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The Foreign Language Effect and Moral Cognition in Translators and Interpreters

Presentado por Nerea Calvo Armisen

Tutelado por: María Goretti Faya Ornia

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ABSTRACT

It has been shown that people react differently to challenging situations when they are presented in a foreign language: this is called the Foreign Language Effect. However, it has not been studied so far if this effect occurs in Translation and Interpreting students and graduates. The aim of this study is to investigate whether or not this is the case, as this discovery would be beneficial for the field to demonstrate that professionals in the sector reach a foreign language level equal to their mother tongue. In order to carry out the research, answers to moral dilemmas based on those created by Moral Cognition theorists have been analysed to find out whether the Foreign Language Effect occurs in the field of Translation and Interpreting as well as in other individuals.

The results show that the Foreign Language Effect is found in both professionals and students in this field. One possible explanation for this could be the fact that the foreign language load in their training is not sufficient to achieve a level equivalent to their mother tongue. Nevertheless, further research would be advisable to explore whether this is the case for professional interpreters with long-standing careers.

In conclusion, the results of the study do not meet the expectations, so it would be appropriate to investigate the causes through a further study, as well as to analyse whether the foreign language training received by Translation and Interpreting students is sufficient for their expected level of proficiency.

KEYWORDS: Moral Cognition, Foreign Language Effect, moral dilemmas, trolley dilemma, footbridge version, switch version, Translation and Interpreting, English, foreign language, proficiency.

1. INTRODUCTION

As widely recognized, the current era represents the peak of globalization, with strong consequences that are undeniable. The focus, however, will be directed towards a specific cause: the existence of individuals proficient in multiple languages. Additionally, there are professionals who specialise in bridging diverse cultures through language, such as translators, interpreters, and linguistic mediators. Their contributions enable communication, negotiation, and even foster closer relations between nations. Now, there is a multitude of workers worldwide tasked with determining the significance of texts written in foreign languages for their respective countries, deciding whether to act based on speeches delivered by foreign leaders, evaluating potential collaborations between nations... and even in areas outside of politics, such as marketing. Nevertheless, are individuals capable of reacting in a foreign language in the same way as they would in their mother tongue? That is the question that has motivated this work.

1.1. JUSTIFICATION OF THE TOPIC

First of all, this is a compulsory subject that needs to be done in order to finish the Translation and Interpreting studies. This subject consists of carrying out a work in which the students will show some of the knowledge they have learnt during the years of the degree. In addition, the work needs to be entirely conducted by the student, although each one has a tutor that guides them and shows how the work should be done.

Secondly, the decision to carry out this study was made to establish initial contact with the dynamic world of research. Undoubtedly, researchers are indispensable contributors in every area, driving progress and facilitating advancements. In this particular instance, I feel that someday, in the future, I might embark on a research-oriented path, and this represents the first opportunity to observe the complexity of their work and verify personal affinity towards it.

Thirdly, the Foreign Language Effect is regarded as one of the most interesting topics that I have ever heard about. In addition, it holds great importance within the field of Translation and Interpreting given that, as future professionals, the objective is to create a mindset where English is approached and handled with the same proficiency as our native language. Nevertheless, is that possible? This work will try to find if there is actually a difference between how we—translators and interpreters—embrace English and how other related-to-languages fields adopt it.

1.2. AIMS OF THE WORK

This section will detail the objectives for which this study has been carried out:

1. To fulfil a requirement of the Bachelor's Degree in Translation and Interpreting.

2. To carry out the collaboration grant awarded by the Social Council of the University of Valladolid.
3. To satisfy a personal interest in Moral Cognition and the Foreign Language Effect.

1.3. METHODOLOGY

This section will explain the steps that have been followed to carry out this work. It should not be confused with the methodology of the study, which will be explained later in section 3.

First of all, a gap in the field was discovered after documentation through readings recommended by the Professor specialising in the subject. An exhaustive search was carried out to check the existing information on the topic, concluding that no one has investigated the Foreign Language Effect on Translation and Interpreting students and graduates.

Next, multiple searches were carried out in order to understand and master the field to be researched: the Foreign Language Effect and Moral Cognition. There are many studies and writings on both topics separately and outside the field of Translation and Interpreting, so soaking up information was not difficult. Throughout the documentation process, an essential bibliography was compiled, which is presented in the last section of the paper.

Once the field was mastered, the drafting of the theoretical framework began (point 2 of the paper). At the same time, based on the study carried out by Costa *et al.* (2014), a questionnaire was created and distributed to the target audience (section 3). When it was considered that there were enough responses to be able to start analysing the results, the questionnaire was closed. The results were then analysed for presentation and discussion in section 4 of this paper.

Finally, after having carried out the work, certain limitations of the study were noted, as well as possible lines of research for the future. All of this is presented in the conclusion section of the paper (point 5).

2. CONTEXTUALISATION OF THE STUDY

This theoretical framework is devoted to explaining the most important topics of the paper: Moral Cognition, the Foreign Language Effect, the trolley dilemma, its versions... Finally, the topics will be linked to Translation and Interpreting.

