months (Muda et al. 2020), participants were born and raised in their L1 country, but they started learning their L2 before the age of three (Wong & Ng 2018)). The remaining studies included only a post-hoc description of the sample. Thus, L2 was a non-dominant language in some cases, while in others it was dominant. Participants varied in their L2 proficiency, from moderate to high. They were sometimes early and sometimes late bilingual. Consequently, when results are inconsistent, it is almost impossible to recognize a single factor causing them.

Despite these challenges, research showed that moral FLE can be replicated. Future research should examine its real-world relevance by using more realistic dilemmas and studying actual moral behavior. The underlying mechanism of the moral FLE remains debated, particularly the role of emotions. While they are frequently cited as a key factor, few studies have directly tested their mediating role. Only ten (Caldwell-Harris & Ayçiçeği-Dinn 2020; Chan et al. 2016; Driver 2020; Geipel 2015; Geipel et al. 2015a; Geipel et al. 2015b; Miozzo et al. 2020; Romero-Rivas et al. 2020; Scherlippens 2019; Wong & Ng 2018) out of thirty reviewed studies even measured emotionality, and only three of them tested the mediating role of emotions in the relationship between language and an outcome of the moral decision-making process. In a study conducted by Geipel et al. (2015a), participants were asked to rate their emotional experiences, including feelings of being upset, worried, disgusted, sad, and angry, following each moral dilemma presented to them. Since emotion scales were highly associated, a single average score was calculated and this joint emotionality score proved to be a mediator of the relationship between language and moral judgment. Conversely, Geipel et al. (2015b) and Chan et al. (2016) did not find evidence in support of emotions as mediators of the same relationship. Given these mixed findings, future research should prioritize the inclusion of moral emotions. Some support for this suggestion comes from Drivers' (2020) research in which participants were presented with a list of twenty emotions, including moral emotions such as guilt, shame, disgust, anger and contempt. After making a moral decision, participants were asked to rate the extent to which they experienced each of the emotions on the list. All of the moral emotions received high ratings.

When studying emotions, the timing of emotion ratings is crucial. If assessed before moral decisions, they may influence the decision that is ultimately made. If assessed afterwards, the decision itself, rather than the moral dilemma, may sway the rating. An effort to integrate objective measures of emotionality could help capture real-time emotional responses without interfering with decision-making.

Finally, it is of interest to persist in exploring the boundaries of moral FLE. Longitudinal data, especially as proficiency in L2 increases, would be valuable for better understanding of moral FLE. Better understanding of this effect could be important for domains such as psychotherapy, particularly in the treatment of trauma and phobia, forensic investigation and marketing in multilingual settings.

References

- Anooshian, L. J., & Hertel, P. T. (1994). Emotionality in free recall: Language specificity in bilingual memory. *Cognition & Emotion*, 8(6), 503–514.
<https://doi.org/10.1080/02699939408408956>
- Bauman, C. W., McGraw, A. P., Bartels, D. M., & Warren, C. (2014). Revisiting external validity: Concerns about Trolley problems and other sacrificial dilemmas in moral psychology: External validity in moral psychology. *Social and Personality Psychology Compass*, 8(9), 536–554. <https://doi.org/10.1111/spc3.12131>
- Bereby-Meyer, Y., Hayakawa, S., Shalvi, S., Corey, J. D., Costa, A., & Keysar, B. (2018). Honesty speaks a second language. *Topics in Cognitive Science*.
<https://doi.org/10.1111/tops.12360>
- Berthoz, S., Grèzes, J., Armony, J. L., Passingham, R. E., & Dolan, R. J. (2006). Affective response to one's own moral violations. *Neuroimage*, 31(2), 945–950.
<https://doi.org/10.1016/j.neuroimage.2005.12.039>
- Białek, M., Paruzel-Czachura, M., & Gawronski, B. (2019). Foreign language effects on moral dilemma judgments: An analysis using the CNI model. *Journal of Experimental Social Psychology*, 85, 103855. <https://doi.org/10.1016/j.jesp.2019.103855>
- Billings, R. S., & Scherer, L. L. (1988). The effects of response mode and importance on decision-making strategies: Judgment versus choice. *Organizational Behavior and Human Decision Processes*, 41(1), 1–19. [https://doi.org/10.1016/0749-5978\(88\)90043-X](https://doi.org/10.1016/0749-5978(88)90043-X)
- Bloom, P. (2011). Family, community, trolley problems, and the crisis in moral psychology. *The Yale Review*, 99(2), 26–43. <https://doi.org/10.1111/j.1467-9736.2011.00701.x>
- Branzi, F. M., Della Rosa, P. A., Canini, M., Costa, A., & Abutalebi, J. (2016). Language control in bilinguals: Monitoring and response selection. *Cerebral Cortex*, 26(6), 2367–2380. <https://doi.org/10.1093/cercor/bhv052>
- Brouwer, S. (2019). The auditory foreign-language effect of moral decision making in highly proficient bilinguals. *Journal of Multilingual and Multicultural Development*, 40(10), 865–878. <https://doi.org/10.1080/01434632.2019.1585863>
- Caldwell-Harris, C. L. (2014). Emotionality differences between a native and foreign language: Theoretical implications. *Frontiers in Psychology*, 5.
<https://doi.org/10.3389/fpsyg.2014.01055>
- Caldwell-Harris, C. L., & Ayçiçeği-Dinn, A. (2020). When using the native language leads to more ethical choices: Integrating ratings and electrodermal monitoring. *Language, Cognition and Neuroscience*, 36(7), 885–901.
<https://doi.org/10.1080/23273798.2020.1818266>
- Chan, Y., Gu, X., Ng, J. C. K., & Tse, C. (2016). Effects of dilemma type, language, and emotion arousal on utilitarian vs deontological choice to moral dilemmas in Chinese-English bilinguals. *Asian Journal of Social Psychology*, 19(1), 55–65.
<https://doi.org/10.1111/ajsp.12123>
- Cipolletti, H., McFarlane, S., & Weissglass, C. (2016). The moral foreign-language effect. *Philosophical Psychology*, 29(1), 23–40.
<https://doi.org/10.1080/09515089.2014.993063>

