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The role of language and emotional intelligence in judgments of real-life social and moral transgressions among Greek, Hungarian, and British users of English

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Abstract

Previous research suggests that people are more prone to commit moral transgressions when they face moral dilemmas in a second language (LX) as opposed to their first language(s) (L1). This study investigated the influence of language, emotional intelligence, and the degree of severity of real moral transgressions on bilinguals' judgments of offense seriousness, the intensity of the emotions they experienced, and the punishments they proposed for the perpetrators. To this end, 256 British L1 users, 209 Greek–English bilinguals, and 187 Hungarian–English bilinguals watched four videos presenting moral transgressions of mild and extreme severity. Data were analyzed by means of robust linear mixed-effects models and moderated mediation analyses. For the extreme severity videos, the results revealed strong correlations between offensiveness, emotionality ratings, and proposed punishments for the perpetrators. However, the Greek and the Hungarian participants who watched the videos in their LX English reported lower offensiveness and emotionality ratings and less harsh punishments for the perpetrators than they did in their L1 (Greek and Hungarian, respectively). Furthermore, the role of language in the proposed punishments for the perpetrators was mediated by emotional intensity, but only for the extreme severity stimuli. The results also suggest that higher levels of emotional intelligence are linked with tougher judgments of offense seriousness and stronger emotions when watching real moral transgressions. These findings highlight that the moral foreign language effect does not only exist in the hypothetical moral realm but affects perceptions of offensiveness and emotionality and decisions for the future of perpetrators in real-life situations.

KEYWORDS

emotionality, moral dilemmas, moral foreign language effect, offense seriousness, punishment

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1 | INTRODUCTION

On Friday 21st of September 2018, Zak Kostopoulos, a Greek LGBTQ+ activist and drag artist, was killed after entering a jewelry shop on a busy pedestrian street in the center of Athens, Greece. Zak was brutally hit by two men—the shop's owner and another man—and was beaten to death by police officers while he was trying to leave the shop. The crime scene was widely shared on Greek social media and divided the Greek society into those who believed that the victim was a drug addict who attempted to commit a burglary, and those who argued that it was rather a discrimination and hate incident against an LGBTQ+ person. Two years later, the two perpetrators were sentenced to 10 years in prison, but the police officers involved in the incident walked free, leading many Greek people to protest not only once but several times demanding justice for Zak's death. This is just one among hundreds of moral transgressions that go viral via news coverage, dividing people's opinions and judgments.

Over the past decades, much focus had been placed on individual factors (e.g., gender, education level, ethnicity, and religiosity) that may affect people's moral judgments about hate crimes and moral or social violations (Chin et al., 2021; Cortese, 1990; Fumagalli et al., 2010; Keller et al., 2007; Ward & King, 2018). The role of language has been largely neglected (Antón et al., 2020). This is surprising considering the high frequency with which people witness, commit (see, for example, Hofmann et al., 2014), but particularly position themselves and judge moral transgressions. The need to address the effect of language on perceptions of moral severity and moral judgments is strongly linked to the rapid growth of social media nowadays. People are bombarded with news and stories from all around the world—including moral and social transgressions—via social media, TV, and networking platforms, such as Twitter and YouTube (Murdani et al., 2022; Prestianta, 2021). This information is not only available or received in their first language (L1) but also in other additional or foreign languages (LX) they speak. It has been argued that bilinguals are more likely to evaluate written moral transgressions and murder scenarios less harshly in their LX than in their L1 (Geipel et al., 2015a; Woumans et al., 2020). However, to our knowledge, no study to date has attempted to replicate these findings using ecologically valid audiovisual mass media sources. Another important caveat of previous research refers to the frequent use of hypothetical scenarios that are unlikely to occur in real life (Costa et al., 2014; Driver, 2022; Hayakawa et al., 2017; Kyriakou et al., 2022). Although this trend is steadily changing and realistic moral scenarios are becoming more and more common in LX studies about moral decision-making (Brouwer, 2021; Geipel et al., 2015b; Kyriakou & Mavrou, 2023a, 2023b), these scenarios are usually presented in the written mode.

The current study is the first to employ real-life moral transgressions in an authentic audiovisual format in order to investigate how bilingual Greek–English and Hungarian–English speakers judge the severity of different types of moral transgressions (mild versus extreme severity) in their L1 (Greek and Hungarian, respectively) versus LX (English), the degree to which these moral transgressions elicit

emotions in these bilinguals, and the punishment that they would dish out to the perpetrators. The English audiovisual stimuli were also rated by British English L1 speakers. Another novelty of this study is that it takes the role of individual differences into consideration by focusing on emotional intelligence (EI), a concept that connects cognition and emotion (Salovey & Pizarro, 2003). To our knowledge, the potential link between EI and perceptions of offensiveness and emotionality of moral transgressions in L1 versus LX has not yet been investigated. However, some findings on empathy—an important component of EI—indicate that a reduced level of empathy may favor utilitarian decisions when emotions play a relevant role in moral judgments (Choe & Min, 2011; Gleichgerrcht & Young, 2013). Similarly, findings from L1 research suggest that higher levels of EI are associated with more ethical decisions (Krishnakumar & Rymph, 2012; Yadav et al., 2015). In our view, the variability in bilinguals' emotions and moral reasoning cannot be explained by language-related factors only. Investigating the role of EI in perceptions of moral severity and in decision-making related to moral transgressions will help to shed light on the complex interplay between emotion, cognition, and language.