2.1. MORAL COGNITION AND FOREIGN LANGUAGE EFFECT

This section will explain what Moral Cognition is and how the Foreign Language Effect works. These two points will be described separately in order to understand the nuances of each question.

2.1.1. MORAL COGNITION

Moral Cognition is the study of the brain's role in moral judgment and moral decision-making. As a social science, it tries to understand how moral thought is generated, developed, and applied, as well as the rationalizations and biases that affect moral decision-making (Marín, in press).

There are authors such as Chan (2008) who refer to this field as “moral psychology,” although the truth is that, as it is an emerging area, there are plenty of different ways to refer to Moral Cognition. In addition, there are an abounding number of philosophical theories that have provided this field with their point of view to describe what Moral Cognition is and how it works. For instance, rationalism—which emphasises the role of reason in the acquisition of knowledge—argues that reasoned processes are the source of moral judgements. On the other hand, sentimentalism states that emotional processes are the ones that nurture moral judgements. Nevertheless, apart from these that are the two main currents, there are many others: social intuitionism declares that moral decision-making depends on the personal instinct, universal moral grammar uses concepts and models similar to those used in Chomsky's program in linguistics¹ to describe the nature and origin of moral knowledge (Mikhail, 2007), and dual process account claims that there are two ways in which individuals process information—automatic and deliberate (Evans, 2003).

Then, it is observed that Moral Cognition is debated from a lot of different disciplines, such as psychology, linguistics, anthropology, and cognitive neuroscience, hence the research has been exceptionally diverse both in its content and methodology. Greene (2015: 39) argues that this is because “morality is unified at the functional level, but not at the cognitive level, much as vehicles are unified by shared function rather than shared mechanics.”

There have been several authors who have highlighted the importance of *Cognition*, which is the most important international journal that has encouraged the development of Moral Cognition according to his work. For example, Cohen Priva and Austerweil (2015) analysed thirty-four years of this journal titles and abstracts to perceive tendencies in the evolution and the fields of *Cognition*. These researchers spotted the rise of Moral Cognition as the most dramatic growth in recent years, or at least in the whole

¹ Chomsky's theory of language acquisition views language acquisition as a biologically determined process that uses neural circuits in the brain which have evolved to contain linguistic signals. Chomsky argues about universal grammar, which is defined as "the system of categories, mechanisms and constraints shared by all human languages and considered to be innate." (Baxter, 2022)

history of the journal. Furthermore, Greene (2015: 39) reflects on their work: “Through the 1980s and 1990s the topic of moral psychology barely registered in these pages. Then, in the mid-2000s the field exploded, yielding an eight-fold increase in the prominence of morality-related words.”

In conclusion, Moral Cognition is a growing field that needs to be studied from different currents and spheres. Then, the number of papers dealing with it is likely to increase over the next few years.

2.1.2. FOREIGN LANGUAGE EFFECT

It is commonly thought that learning a foreign language just means incorporating another communication system to the one that someone is born with. Every person has a mother tongue and nowadays everyone has normally had to learn a foreign language. Naturally, this practice will depend on the country (or even the city): in Spain, studying English is compulsory from the very beginning of our education, whereas in Belgium, since it is a three-official-language country (French, Dutch, and German), they normally study more than one foreign language, and a large number of students learn English besides.

However, learning a foreign language has an impact on the personality. Although it may not alter our identity directly, it does affect our decision-making processes, and it is explained by the Foreign Language Effect (Miozzo *et al.*, 2020b).

It may be intuitive that people would make the same choices regardless of the language used, or that the difficulty of using a foreign language would make decisions less systematic. There is evidence, however, that the opposite is true, i.e., “using a foreign language reduces decision-making biases” (Keysar *et al.*, 2012: 661). This is because people tend to think about the advantages and the disadvantages of a decision when it is presented in their mother tongue, but in contrast, the frame disappears when that situation occurs in a foreign language. For example, results of an experiment carried out by Circi *et al.* (2021: 1131) showed that “the foreign language affects participants’ decisions as compared with native language in both the moral decision-making and risk-aversion domains, inducing participants to be more willing to accept harm in order to maximize outcomes in the former and reducing risk aversion in the latter.” Keysar *et al.* (2012: 661) propose that “these effects arise because a foreign language provides greater cognitive and emotional distance than a native tongue does.”

Nevertheless, it is thought regarding bilingual speakers that a bilingual person is someone who speaks two languages perfectly because they have been learnt naturally at home thanks to parents with different nationalities. One of the most important researchers on this type of bilingualism is Annick De Houwer, who has devoted several years of work to this field (De Houwer, 2005, 2009). However, researchers on bilingualism commonly adopt a use-based definition of bilinguals and multilinguals as “speakers who use two or more languages in their everyday lives,” be it simultaneously, as bilingual families do, or

sequentially, for example in the context of immigration or study abroad, and “regardless of their levels of proficiency in the respective languages” (Pavlenko, 2012: 407).