- Conway, P., & Gawronski, B. (2013). Deontological and utilitarian inclinations in moral decision making: A process dissociation approach. *Journal of personality and social psychology*, 104(2), 216. <https://doi.org/10.1037/a0031021>
- Conway, M. A., & Haque, S. (1999). Overshadowing the reminiscence bump: Memories of a struggle for independence. *Journal of Adult Development*, 6(1), 35–44. <https://doi.org/10.1023/A:1021672208155>
- Corey, J.D. (2017). *The effect of foreign language processing on moral decision-making* [Unpublished doctoral dissertation]. Universitat Pompeu Fabra.
- Corey, J. D., Hayakawa, S., Foucart, A., Aparici, M., Botella, J., Costa, A., & Keysar, B. (2017). Our moral choices are foreign to us. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 43(7), 1109–1128. <https://doi.org/10.1037/xlm0000356>
- Costa, A., Corey, J. D., Hayakawa, S., Aparici, M., Vives, M. L., & Keysar, B. (2019). The role of intentions and outcomes in the foreign language effect on moral judgements. *Quarterly Journal of Experimental Psychology*, 72(1), 8–17. <https://doi.org/10.1177/1747021817738409>
- Costa, A., Foucart, A., Arnon, I., Aparici, M., & Apesteguia, J. (2014a). “Piensa” twice: On the foreign language effect in decision making. *Cognition*, 130(2), 236–254. <https://doi.org/10.1016/j.cognition.2013.11.010>
- Costa, A., Foucart, A., Hayakawa, S., Aparici, M., Apesteguia, J., Heafner, J., & Keysar, B. (2014b). Your Morals Depend on Language. *PLoS ONE*, 9(4), e94842. <https://doi.org/10.1371/journal.pone.0094842>
- Costa, A., & Sebastián-Gallés, N. (2014). How does the bilingual experience sculpt the brain? *Nature Reviews Neuroscience*, 15(5), 336–345. <https://doi.org/10.1038/nrn3709>
- Čavar, F., & Tytus, A. E. (2018). Moral judgement and foreign language effect: When the foreign language becomes the second language. *Journal of Multilingual and Multicultural Development*, 39(1), 17–28. <https://doi.org/10.1080/01434632.2017.1304397>
- Dewaele, J. M. (2004). The emotional force of swearwords and taboo words in the speech of multilinguals. *Journal of Multilingual and Multicultural Development*, 25(2–3), 204–222. <https://doi.org/10.1080/01434630408666529>
- Dewaele, J. M. (2008). The emotional weight of I love you in multilinguals’ languages. *Journal of Pragmatics*, 40(10), 1753–1780. <https://doi.org/10.1016/j.pragma.2008.03.002>
- Driver, M. (2020). Switching codes and shifting morals: how code-switching and emotion affect moral judgment. *International Journal of Bilingual Education and Bilingualism*, 25(3), 905–921. <https://doi.org/10.1080/13670050.2020.1730763>
- Dylman, A. S., & Champoux-Larsson, M.-F. (2020). It’s (not) all Greek to me: Boundaries of the foreign language effect. *Cognition*, 196, 104148. <https://doi.org/10.1016/j.cognition.2019.104148>
- Gai, P. J., & Puntoni, S. (2018). *Does language shape dishonesty? Evidence from a spot-the-difference task*. 1.
- Geipel, J. (2015). *Foreign language effects on judgment and decision making*. [Unpublished doctoral dissertation]. University of Trento.