2 | THE ROLE OF LANGUAGE IN MORAL DECISION-MAKING

The Moral Foreign Language effect (MFLe) refers to the phenomenon by which the use of an LX, as opposed to the L1, can alter people's moral judgments, prompting them to make more utilitarian and thus less deontological decisions in response to high-conflict (e.g., sacrificial) moral dilemmas (Costa et al., 2014; Geipel et al., 2015a, 2015b; Hayakawa et al., 2017). Utilitarian decisions aim at increasing the benefits of an action for the greatest number of people regardless of the means to achieve it, while deontological decisions focus on the rightness or wrongness of the action itself (Gawronski & Beer, 2017). The MFLe was first documented by Costa et al. (2014), who asked bilinguals with different ethnic and language backgrounds to read two versions of the classic trolley dilemma and to make a moral judgment either in their L1 or in their LX. In what the authors called the “emotionally aversive” version (the footbridge dilemma; Thomson, 1985), participants were required to decide whether they would push a large man onto train tracks to save the lives of five people. In the “less emotionally aversive” version (the switch dilemma; Foot, 1967), participants must decide to switch (or not) the train's direction to another track, whereby the train would kill only one person instead of five. Participants were less hesitant to sacrifice one person in order to save five (the utilitarian choice) in their LX than in their L1, but this pattern was only observed in the footbridge dilemma. Drawing on the dual-process model of moral judgment (see Greene et al., 2001, 2004; Kahneman, 2003), Costa et al. (2014) claimed that the use of an LX promotes more deliberative thinking, thus favoring utilitarian decisions and discouraging intuitive ones in response to highly emotional moral dilemmas.

Although the cognitive mechanisms responsible for the effect of language on moral judgments are still under examination, two hypotheses have been extensively used to explain the MFL. The *cognitive enhancement hypothesis* posits that cognitive dysfluency from processing information in an LX makes people believe that an intuitive answer is more likely to be incorrect. Therefore, LX speakers assess the consequences of a moral action more carefully, which leads to increased rational responses (Alter et al., 2007). However, studies that applied a process-dissociation procedure—a method developed to separate deontological (automatic and nonconscious) and utilitarian (controlled and conscious) tendencies in high-conflict moral dilemmas (Conway & Gawronski, 2013)—found that a lower preference for deontological responses in an LX is unlikely to be associated with heightened utilitarian concerns (Białek et al., 2019; Hayakawa et al., 2017; Muda et al., 2018). For example, in Muda et al.'s (2018) study, LX participants were more likely to choose the utilitarian option regardless of whether causing harm would maximize (or not) the overall good. These findings are in line with current accounts suggesting that both types of decisions (deontological and utilitarian) are made intuitively in the initial phase of decision-making (System 1), and only few people would reflect on their initial response and change their minds in the second phase (System 2) (Bago & De Neys, 2019; Białek & De Neys, 2016, 2017).

The second and perhaps more plausible hypothesis, the *reduced emotionality hypothesis*, posits that LX words have less emotional resonance than L1 words (Dewaele et al., 2021), offering people the possibility to emotionally distance themselves from aversive situations described in high-conflict moral dilemmas presented in the LX, either in the written or in the oral mode (see Costa et al., 2019, and Vives et al., 2018, for reviews). This is more pronounced in the case of late bilinguals who acquired their LX in instructional settings. By contrast, L1 words are predominantly acquired in naturalistic environments via affective and authentic interactions with family members; therefore, most of these words acquire an emotional connotation, no matter what their semantic meaning is. This hypothesis has been broadly supported in studies that investigated the processing of emotional stimuli such as taboo words and expressions of love (Caldwell-Harris & Ayçiçeği-Dinn, 2009; Dewaele, 2004, 2008, 2013, 2018; Harris et al., 2003). For example, studies that used self-reports found lower emotional resonance for both expressing (Dewaele, 2008; Ożańska-Ponikwia, 2019) and perceiving emotions in an LX (Dewaele, 2004, 2018; Dewaele et al., 2021; Resnik, 2018). Similarly, physiological (Caldwell-Harris & Ayçiçeği-Dinn, 2020; Toivo & Scheepers, 2019) and electrophysiological studies (Baumeister et al., 2017; Caldwell-Harris & Ayçiçeği-Dinn, 2009) reported more intense emotional reactivity to words and expressions in L1 than in LX—although this language effect has not always been found (e.g., Conrad et al., 2011; Opitz & Degner, 2012; Vanek & Tovalovich, 2022).