However, there are many elements that may cause variations in each situation, such as the age of acquisition of the languages, the way they have been learnt (at home, in a classroom, in a foreign country...), the proficiency of each language, the similarity between them, etc. Pavlenko (2012: 407) states that there are *balanced bilinguals*, who are “those that have relatively similar skills in their respective languages”, and *dominant bilinguals*, who “display greater ease in one of them.”

This work will focus on people that have learnt the foreign language instead of acquiring it naturally from birth. This is due to the process they have experienced, since it can be interesting for the Foreign Language Effect.

2.2. FOREIGN LANGUAGE EFFECT THROUGH THE TROLLEY DILEMMA

This part of the work will explain what the trolley dilemma is and how it began. Also, some papers that have been written around it will be discussed.

The trolley dilemma is a question that was created in moral philosophy in 1967 by a contemporary British philosopher, Philippa Foot. She called it the trolley problem and, as it is explained in the Encyclopedia Britannica, she posed it “as a qualified defence of the doctrine of double effect and as an argument for her thesis that negative duties carry significantly more weight in moral decision making than positive duties.” Then, the American philosopher Judith Jarvis Thomson (1976) identified for the first time the trolley problem as such.

The trolley dilemma allows us to think about the consequences of an action and whether its moral value is determined only by its outcome. Furthermore, it has been used in other scenarios, such as war, torture, drones, abortion, and euthanasia (D’Olimpio, 2016).

This part of the work will be focused on the experiments conducted by Costa *et al.* (2014), since they are the basis for the practice to be carried out afterwards. These authors decided to study the Foreign Language Effect through two varieties of the trolley dilemma. They explain that their study explores whether using a foreign language, as hundreds of millions of individuals do every day, can have a systematic impact on the moral-decision-making processes.

Costa *et al.* (2014) state that report evidence demonstrates that when using a foreign language, utilitarian decisions are more frequently made. This is due to the reduced emotional response evoked by the foreign language, which reduces the impact of intuitive emotional concerns.

Before continuing, it is necessary to explain what a *utilitarian decision* is. In a few words, it is a choice that is focused on the consequences of the decision: the greater good, regardless of whether they violate an individual's rights. The opposite in this study would be the *deontological decisions*, which are the ones that are made because of the duties or the rules that everyone should follow to prioritize the essential rights of a person.

Duignan (2023) explains that the trolley problem has been used to critique utilitarianism. For instance, it would be right for the trolley driver to redirect the runaway vehicle so that only one person is killed instead of five; it would also be right for a magistrate to execute one innocent person to save five others (both are utilitarian decisions). However, by most people's intuitions, the first action would be right and the second would be wrong. Then, utilitarianism has been critiqued because it seems unable to rationally reconcile those intuitions. As D'Olimpio (2016) explains, the trolley dilemma and its variations demonstrate that most people approve of some actions that cause harm, yet other actions with the same outcome are not considered permissible.

Going back to the study of Costa *et al.* (2014), they hypothesized that moral judgments in a foreign language would be less affected by the emotional reactivity elicited by a dilemma, hence when faced with moral dilemmas in a foreign language, utilitarian judgments should be more common than in a native language. To prove it, they used the following two versions of the trolley dilemma: the footbridge version and the switch version.

2.2.1. THE FOOTBRIDGE VERSION OF THE TROLLEY DILEMMA

As Costa *et al.* (2014) explained, in the footbridge version one person imagines standing on a footbridge overlooking a train track. There is a train that will kill five people, but there is a way to save them: pushing a heavy man off the bridge in front of the train, hence the train will kill him but five people will be saved.

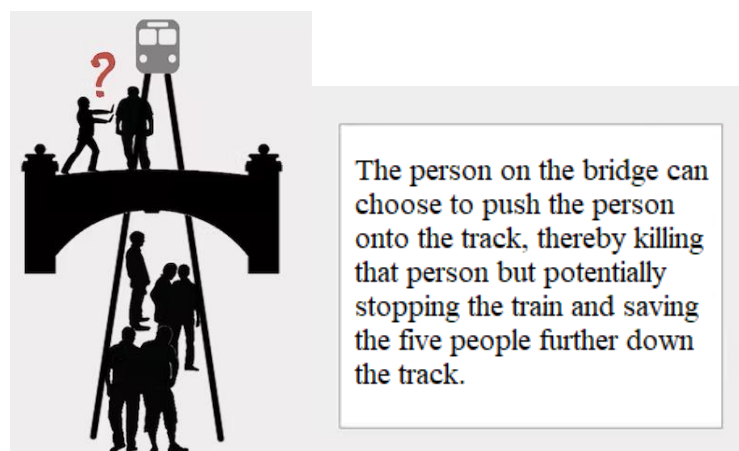


Figure 1: The Footbridge Version of the Trolley Dilemma. Source: D'Olimpio (2016)

If the person in the footbridge follows the utilitarian point of view, they will sacrifice one but save five. However, this would violate the moral forbidding of killing. In addition, it is really hard to imagine oneself pushing someone off in front of a train knowing that this would kill the person. It is important to note that participants were shown cartoons that depicted the situation, which helped them to imagine themselves in the moment.