- Geipel, J., Hadjichristidis, C., & Surian, L. (2015a). How foreign language shapes moral judgment. *Journal of Experimental Social Psychology*, 59, 8–17. <https://doi.org/10.1016/j.jesp.2015.02.001>
- Geipel, J., Hadjichristidis, C., & Surian, L. (2015b). The foreign language effect on moral judgment: The role of emotions and norms. *PloS one*, 10(7), e0131529. <https://doi.org/10.1371/journal.pone.0131529>
- Geipel, J., Hadjichristidis, C., & Surian, L. (2016). Foreign language affects the contribution of intentions and outcomes to moral judgment. *Cognition*, 154, 34–39. <https://doi.org/10.1016/j.cognition.2016.05.010>
- Greene, J. D. (2013). *Moral tribes: Emotion, reason, and the gap between us and them*. Penguin.
- Greene, J. D., Morelli, S. A., Lowenberg, K., Nystrom, L. E., & Cohen, J. D. (2008). Cognitive load selectively interferes with utilitarian moral judgment. *Cognition*, 107(3), 1144–1154. <https://doi.org/10.1016/j.cognition.2007.11.004>
- Greene, J. D., Sommerville, R. B., Nystrom, L. E., Darley, J. M., & Cohen, J. D. (2001). An fMRI investigation of emotional engagement in moral judgment. *Science*, 293(5537), 2105–2108. <https://doi.org/10.1126/science.1062872>
- Hadjichristidis, C., Geipel, J., & Savadori, L. (2015). The effect of foreign language in judgments of risk and benefit: The role of affect. *Journal of Experimental Psychology: Applied*, 21(2), 117–129. <https://doi.org/10.1037/xap0000044>
- Haidt, J. (2003). The moral emotions. In R.J. Davidson, K.R. Scherer & H.H. Goldsmith (Eds.), *Handbook of affective sciences* (pp. 852–870). Oxford University Press.
- Harris, C. L., Ayçiçeği, A., & Gleason, J. B. (2003). Taboo words and reprimands elicit greater autonomic reactivity in a first language than in a second language. *Applied Psycholinguistics*, 24(4), 561–579. <https://doi.org/10.1017/S0142716403000286>
- Harris, C. L., Gleason, J. B., & Ayçiçeği, A. (2006). 10. When is a first language more emotional? Psychophysiological evidence from bilingual speakers. In A. Pavlenko (Ed.), *Bilingual Minds* (pp. 257–283). Multilingual Matters. <https://doi.org/10.21832/9781853598746-012>
- Hasegawa, M., Carpenter, P. A., & Just, M. A. (2002). An fMRI study of bilingual sentence comprehension and workload. *Neuroimage*, 15(3), 647–660. <https://doi.org/10.1006/nimg.2001.1001>
- Hayakawa, S., Costa, A., Foucart, A., & Keysar, B. (2016). Using a foreign language changes our choices. *Trends in Cognitive Sciences*, 20(11), 791–793. <https://doi.org/10.1016/j.tics.2016.08.004>
- Hayakawa, S., & Keysar, B. (2018). Using a foreign language reduces mental imagery. *Cognition*, 173, 8–15. <https://doi.org/10.1016/j.cognition.2017.12.010>
- Hayakawa, S., Lau, B. K. Y., Holtzmann, S., Costa, A., & Keysar, B. (2019). On the reliability of the foreign language effect on risk-taking. *Quarterly Journal of Experimental Psychology*, 72(1), 29–40. <https://doi.org/10.1177/1747021817742242>
- Hayakawa, S., Tannenbaum, D., Costa, A., Corey, J. D., & Keysar, B. (2017). Thinking more or feeling less? Explaining the Foreign-language effect on moral judgment. *Psychological Science*, 28(10), 1387–1397. <https://doi.org/10.1177/0956797617720944>