A more recent study by Brouwer (2021) presented late Dutch-English bilinguals with high-aversive and low-aversive moral dilemmas in their L1 or LX via the written (reading task) or the oral mode (listening task) and asked them to make a moral decision (utilitarian versus deontological). She found that utilitarian responses

were more pronounced in bilinguals' LX in both modes, but this only occurred for the high-aversive moral dilemmas, which commonly trigger more intense emotions (Greene et al., 2001). An intriguing finding of Brouwer's (2021) study is that utilitarian decisions were more frequent in the listening than in the reading task in both language conditions (but see Muda et al., 2020, who did not find this effect in none of the two modalities). As Brouwer (2021) stresses, the presence of the MFL in the auditory modality has not yet received sufficient attention and further evidence is needed.

Kyriakou et al. (2022) went a step further by examining the moral arguments and the emotional vocabulary used by bilinguals to justify their moral choices after reading an emotionally charged moral dilemma (the footbridge dilemma) in Spanish L1 versus English LX. Using content analysis, they found more emotional arguments underlying participants' moral choices in their L1 than in their LX, being guilt the emotion that predominated in L1 arguments. Emotional vocabulary analysis further revealed that participants used a greater number of high-arousal words in their L1, and the results of a mediation model showed that these emotions mediated the effect of language on moral judgments.

Nevertheless, other studies failed to demonstrate an association between language and emotion in bilinguals' moral judgments (Chan et al., 2016; Driver, 2022; Geipel et al., 2015b). For example, Geipel et al. (2015b) observed the MFL in a low emotionally charged moral dilemma (the lost wallet dilemma) but not in a highly emotional dilemma (the crying baby dilemma). Furthermore, emotion did not mediate the effect of language on moral decision-making. The authors attributed their results to the reduced access to social norms in an LX. They assumed that normative knowledge is usually learnt in the early years of life through social communication and information exchange in L1, and that episodic memories are more easily accessible when the language of encoding matches the language of recall (Marian & Neisser, 2000); therefore, the use of an LX is likely to limit access to sociocultural and moral norms related to specific autobiographical memories in L1, making people more prone to commit social violations involving harmful acts in their LX than in their L1 (see also Gawinkowska et al., 2013).

Although the MFL appears to be a robust phenomenon, it has been mainly observed in the footbridge dilemma (Cipolletti et al., 2016; Costa et al., 2014; Driver, 2022; Kyriakou et al., 2022) but not in all moral dilemmas invoking high levels of emotional conflict (Białek et al., 2019; Hayakawa et al., 2017; Kyriakou & Mavrou, 2023a, 2023b; Muda et al., 2018). Moreover, several studies have only assumed—rather than directly measured—the level of emotionality evoked by moral dilemmas among their participants (Cipolletti et al., 2016; Costa et al., 2014; Hayakawa et al., 2017), which questions the validity of the *reduced emotionality hypothesis* in explaining the MFL (but see Kyriakou et al., 2022, and Kyriakou & Mavrou, 2023b). Additionally, previous studies have mostly focused on text-based stimuli, overlooking the fact that on a daily basis a great number of people make decisions and express their opinion while or after watching the news on television, their mobile phones, or computers.

3 | THE CURRENT STUDY

Previous research suggests that the perceived severity of moral transgressions can affect individuals' judgments in their L1 (see Huang et al., 2020). This study expands this topic to the field of bilingualism by investigating perceptions of offense seriousness and emotional intensity elicited by real moral transgressions that differed in their severity (mild versus extreme) in two underrepresented languages in the scientific literature: Greek and Hungarian, in addition to English. Specifically, the study investigated whether language (L1 versus LX), EI, and the degree of severity of moral transgressions presented through the audiovisual channel influenced bilinguals' perceptions of the offensiveness of these transgressions, the degree of emotional intensity they experienced, as well as the punishment they would propose for the perpetrators. In addition, the study sought to explore whether emotional intensity mediates the link between language and decision-making related to the offenders' punishment. Based on previous findings indicating that moral violations tend to be perceived as less wrong in the LX than in the L1 (Geipel et al., 2015a), we hypothesized that extreme (but not mild) moral transgressions would elicit stronger emotions and would be perceived as more condemnable in the L1 than in the LX, leading people to judge these moral transgressions as more deserving of punishment. We also expected that the influence of language on these decisions would be mediated by the degree of emotional intensity experienced by the participants (see Kyriakou et al., 2022). Furthermore, drawing on the notion that EI may enhance the quality of interpersonal relationships, inducing people to choose good and moral actions in different social activities (Keltner & Haidt, 2001), we speculated that EI would emerge as a significant predictor variable of perceptions of offense seriousness and emotional intensity.