The hypothesis of Costa *et al.* (2014) in this version is that people would be more likely to choose sacrificing one man to save five when the dilemma is presented in a foreign language than in their mother tongue. To prove it, they conducted an experiment with volunteers from different nationalities:

NATIVE/FOREIGN LANGUAGE	LIVING IN	NUMBER OF PEOPLE
English/Spanish	The United States of America	112
English/French	France	107
Korean/English	Korea	80
Spanish or English ² /Hebrew	Israel	18

Table 1: Number of volunteers engaged in the Footbridge Version of the Trolley Dilemma

Then, the participants were divided randomly into two groups. Some of them did the activity in their native language (158 individuals) and the rest did it in a foreign language (159 participants). Apart from the numbers showed in the previous table, there were 72 people that could not be included in the results of the experiment because of different reasons: 41 did not understand the assessment, 16 grew up with the language, three presented a lack of clarity in their responses, and 12 were not native speakers of the language in which they were being tested.

Costa *et al.* (2014) could verify thanks to the results of their experiment that, when using a foreign language, people are more willing to select the utilitarian choice, hence saving five by killing one:

² The researchers worked with late learners of Hebrew who were chosen in a school for learning the language. However, they passed some tests to know if they would understand properly the activity.

LANGUAGES		PERCENT OF UTILITARIAN DECISIONS	
NATIVE	FOREIGN	NATIVE	FOREIGN
English	Spanish	28%	44%
English	French	20%	33%
Korean	English	0%	7.5% ³
English/Spanish	Hebrew	10%	75% ⁴
WEIGHTED AVERAGE		20%	33%

Table 2: Results obtained in the Footbridge Version of the Trolley Dilemma. Based on Costa *et al.* (2014)

Costa *et al.* (2014: 2) state: “The results support the hypothesis that the reduced emotional resonance of a foreign language leads individuals to be less affected by an emotional aversion to pushing the man, allowing them to make more utilitarian decisions.”

2.2.2. THE SWITCH VERSION OF THE TROLLEY DILEMMA

The switch version of the trolley dilemma has also a train heading to five people, but one can divert it to another track by pressing a button, hence it would kill only one person.

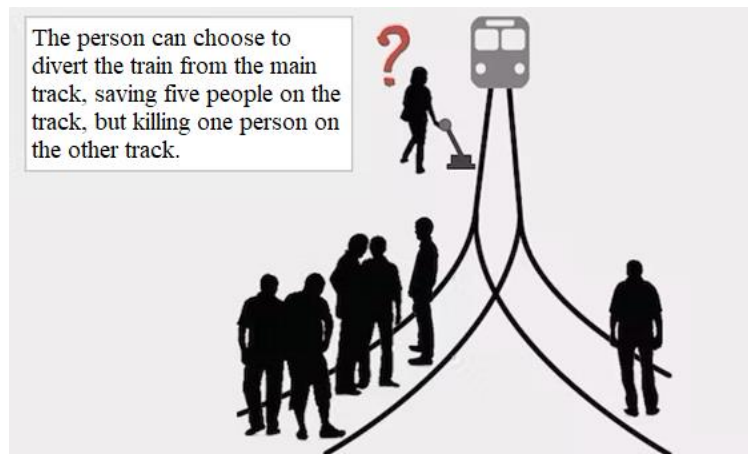


Figure 2: The Switch Version of the Trolley Dilemma. Source: D'Olimpio (2016)

³ The result of native Koreans is somewhat unusual, as none of them chose the utilitarian decision while using their native language. Costa *et al.* (2014) justify it with the premise that their culture makes them less likely to select a utilitarian response, based on the article of Gold *et al.* (2014).

⁴ There is a significant gap in the cells of people learning Hebrew. Costa *et al.* (2014) said in the discussion of the results that probably the outcomes were not actually reliable given that this group consisted only of 18 people. To prove that the results of the whole experiment were not affected by this group, they analysed again the information gotten but getting rid of the speakers of Hebrew. They found the same conclusions: 21% made the utilitarian decision in their native language while 31% did so in their foreign language.

Costa *et al.* (2014) decided to implement this second version of the trolley dilemma to test the two possible explanations to the footbridge dilemma results. The first alternative explanation was that people had answered to the dilemma randomly because of the difficulty of using a foreign language. Thanks to the switch version, which is less emotional, they would see if there was a response pattern or not. Then, the other alternative considered that people chose the utilitarian responses due to cultural norms, so the foreignness of the language was not the decisive element of the experiment, but the associated norms of it were. For example, Costa *et al.* (2014: 3) said that thanks to the research made by Goodwin and Hernández Plaza (2000), they could realize that “Spanish-speaking societies tend to be more collectivistic than English-speaking societies,” so Spanish prefers the common good over the rights of individuals—meaning that Spanish-speakers would choose to push the man off.