- Hsu, C. T., Jacobs, A. M., & Conrad, M. (2015). Can Harry Potter still put a spell on us in a second language? An fMRI study on reading emotion-laden literature in late bilinguals. *Cortex*, 63, 282–295. <https://doi.org/10.1016/j.cortex.2014.09.002>
- Hütter, M., & Klauer, K. C. (2016). Applying processing trees in social psychology. *European Review of Social Psychology*, 27(1), 116–159. <https://doi.org/10.1080/10463283.2016.1212966>
- Keysar, B., Hayakawa, S. L., & An, S. G. (2012). The Foreign-language effect: Thinking in a foreign tongue reduces decision biases. *Psychological Science*, 23(6), 661–668. <https://doi.org/10.1177/0956797611432178>
- Krashen, S. D. (1981). Bilingual education and second language acquisition theory. *Schooling and language minority students: A theoretical framework*, 51–79.
- Loewenstein, G. F., Weber, E. U., Hsee, C. K., & Welch, N. (2001). Risk as feelings. *Psychological bulletin*, 127(2), 267. <https://doi.org/10.1037/0033-2909.127.2.267>
- Mata, A., Ferreira, M. B., & Sherman, S. J. (2013). The metacognitive advantage of deliberative thinkers: A dual-process perspective on overconfidence. *Journal of personality and social psychology*, 105(3), 353. <https://doi.org/10.1037/a0033640>
- Miller, A. C., & Keenan, J. M. (2011). Understanding the centrality deficit: Insight from foreign language learners. *Memory & cognition*, 39(5), 873–883. <https://doi.org/10.3758/s13421-010-0062-z>
- Miozzo, M., Navarrete, E., Ongis, M., Mello, E., Giroto, V., & Peressotti, F. (2020). Foreign language effect in decision-making: How foreign is it? *Cognition*, 199, 104245. <https://doi.org/10.1016/j.cognition.2020.104245>
- Moyer, A. (1999). Ultimate attainment in L2 phonology: The critical factors of age, motivation, and instruction. *Studies in second language acquisition*, 81–108. <https://doi.org/10.1017/s0272263199001035>
- Muda, R., Niszczota, P., Białek, M., & Conway, P. (2018). Reading dilemmas in a foreign language reduces both deontological and utilitarian response tendencies. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 44(2), 321–326. <https://doi.org/10.1037/xlm0000447>
- Muda, R., Pieńkosz, D., Francis, K. B., & Białek, M. (2020). The moral foreign language effect is stable across presentation modalities. *Quarterly Journal of Experimental Psychology*, 73(11), 1930–1938. <https://doi.org/10.1177/1747021820935072>
- Musty, N., & Andrews, R. (2017). The Effect of Language-Processing on Moral Decision-Making. *Kwansei Gakuin University Humanities Review*, 22, 59–69.
- Nguyen, V. (2019). *I am a bilingual, so I will push you off the train*. [Unpublished master's thesis]. Universiteit Gent.
- Oganian, Y., Korn, C. W., & Heekeren, H. R. (2016). Language switching—but not foreign language use per se—reduces the framing effect. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 42(1), 140–148. <https://doi.org/10.1037/xlm0000161>
- Pavlenko, A. (2017). Do you wish to waive your rights? Affect and decision-making in multilingual speakers. *Current Opinion in Psychology*, 17, 74–78. <https://doi.org/10.1016/j.copsyc.2017.06.005>