3.1 | Participants

Participants were 652 English L1 and LX speakers (337 females; one participant did not answer this question), including 256 British L1 speakers, 209 Greek-English bilinguals, and 187 Hungarian-English bilinguals. All the participants reported their L1 to be English, Greek, and Hungarian, respectively. In addition to English, LX participants reported knowing other languages, mainly French, German, Italian, and Spanish in the case of Greeks, and French, German, Italian, and Russian in the case of Hungarians. Forty-nine of them were between 18 and 24 years, 176 between 25 and 34, 155 between 35 and 44 years, 100 between 44 and 54, while 172 participants were aged 55 and above. Their education level also varied. Three participants had attended primary education, 127 secondary education, 91 A-levels or had a technical qualification, 90 had attended a school of higher vocational education, 239 had a bachelor's degree, and 102 had a higher university degree or equivalent. The distribution of gender, age, and education level, as well as mean scores for the Lexical Test for Advanced Learners of English (LexTALE; Lemhöfer & Broersma, 2012) and the Trait Emotional Intelligence

Questionnaire-Short Form (TEIQue-SF; Petrides, 2009a, 2009b) per participants' country of origin are summarized in Table 1.

The television broadcaster Euronews recruited the participants using quota sampling. The sample was much larger, but for this study, we applied additional criteria to control for cultural influences and L1 dominance. Specifically, we only included participants who were born in Greece and Hungary and reported an excellent level of knowledge of their L1. Ethical approval for this study was obtained from the Ethics Committee of the Department of Applied Linguistics and Communication, Birkbeck, University of London. Each participant's individual consent was obtained at the start of the survey. The study was conducted in accordance with the Declaration of Helsinki and the ethical guidelines of the American Psychological Association.

3.2 | Materials

3.2.1 | Stimuli

The stimuli were extracts from news bulletins broadcast by Euronews across the world. Four short videos presenting offenses that differed in their moral severity (mild versus extreme) were selected.¹ The two videos displaying mild severity offenses reported protests by Greenpeace activists aiming to prevent the destruction of an ancient area of a forest in Poland (Mild1) and calling for the release from jail of fellow activists detained in Russia after protesting against oil drilling in the Arctic (Mild2). The other two videos conveyed extreme severity offenses. In one video a Canadian porn star is believed to have killed and dismembered a 33-year-old student and to have mailed body parts to political groups (Extreme1), while in the other video, the perpetrator has been accused of abducting and torturing his victim, in addition to forcing him to transfer a large amount of money before killing him (Extreme2). In both extreme-type videos, the identities of the murderers and the victims are revealed, and the offenses committed can be considered as highly violent. Links to these videos are provided in Appendix 4.

3.2.2 | Emotional intelligence

Participants' EI was assessed with the short form of the TEIQue-SF (Petrides, 2009a, 2009b). The TEIQue-SF comprises 30 items,

¹The initial design of the study included six videos presenting offenses of mild, medium, and extreme severity. The medium severity offenses included shotgun murders of political figures without any information about the murderer's identity. This contrasts with the extreme severity videos, which report murders with corpse dismemberment and in which the identities of both the murderers and the victims are revealed. However, our analyses revealed that the mean offensiveness ratings for the medium severity videos (ranging from 5.76 to 6.29) were very close to the mean offensiveness values for the extreme severity videos (ranging from 5.07 to 6.36) showing that our manipulation might not have worked for the medium severity level. A similar pattern was observed with regard to the emotionality ratings and the punishment for the perpetrators, with almost identical mean values for the two types of videos (medium and extreme severity videos). This led us to the decision to exclude the data from the medium severity stimuli and only keep the data from the mild and extreme severity videos, for which the manipulation was clearly effective, as evidenced by the different ratings yielded by the mild versus extreme severity videos.

TABLE 1 Distribution of gender, age, education level, and mean LexTALE and EI scores by country of origin.

	UK	Greece	Hungary
Sample size	256	209	187
Females	139	90	108
Age			
18–24	4	20	25
25–34	59	48	69
35–44	37	65	53
54–54	29	47	24
54+	127	29	16
Education			
Primary education	1	0	2
Secondary education	71	17	39
A-Levels/Technical qualification	59	14	18
Higher vocational education	25	35	30
University/Bachelor's degree	80	89	70
Higher education degree or equivalent	20	54	28
Mean LexTALE scores (SD)	92.55 (8.75)	74.32 (9.92)	80.90 (14.09)
Mean EI scores (SD)	4.75 (0.82)	4.69 (0.66)	4.59 (0.61)

sampled from the 15 subscales of the full form (Petrides & Furnham, 2003), and covers four self-perception dimensions of trait EI, namely, well-being (optimism, happiness, fulfillment), self-control (emotion regulation, stress management, low impulsiveness), emotionality (emotion perception, expression, empathy), and sociability (assertiveness, social awareness, interaction, influence). Participants had to indicate their level of agreement with each item using a 7-point Likert-type scale (1 = strongly disagree, 7 = strongly agree). Overall composites were created for each participant based on the scores they obtained for each branch. Reliability analysis showed a high level of internal consistency (Cronbach's $\alpha = .875$, $n_{\text{Greek}} = 209$; Cronbach's $\alpha = .804$, $n_{\text{Hungarian}} = 187$; Cronbach's $\alpha = .916$, $n_{\text{British}} = 256$).