To prove those speculations, the researchers decided to conduct this second experiment with 725 participants in Barcelona: 397 people were native-Spanish-speakers studying English, and 328 were native speakers of English, and Spanish was their foreign language. Then, after excluding some students that did not fit in the ideal participant type, this was the amount of people that were included in the final outcomes:

NATIVE LANGUAGE	FOREIGN LANGUAGE	NUMBER OF PEOPLE
Spanish	English	197
English	Spanish	168

Table 3: Number of volunteers engaged in the Switch Version of the Trolley Dilemma

In this case, both versions of the trolley dilemma—the footbridge version and the switch version—were presented without any picture that could increase the emotional charge, since the researchers wanted to conduct this second experiment with the least possible emotionality.

After analysing the participants’ reactions, Costa *et al.* (2014: 3) state: “While only 18% of the participants decided to push the man to his death when using their native tongue, fully 44% of them chose to push him when using a foreign language.” This supports what had been found in the first experiment.

They also found answers to both possible situations mentioned above, which would explain the results of the first experiment. Regarding whether the responses were due to a random way of reacting, they saw that 81% of the people using their native language decided to divert the train, and 80% of them using a foreign language too. This means that there is not random responding: since the switch dilemma does not require a high emotional charge—as it only consists of pushing a button (unlike the footbridge version, where one has to push the person oneself)—, people made more utilitarian decisions both in their native and in their foreign language. Then, focusing on the other

alternative explained above about the cultural norms associated with each language, this second experiment shows that it is not true: 40% of the native English speakers made a utilitarian decision when using Spanish, and 47% of the native Spanish participants made a utilitarian decision. Also, 18% of the native English speakers chose the utilitarian answer when using their native language, and 19% of the native Spanish speakers did so when using their mother tongue. After analysing these results, Costa *et al.* (2014: 4) state that “this pattern clearly contradicts a cultural explanation.”

In conclusion, the trolley dilemma shows that the most relevant element when facing a moral dilemma is the emotional distance. When the dilemmas are presented in a foreign language, the emotional distance is bigger, hence people tend to opt for the utilitarian answer according to what was found by the researchers. In addition, the switch version experiment demonstrates that making a hard decision is easier when one does not imagine actually doing that morally difficult action, hence the emotional distance is bigger too.

2.3. MORAL COGNITION IN TRANSLATION AND INTERPRETING

This section will explain the relation between the already described Moral Cognition and the Translation and Interpreting field. Also, it will detail the gap found regarding the topic.

Translation and Interpreting are two disciplines that have grown steadily in recent decades due to globalisation. However, the reality is that they have existed since the first commercial exchanges or meetings of people speaking different languages many centuries ago. Indeed, Diriker (2013b: 363) states that “the practice of interpreting is probably as old as the first contacts between peoples speaking different languages.” That is how interpreting was born, and thus when writing was invented, translation was born. The job of a translator and interpreter is to be able to translate the meaning of a text, whether oral or written, into another language. Nevertheless, that is one of the very few features that translation and interpreting have in common, as they are more different than they may appear.

The primary difference between these two fields is, as mentioned above, the format. Translators work with written texts, so they can read it as many times as they need in order to get the whole meaning of the content, look for information related to that text, and then translate it to the language they work with. On the other hand, interpreters perform with oral texts, which involves several difficulties: they usually only hear the speech once, the speaker whom the interpreter is interpreting may have an unfamiliar or difficult accent, the topic can turn out to be more elaborated than what the interpreter thought when preparing for the performance, etc. Therefore, the interpreter must be able to react and decide very quickly, as well as to deal with stress and difficult situations.

Undoubtedly, another of the qualities that a good translator and interpreter must have is a good command of the languages they work with. However, once again, proficiency for the interpreter is one of the most important parts, as they cannot re-listen to a part of the speech, while the translator can re-read a word they have not understood. This is why the interpreter is supposed to have a really high level of the foreign language from which they translate orally.

However, as Chenu & Jisa (2009) explain, the second language proficiency depends on several factors, such as the age of acquisition, the proximity of the languages involved, the motivation and the personality. Seeber (2015c: 83) states:

The age of acquisition seems to be particularly relevant, as only languages acquired at an early age (during the so-called "critical period", ranging approximately from conception to puberty) make use of a set of innate learning procedures allowing knowledge of the world to be acquired at the same time as the linguistic structures that apply to it.

For this work, as detailed at the beginning of this paper, the most interesting kind of bilinguals are the ones that have learnt the second language later in life given that, according to Seeber (2015c: 83), they “are believed to use different mechanisms relating back to the first language and engaging different processes.” Nevertheless, Seeber (2015c: 83) also explains that “the notion of bilingualism, its importance and its implications for the simultaneous interpreting process are still cause for disagreement in the field.”