- Romero-Rivas, C., López-Benítez, R., & Rodríguez-Cuadrado, S. (2020). Would you sacrifice yourself to save five lives? Processing a foreign language increases the odds of Self-Sacrifice in moral dilemmas. *Psychological Reports*, 125(1), 498–516. <https://doi.org/10.1177/0033294120967285>
- Rozin, P., Lowery, L., Haidt, J., & Imada, S. (1999). *The CAD triad hypothesis: A mapping between three moral emotions (Contempt, Anger, Disgust) and Three Moral Codes (Community, Autonomy, Divinity)*. 13. <https://doi.org/10.1037/0022-3514.76.4.574>
- Scherlippens, E. (2019). *Look into my eyes. Assessing pupillary responses during moral decision making in native and foreign language*. [Unpublished doctoral dissertation]. Ghent University.
- Sechrest, L., Flores, L., & Arellano, L. (1968). Language and social interaction in a bilingual culture. *The Journal of Social Psychology*, 76(2), 155–161. <https://doi.org/10.1080/00224545.1968.9933607>
- Shin, H. I., & Kim, J. (2017). Foreign language effect and psychological distance. *Journal of Psycholinguistic Research*, 46(6), 1339–1352. <https://doi.org/10.1007/s10936-017-9498-7>
- Thomson, J. (1985). The trolley problem. *Yale Law Journal*, 94(6), 1395. <https://doi.org/10.2307/796133>
- Tonković, M., Dumančić, F., & Anđel, M. (2020). Efekt stranog jezika i odlučivanje o moralu [Foreign language effect and moral decision making]. *Suvremena lingvistika*, 45(88). <https://doi.org/10.22210/suvlin.2019.088.06>
- Urbig, D., Terjesen, S., Procher, V., Muehlfeld, K., & Van Witteloostuijn, A. (2016). Come on and take a free ride: Contributing to public goods in native and foreign language settings. *Academy of Management Learning & Education*, 15(2), 268–286. <https://doi.org/10.5465/amle.2014.0338>
- Wang, Y., Highhouse, S., Lake, C. J., Petersen, N. L., & Rada, T. B. (2017). Meta-analytic investigations of the relation between intuition and analysis. *Journal of Behavioral Decision Making*, 30(1), 15–25. <https://doi.org/10.1002/bdm.1903>
- Winkel, H., & Bhatt, D. (2019). The role of culture and language in moral decision-making. *Culture and Brain*, 8(2), 207–225. <https://doi.org/10.1007/s40167-019-00085-y>
- Wong, G., & Ng, B. C. (2018). Moral judgement in early bilinguals: Language dominance influences responses to moral dilemmas. *Frontiers in Psychology*, 9. <https://doi.org/10.3389/fpsyg.2018.01070>
- Zanfardin, G. (2018). *Language and decision making: A cross-linguistic study of the Foreign language effect in Italian-English bilingual speakers*. [Unpublished master's thesis]. Ca' Foscari University of Venice

Efekt stranog jezika u odlučivanju o moralu – pregled literature

Istraživanja pokazuju da se odluke koje donosimo mogu razlikovati ovisno o tome na kojem jeziku nam je problem predstavljen. Ovaj efekt poznat je pod nazivom efekt stranog jezika. Iako je riječ o relativno novom području istraživanja, brzo se razvija i privlači sve veći interes, a efekt je dokumentiran u različitim područjima uključujući kognitivne pristranosti, percepciju rizika i moralno rezoniranje, ali i u stvarnom ponašanju kao što je laganje.

Ovaj pregledni rad usmjeren je na efekt stranog jezika u domeni moralnog rezoniranja. U ovom području očituje se kroz manje stroge osude moralnih prijestupa kada se prosudbe donose na stranom jeziku u usporedbi s materinskim jezikom. Jedan od ključnih mehanizama koji bi mogao objašnjavati ovaj efekt je smanjena emocionalnost stranog jezika. Strani jezici, posebno ako nisu stečeni u ranom djetinjstvu ili u emocionalno bogatom kontekstu, mogu biti manje povezani s emocionalnim procesima, što može rezultirati drugačijim moralnim prosudbama. Međutim, neki autori sugeriraju da razlike u emocionalnosti materinskog i stranog jezika nisu jedino moguće objašnjenje efekta stranog jezika.

Ovaj pregledni rad najprije definira efekt stranog jezika u domeni moralnog rezoniranja, a potom daje pregled i usporedbu postojećih objašnjenja. Nakon toga, analiziraju se čimbenici koji mogu utjecati na to koliko je efekt stranog jezika izražen, a odnose se na karakteristike sudionika, jezika i korištenih moralnih dilema. Posebna pažnja posvećena je metodološkim izazovima poput odabira adekvatnih moralnih dilema i definiranja stranog jezika. U završnom dijelu rada iznose se preporuke za buduća istraživanja s ciljem bolje konceptualizacije i razumijevanja efekta stranog jezika.

Budući da se moralne prosudbe donose svakodnevno, u različitim privatnim i profesionalnim kontekstima, razumijevanje efekta stranog jezika može imati značajne implikacije u područjima poput psihoterapije, forenzike te donošenja odluka u multikulturalnim i višejezičnim kontekstima.

Ključne riječi: efekt stranog jezika, moralno odlučivanje, psiholingvistika

Key words: foreign language effect, moral decision-making, psycholinguistics