3.2.3 | LexTALE

Participants proficiency level was assessed with the LexTALE (Lemhöfer & Broersma, 2012). LexTALE provides a satisfactory estimate of vocabulary size in English for intermediate to highly proficient speakers of English in just a few minutes. It has been shown to provide a good indication of general language proficiency and to correlate well with all four language skills (e.g., Milton, 2010; see Milton, 2013, for a review). LexTALE consists of 60 items (trials), 40 real words and 20 pseudowords, and participants must decide whether each item is an existing English word or not. Scores represent the percentage of correct responses, corrected for the unequal proportion of words and nonwords: $[(\text{number of words correct}/40 \times 100) + (\text{number of nonwords correct}/20 \times 100)]/2$. Only data from participants who scored 60 and above corresponding to at least an upper intermediate B2 level were included in the analyses.

3.3 | Procedure

Participants were approached via a digital agency that recruited and remunerated volunteers with British, Greek, and Hungarian as their L1, with funding from TV broadcaster Euronews. The participants completed an online survey embedded with a sociodemographic background questionnaire and the stimuli of this study. Responses were not timed. First, the participants were presented with the TEIQue-SF in English and were asked to provide information about sociodemographic and language-related variables (e.g., gender, age, education level, nationality, country of residence, and languages they spoke). Then, they completed the LexTALE, watched the videos, and provided their ratings. Specifically, after watching each video, participants were required to respond to three questions using 7-point Likert-type scales: (1) How serious is the offense? (1 = not serious, 7 = extremely serious); (2) Did the report elicit any emotion in you? (1 = elicited no emotion at all, 7 = elicited very strong emotion); (3) What do you propose for the perpetrator(s)? (1 = no action taken, 2 = police warning, 3 = fine corresponding to 6 months salary, 4 = 3 months prison, 5 = 3 years prison, 6 = 30 years prison, 7 = death penalty). This study was not preregistered.

4 | RESULTS

4.1 | Relationship between offensiveness, emotionality ratings, and proposed actions for the perpetrators of moral transgressions in L1 and LX

First, we analyzed the reliability of the participants' responses within each stimulus category (mild and extreme) and for each type of rating

	British L1		Greek L1		Hungarian L1		Greek LX		Hungarian LX	
	M	SD	M	SD	M	SD	M	SD	M	SD
Mild OFR	3.40	1.42	4.21	1.83	4.01	1.75	3.94	1.61	3.65	1.68
Mild EMR	3.27	1.41	4.51	1.37	4.03	1.52	4.19	1.44	3.59	1.51
Mild DCS	2.27	0.85	1.95	1.08	2.19	1.19	2.02	1.00	2.28	1.13
Extreme OFR	6.36	1.05	6.10	1.25	5.78	1.59	5.79	1.35	5.07	1.59
Extreme EMR	4.84	1.68	5.38	1.42	5.03	1.69	5.05	1.56	4.33	1.63
Extreme DCS	5.91	1.16	5.78	1.29	5.65	1.64	5.47	1.33	5.11	1.67

TABLE 2 Descriptive statistics for offensiveness (OFR), emotionality ratings (EMR), and proposed actions for the perpetrators (DCS) by country of origin and language condition.

separately, that is, offensiveness ratings (OFR), emotionality ratings (EMR), and the ratings related to the punishment for the perpetrators as proposed by the participants themselves (DCS). For OFR, EMR, and DCS of the mild severity videos, Cronbach's α were .712, .772, and .606, respectively. For OFR, EMR, and DCS corresponding to the extreme severity videos, Cronbach's α were .715, .809, and .718, respectively.

Then, we ran the correlations between OFR, EMR, and DCS. We expected that the language condition (L1, LX) and the country of origin of the participants (UK, Greece, Hungary) would influence these ratings differently (see next section). Therefore, the correlations were run separately per language condition and per country of origin. For the British L1 participants who watched all the videos in their L1, average OFR, EMR, and DCS were created according to the severity of the stimuli. For the Greek and the Hungarian participants, this was not necessary since they watched only one stimulus per severity level in their L1 and the other in their LX. Descriptive statistics are presented in Table 2.²

Appendix 1 provides a detailed description of the correlation analysis. Overall, the results revealed that OFR significantly correlated with both EMR and DCS in each group and in each language condition regardless of the country of origin of the participants (UK, Greece, Hungary) and the language of the stimuli (L1, LX)—except that OFR did not correlate with DCS in one case, that is, for mild LX stimuli among the Greek participants. Correlations were stronger for the extreme-type stimuli.

4.2 | The role of language (L1 versus LX) in offensiveness, emotionality ratings, and proposed actions for the perpetrators of moral transgressions

In order to investigate the role of language (L1, LX—within subjects), country of origin (Greece, Hungary—between subjects), moral severity of the stimuli (mild, extreme—within subjects), and EI in OFR, EMR,

TABLE 3 Offensiveness ratings as a function of language, severity of the stimuli, country, and EI.