In other words, interpreters may need to face compromising decisions in a split second, such as the cultural differences between communities: for instance, a common term in the source country can be socially forbidden in the target country. Furthermore, it can be said that nowadays those are quite ordinary situations due to the extremely unpredictable society and the need for change that the humanity experience in a daily basis, which also leads to the creation of terms at a very fast pace. In addition, interpreters need to deal with this situation in both their foreign language and their mother tongue. It is noticeable that, considering the need for quick decision-making ability and the high level of foreign language skills, there is a relation between the discipline of interpreting and the research about Moral Cognition discussed earlier.

However, it has not yet been investigated whether professionals in the field of Translation and Interpreting react to moral decision-making in the same way as people who are proficient in the foreign language but not trained in that area (Marín, in press). There may be a difference among the natural responses of both groups since interpreters, in contrast to the rest, are prepared for this kind of troublesome situations thanks to the practice of their job.

Moreover, Costa *et al.* (2014: 6) found in the experiment they conducted that “the more proficient the participants considered themselves in the foreign language, the more their decision patterns resembled that of the native speakers.” They explain that “increasing foreign language proficiency may promote emotional grounding, hence eliciting similar emotional reactions to that of a native language.” This leads to think that

interpreters, due to their allegedly high command of the foreign language, would react in the same way as they would do in their mother tongue.

This assumption is of great importance because translators and interpreters are present in many significant multilingual institutions and organizations that, to some extent, decide what happens in our world. For example, interpreters have had a huge impact in the international conferences since the First World War (Diriker, 2013b), getting to the point of needing independent schools, institutes, universities, and associations all over the world (for instance, the International Association of Conference Interpreters, which was created in 1953). Diriker (2013b) also explains that the importance of a good training has even prompted the European Union to create the European Masters in Conference Interpreting. Then, the relevance and importance of interpreters in the world of international cooperation and globalisation is indisputable.

In conclusion, it is crucial to know if interpreters make the decisions they make because they are actually able to react in their foreign language as they would do in their mother tongue, or if they react as they do because of the bias produced by the native-ness of the language. Then, this paper will look at a beginning of research on the subject.

3. AIMS, HYPOTHESES AND METHODOLOGY

This section will explain the main aim and the secondary objectives of the work, as well as the hypotheses and the methodology that has been followed to carry out the experiment. Also, the model of analysis will be detailed in the last subsection.

3.1. AIMS OF THE STUDY

Main aim:

1. To find if the Foreign Language Effect occurs in graduates and students of the Translation and Interpreting degree.

Secondary objectives:

1. To carry out a research to cover an information gap that was noticed when learning about the topic.
2. To study the possible relationship between the presence of the Foreign Language Effect and the training received.
3. To try to find out if there is a difference between how Translation and Interpreting students adopt English and how they do so in other language-related degrees.

3.2. HYPOTHESES

This section will set out the hypotheses of the work:

1. The Foreign Language Effect does not come to pass in Translation and Interpreting students.
2. Assuming that the Foreign Language Effect does not occur in Translation and Interpreting students, it is due to their training.

3.3. METHODOLOGY

To accomplish the objectives detailed in the point 3.1, a questionnaire has been created to determine whether people actually answer with an emotional response or not assuming that they are trained to be as close as possible to their mother tongue in a foreign language. Then, the target population will be selected and will receive the questionnaire. At the end and only when enough answers have been collected, the results will be analysed.

3.3.1. QUESTIONNAIRE

The questionnaire is focused on the quantity people that choose each answer; hence the questionnaire is quantitative. It is necessary to do it like mentioned because the research is based on the experiment carried out by Costa *et al.* (2014), which was explained in detail in the section 2.2 of this work. As it has already been learnt, they talk about the quantity of people that chose each kind of answer when they conducted the experiment, so this work will do likewise. In addition, it is the best way to see if there is actually a majority of people that think alike: the most important part in this work is to know the amount of people that would go for the utilitarian decision or the deontological decision, no matter the reason for their choice as there may be a large amount of different reasonings.

The tool that was used to carry out the research was Google Forms, which is a free survey management that Google offers to every user. The questionnaire keeps saved on the cloud in the author's Google Drive account and updates automatically with each response. It also automatically creates an Excel file with the answers, which can be used to download them to the computer and analyse them individually, creating graphs and tables.

The questions in the questionnaire will be explained hereafter. Also, there will be a brief justification for each issue.

To begin with, the first page that every participant of the questionnaire sees is a short explanation of the survey: "This questionnaire will only take three minutes and will help me to do my TFG on moral dilemmas. First, you will see personal questions to get

to know your personal context. Then, you will see two dilemmas. I need you to answer as honestly as possible: there is no right or wrong answer, it is a personal choice. Thank you!” As it is explained in the previous clarification, it is anonymous, and the most important thing is to be honest with the answers. Then, there are two different sections within the questionnaire, and both of them will be analysed.