Fixed effects	B	SE	t
(Intercept)	5.144	0.322	15.933
Language (L2)	−0.443	0.083	−5.311
Severity (mild)	−1.799	0.083	−21.594
Country (Greece)	0.371	0.084	4.438
EI	0.146	0.065	2.235
Random effects	Variance	SD	
Participant (intercept)	0.000	0.000	
Stimulus ID (intercept)	0.012	0.111	

Note: Model fit: OFR \sim Language + Severity + Country + EI + (1|Participant) + (1|Stimulus ID). Significant t-values ($|t| \geq 1.96$) in bold.

and DCS, robust³ mixed-effects regression models were computed in RStudio 2022.02.3 (Build 492) (R Core Team, 2022; RStudio Team, 2022) using the *rlmer* function in the *robustlmm* package (Bates et al., 2015) and the *compare_performance* function in the *performance* package (Lüdtke et al., 2021). We ran models with language, country of origin, severity of the stimuli, and EI as fixed factors; participants and stimulus ID (version 1, version 2) as random effects; and OFR, EMR, and DCS as outcome variables.⁴ The results for OFR, EMR, and DCS are summarized in Tables 3, 4, and 5, respectively. We also ran the same models including an interaction term of language and severity, which however did not improve the fit of the models (see Appendix 2 for comparisons of the three models with and without the interaction term).

Overall, the results revealed an influence of the language condition and the degree of severity of the moral transgressions on participants' ratings. Participants provided higher offensiveness and

²Although the UK sample was older (see Table 1), we included it in our study to have a benchmark for the correlation analysis. However, in the statistical models we ran (regression models and mediation analyses), only the Greek and the Hungarian participants, who were of comparable age, were included (with L1/LX as a within-subjects factor).

³Robust mixed-effects models were used due to the presence of heteroskedasticity in the data. Normality of residuals was also violated; however, mixed-effects models with non-normal residuals have been found to yield less precise but unbiased estimates (Schielzeth et al., 2020).

⁴Although previous research suggests differences in moral judgements between males and females (Friesdorf et al., 2015; Fumagalli et al., 2010; Tepe et al., 2016), in our sample, no such differences were found, and therefore, gender was not included as a predictor variable in subsequent analyses for reasons of parsimony.

emotionality ratings in their L1 than in their LX and suggested tougher sentences for the perpetrators of these transgressions in their L1. Moreover, extreme severity videos elicited higher offensiveness and emotionality ratings and tougher sentences for the perpetrators. Participants' country of origin and their EI appeared to play a role only in

TABLE 4 Emotionality ratings as a function of language, severity of the stimuli, country, and EI.

Fixed effects	B	SE	t
(Intercept)	3.652	0.417	8.752
Language (L2)	-0.424	0.058	-7.210
Severity (mild)	-0.893	0.058	-15.198
Country (Greece)	0.506	0.110	4.602
EI	0.294	0.086	3.411
Random effects	Variance	SD	
Participant (intercept)	0.804	0.897	
Stimulus ID (intercept)	0.017	0.133	

Note: Model fit: $EMR \sim \text{Language} + \text{Severity} + \text{Country} + \text{EI} + (1|\text{Participant}) + (1|\text{Stimulus ID})$. Significant *t*-values ($|t| \geq 1.96$) in bold.

TABLE 5 Proposed actions for the perpetrators as a function of language, severity of the stimuli, country, and EI.

Fixed effects	B	SE	t
(Intercept)	5.729	0.188	30.40
Language (L2)	-0.134	0.047	-2.81
Severity (mild)	-3.895	0.047	-81.47
Country (Greece)	-0.065	0.048	-1.36
EI	0.046	0.037	1.22
Random effects	Variance	SD	
Participant (intercept)	0.000	0.000	
Stimulus ID (intercept)	0.006	0.079	

Note: Model fit: $DCS \sim \text{Language} + \text{Severity} + \text{Country} + \text{EI} + (1|\text{Participant}) + (1|\text{Stimulus ID})$. Significant *t*-values ($|t| \geq 1.96$) in bold.

their offensiveness and emotionality ratings. Specifically, participants from Greece and those with higher EI considered the offenses presented in the videos as being more morally severe and reported stronger emotions upon watching these videos.

4.3 | The mediating role of emotions in the relationship between language and proposed actions for the perpetrators of moral transgressions in L1 and LX

A moderated mediation analysis based on 5000 bootstrap samples was computed to investigate whether the influence of the language of the videos (L1 versus LX) on the punishment that the Greek and the Hungarian participants suggested for the perpetrators was mediated by the intensity of the emotions they experienced and to what extent the severity of the stimuli (mild versus extreme) moderated this link. To this end, we used SPSS Process Macro version 4.1 (Hayes, 2022). The results of the regression analyses revealed that both language ($b = -0.376$, $SE = .105$, $t = -3.570$, $p < .001$, 95% CI $[-0.583, -0.170]$) and the severity of the stimuli ($b = 0.932$, $SE = .108$, $t = 8.665$, $p < .001$, 95% CI $[0.721, 1.143]$) had a statistically significant effect on emotionality ratings ($R^2 = .092$), but the interaction term language \times severity did not reach statistical significance ($p = .443$). A statistically significant effect of severity ($b = 3.335$, $SE = .099$, $t = 33.810$, $p < .001$, 95% CI $[3.142, 3.529]$) and of the interaction term emotionality ratings \times severity ($b = 0.527$, $SE = .046$, $t = 11.572$, $p < .001$, 95% CI $[0.437, 0.616]$, $\Delta R^2 = .035$, $p < .035$) on the proposed actions for the perpetrators was also found.

The results of the indirect effect based on 5000 bootstrap samples led to a statistically significant indirect negative relationship between the language condition and the suggested actions for the perpetrators of moral transgressions, which was mediated by the participants' emotions (see Figure 1). However, this indirect effect was conditional on the level of the moderator variable: it was statistically significant only for the extreme severity stimuli ($b = -.239$,

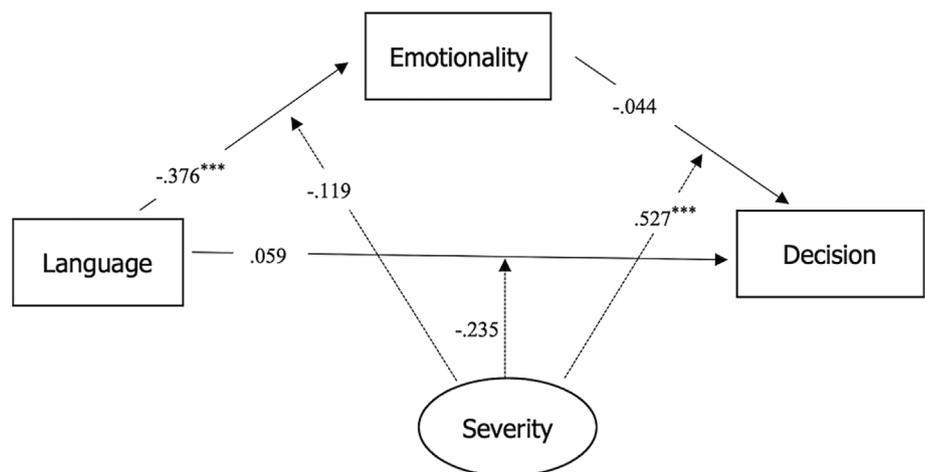


FIGURE 1 Indirect effect of language on decision making (mediator: emotional intensity, moderator: severity of the stimuli).

BootSE = .057, Bootstrap 95% CI [-0.356, -0.129]). Furthermore, the index of moderated mediation, which quantifies the relationship between the indirect effect and the moderator, was statistically significant from zero, which implies that the conditional indirect effects (i.e., the mediating role of emotionality at different levels of the moderator) were statistically different (Index = -.255, BootSE = .058, Bootstrap 95% CI [-0.371, -0.141]) (see also Appendix 3).

5 | DISCUSSION

The current study aimed to extend the MFLe literature by exploring whether language (L1 versus LX) and EI influence Greek-English and Hungarian-English bilinguals' perceptions of the seriousness of real-life moral transgressions that differed in their degree of severity (mild versus extreme), the level of emotional intensity that these bilinguals experienced while watching these transgressions, and their moral decision-making operationalized in this study as the suggested punishment for the perpetrators. Additionally, we sought to explore whether the effect of LX on the proposed actions for the perpetrators of real-life moral transgressions was mediated by reduced emotionality. The study is novel in several ways: (1) it used a within-subjects design to investigate the MFLe in two languages that are highly underrepresented in moral psychology and bilingualism research; (2) the stimuli employed were authentic videos of real moral transgressions, conferring a high degree of ecological validity; (3) the role of individual differences in moral decision-making was acknowledged and empirically tested by placing the focus on EI; (4) the study attempted to overcome potential limitations of the use of self-reports of language proficiency which have been the norm in moral domain studies by using a standardized measure of vocabulary in L1 and LX. Although the Lex-TALE is far from perfect (see Puig Mayenco et al., 2023), it can capture subtle differences between participants of high intermediate to advanced proficiency that self-reports may not.

Our results led to three main findings. First, the participants who rated the moral transgressions as more severe (extreme severity videos) tended to feel stronger emotions and proposed harsher punishments for the perpetrators regardless of their country of origin (UK, Greece, Hungary) and the language used in the stimuli (L1 versus LX). This finding is in line with Yucel et al.'s (2020) study which found that moral violations (e.g., a person who destroys another person's artwork with her hands) elicited larger pupil dilation from adult people in their L1 than conventional violations (e.g., a person who plays a game in the wrong way). Our findings confirm the assumption that extreme moral violations are generally assessed as more wrong than conventional violations, and this phenomenon does not appear to be culturally dependent (Landy, 2016), at least among the cultural contexts considered in this study: UK, Greece, and Hungary.