The first section is dedicated to “personal questions” to contextualize the situation of every participant and all the questions are compulsory (except for the three last ones, which are exclusively reserved for students and graduates of Translation and Interpreting, as will be explained below). The answers in this section will only be used if the responses to the moral dilemmas of a specific participant are unusual.

The first question is a drop-down in which every participant has to choose an option to express their age: 18-22, 23-25, 26-30, 31-40, 41-50, 51-60, or more than 60. The age groups were divided into small groups up to 30 and large groups from 30 onwards because most participants were likely to be between 18 and 30 years old, considering that the university degree in Translation and Interpreting is new and has gained importance in recent years. Furthermore, the gathering of the ages was like that because 18-22 is the ages when we usually study in the university, 23-25 is when we try to find a place in the degree-related-job-market and start gaining work experience, 26-30 is when people normally stabilise, and the rest of the groups were divided in decades because of the technological, cultural, social, and political differences at each period of time.

The second, third, and fourth queries are open-short-answer questions in which the participants have to write their place of birth, their place of residence and their mother tongue. These questions will be useful to know whether each participant is bilingual, or has grown in a bilingual community, or even if they have a completely different culture.

“Is English your first foreign language?” is the fifth question that the participants have to answer. It is a question with two closed-ended-answer options: Yes, or No. This will be interesting if there is a clear difference in the responses of someone. This question will serve to know that the response of someone to the dilemmas is because English is a second foreign language or even further.

Then, another question with multiple closed-ended-answer options follows: “Do you have an English certificate?” The possible answers are: No, B1, B2, C1, C2. The most basic certificates (A1 and A2) are not included because they do not show the proficiency that is needed for this research. In addition, the Common European Framework of Reference for Languages is probably the most known among the target population of the research, hence no one will have any doubt when reading the question.

The next query asks the participant to choose the command of English that they have at the time when they are filling in the questionnaire. This is extremely important because the proficiency of a language changes constantly if it is not practiced, hence the certificate mentioned in the previous question can be inaccurate. In this question the participant has to choose one of the given answers, which all are numbers between one and ten, being 1 = basic, 5 = intermediate, and 10 = proficient.

The following question asks how much time the participants use English in a day and adds a short example explanation in brackets: (studying, working, leisure time...). This part is needed to understand the amount of time that each participant spends using English, since there may be people that study or work in English, but there may be others that only use it in their free time. Each participant has to choose one of the following closed answers: less than 1 hour, from 1 hour to 3 hours, from 3 hours to 5 hours, or more than 5 hours. Once again, this question will be useful just in case there is a participant that goes out of the ordinary answers.

The next question will determine which group each participant will belong to. It asks for the training that each person has received, and there are three closed answers: Translation and Interpreting, Other degree related to languages (Philology, Tourism...), or Others. Depending on the answer of each participant, they are sent to a particular group to answer the dilemmas. This means that there are three groups in the second section of the questionnaire, and the clusters correspond to each of the three answers mentioned above. Then, each answer directs the individuals who choose it to the corresponding question for each group to respond to the dilemmas.

The next query is “Have you already finished your studies?” and there are two possible answers: Yes, or Not yet. This question will be useful to know if a particular participant is still a student or is already a graduate.

Due to the importance of all the previous questions, it is compulsory to fill out all of them as explained above. However, the next three questions are optional: only those that had studied Translation and Interpreting must answer.

The first question for those who are students of the degree is: “If you have studied Translation and Interpreting, have you taken any optional credits in interpreting?” The possible answers are Yes or No. This response will give important information about the personal interest of each participant in the practice of interpreting. For this study, the most interesting individuals are those who have taken optional credits in interpreting.

The second optional question is: “If you have studied Translation and Interpreting, are you studying/have you studied a Master's degree in Interpreting?” Again, the possible answers are Yes or No. Again, this enquiry will help to distinguish between those students who have specialised academically in interpreting and those who have not.

The last question of this section is: “If you have studied Translation and Interpreting, are you currently working as an interpreter?” The possible answers are: Yes, I am a public worker for the EU; Yes, I am a public worker in Spain; Yes, but I am not a public worker; or No. This question will serve as an indication of the qualifications of each individual involved in the field of interpreting, since people working in the public sector will have passed tests to check their competence.

Then, the second section of the questionnaire is devoted to the moral dilemmas. As explained above, there are three groups depending on what each individual has previously chosen in the question related to their training. All three groups see the same

questions, but their answers are stored separately according to the cluster to which they belong.

The first question of this section is the footbridge version of the trolley dilemma. The participants read this explanation: “Imagine you are standing on a footbridge overlooking a train track. A small on-coming train is about to kill five people and the only way to stop it is to push one person off the footbridge in front of the train. This will kill one person but save five people. Would you push him/her off?” The possible answers are Yes or No.

The second question is the switch version of the trolley dilemma: “Imagine again a train that is about to kill five people. In this case, you can switch the train to another track where it would kill only one person by pressing a button. Would you press it?” Once again, the possible answers are Yes or No.