Second, the results of our study based on real moral transgressions provide further evidence in favor of the effect of language on moral and social norm transgressions and support the view that emotionality is involved in the MFLe. Our participants perceived moral

transgressions as more offensive and experienced stronger emotions in their L1 (Greek, Hungarian) than in their LX (English), in addition to proposing tougher sentences for the perpetrators in their L1. Furthermore, the effect of language on the proposed sentences for the perpetrators of severe—but not of mild—offenses was mediated by emotion. These findings indicate that people are more likely to evaluate severe moral scenarios that involve social and moral transgressions (e.g., crimes) as less acceptable in their L1 than in their LX. A possible explanation may be the increased activation of moral and social norms acquired early in life via real-life interpersonal interactions that primarily occur in L1 (Białek et al., 2019; Geipel et al., 2015a; Woumans et al., 2020). Furthermore, these results could be partially attributed to the *reduced emotionality hypothesis*, which posits that verbal stimuli (e.g., moral scenarios) presented in an LX trigger weaker emotions than in the L1 (see Caldwell-Harris, 2014). As mentioned previously, the context of language acquisition may help to interpret this phenomenon. According to this view, L1 words and phrases have higher emotional resonance because they are generally acquired through authentic interactions (Dewaele, 2013) and are linked to emotionally charged autobiographical memories (Marian & Neisser, 2000). However, some scholars argued that reduced emotionality in an LX may also result from the increased cognitive load of processing LX speech, thus leaving less cognitive resources for emotion processing (e.g., Thoma, 2021; Thoma & Baum, 2019). Therefore, while our findings do support the view that the MFLe is partially linked with reduced emotionality in the LX, our design does not allow us to draw clear conclusions about the source of this reduced LX emotionality (i.e., context of acquisition or increased cognitive load).

Finally, the results of this study indicate that EI plays a role in perceptions of offensiveness of moral transgressions, as well as in the level of emotionality that bilinguals experience when watching these transgressions on television. In our study, participants with a higher level of EI provided higher ratings of offense seriousness and reported stronger emotions while watching real moral transgressions that differed in their severity. These results extend findings from previous L1 research suggesting that emotional abilities, such as EI, may play an essential role in individuals' moral behavior and moral decision-making (Athota et al., 2010; Krishnakumar & Rymph, 2012; Pizarro & Salovey, 2002; Yadav et al., 2015).

Our findings are based on authentic materials, which we used in order to boost the ecological validity of the study. One limitation is that we did not collect event familiarity ratings. This may have introduced some noise in the data as some participants may have heard about the events presented in the audiovisual stimuli, which had happened 2 years before the data were collected. However, having processed and internalized some emotionality (or any other judgment) about an event experienced in the L1 earlier will not necessarily lead to the same emotionality ratings when re-experiencing the same event in the L2 later on. This view is supported by previous research on English as an LX survivor of sexual persecution (Cook & Dewaele, 2022), as well as studies on emotional frame-switching, such as Panayiotou's (2004) study, in which Greek-English bilinguals reported different reactions to the same story they heard in their two

languages with a one-month interval. We therefore believe that the effect of this limitation should be minor. Finally, we suggest that future studies use a more fine-grained decision scale than ours. Our decision scale mixes different kinds of proposed actions for the perpetrators (i.e., warning, fine, prison, and death penalty), which may each be perceived differently in different cultures. Moreover, the scale may have allowed more differentiated choices for less serious punishments than for more severe punishments.

6 | CONCLUSION

This study is the first to provide evidence on the MFL using audiovisual stimulus material presenting moral transgressions of high ecological validity. Moreover, the study experimentally checked for the previously assumed link between reduced emotionality in an LX and MFL. Including two underrepresented and quite distinct populations from a linguistic point of view (Greek and Hungarian) adds to the originality of the research design. We found that Greek–English and Hungarian–English bilinguals perceived extreme severity moral transgressions less harshly and that they had less emotional resonance when watching these videos in their LX. These results highlight that the MFL does not just exist in the hypothetical, abstract, moral realm but that it affects perceptions and decisions in real-life situations. Insights obtained from this study have important social implications in a multilingual world in which judges and juries make decisions about justice in languages acquired later in life and condemn perpetrators without realizing that their language profile might introduce a small degree of bias. We mentioned the tragic case of Zak Kostopoulos in the introduction. We can assume that the head judge in the case was unaware that the language profiles and the level of EI of jury members may have had a small influence on their verdict.

CONFLICT OF INTEREST STATEMENT

None.

DATA AVAILABILITY STATEMENT

The raw data that support the findings of this study are available upon request. The materials used in this study are provided in the Supporting Information.

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SUPPORTING INFORMATION

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