Both moral dilemmas need to be answered to complete the questionnaire. It can only be answered once by each person, as the second time they would already know what the dilemmas are about, and the natural reaction of each person would be lost.

3.3.2. PARTICIPANTS AND DISTRIBUTION

Once the questionnaire was created, it needed to be sent to those individuals that could be interesting for the study. In this case, the main requirement was that participants knew English in order to understand the dilemmas properly. The questionnaire was therefore distributed online to those who knew English, irrespective of their professional background.

Firstly, due to the importance of this cluster, the first target group was Translation and Interpreting students and graduates. Thanks to the messaging groups that exist today, it was possible to send the link to the questionnaire to people who are in advanced degree courses, not only at the University of Valladolid, but also at several universities in Spain. Also, in order to get responses from students specialising in Interpreting, several Spanish Masters in Interpreting were contacted, and their staff sent the link to the students. Therefore, the total number of people related to the degree in Translation and Interpreting who participated in the questionnaire is 117.

On the other hand, contact groups were also used to distribute the questionnaire to students of other degrees than Translation. In this step, people from both language-related degrees (Tourism, Philology, Teaching, etc.) and students from other degrees (mainly science) were contacted. The total number of students of language-related degrees was 35, while the number of students of degrees which are not related to languages makes a sum of 60.

Finally, an attempt was made to contact professional interpreters. This was the most difficult step, as despite contacting several associations, no response was received. Therefore, interpreters who may be willing to participate had to be contacted personally.

Initially, social networks such as Instagram or LinkedIn were used to contact professionals. Then, the email address of a European Commission interpreter was obtained. This resulted in a number of responses from professional interpreters (a total of 13 participants).

One thing that also helped to get more responses was that participants were asked to share the link with people who might be of interest to the study. The period of time allowed to receive responses was two months, although 98.5% of the responses were received in the first week.

3.3.3. DATA PROCESSING

Data processing was carried out with the aim of collecting information for this work and to further the research on the Foreign Language Effect in students and graduates of the Degree in Translation and Interpreting. All participants were clearly informed about the purpose of the study and their anonymity before starting the questionnaire. No personal information was required to answer the questionnaire (no name, email address, or any other information that would reveal the identity of the participants). Thanks to the system of Google Forms, the way to identify all the answers from the same participant is by means of a number assigned to each person according to the order of participation. Therefore, anonymity is ensured.

On the other hand, all the information has been automatically collected in the personal account of the questionnaire creator, so that only with the original username and password it is possible to access the answers. In addition, the data collected were only used for the purposes set out in the work.

Participants have the right to exit the questionnaire at any time and not have their data recorded. Once they have finished and have clicked on the end button, the data is stored automatically. However, in case a participant wants to delete the answers once they have been recorded, the creator of the questionnaire can delete them manually.

Finally, it should be noted that the data can be processed in statistical analysis tools or other data processing methods. In this case, Excel is the application used.

3.4. MODEL OF ANALYSIS

This section will explain how the data obtained from the questionnaire will be stored and analysed. The analysis of the data will be carried out in section 4, "results and discussion".

To begin with, and once the questionnaire is closed, the data will be transferred to an Excel file that Google Drive creates automatically. Once all answers have been downloaded, a check will be made to see if any need to be deleted. If so, the reason will be explained in detail when analysing the results. On the other hand, the answers to each

of the questions in the questionnaire will be studied individually, creating graphs to make the results clear.

As mentioned above, each of the answers to the first section (context questions) will be analysed. Then, the same will be done with the results of the moral dilemmas divided into the following groups (according to the training):

- Translation and Interpreting
- Other degree related to languages (Philology, Tourism...)
- Others

Similarly, interest groups will be set up to analyse the data. Afterwards, the results of all groups will be shown:

- Professional interpreters
- Interpreters in the public sector
- Master's students and graduates in Interpreting

Finally, the results will be interpreted in the discussion section. This will be done in order to test whether the hypotheses of the work are fulfilled.

4. RESULTS AND DISCUSSION

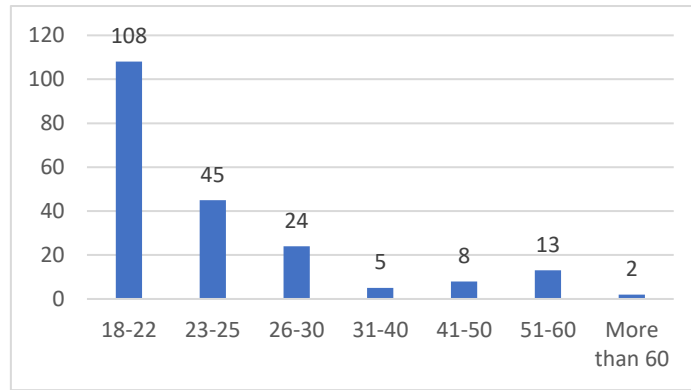
In this part of the work, the results of the study will be analysed and discussed separately: the first section will indicate the outcomes, and the second one will interpret the answers.

4.1. RESULTS

This section will show the results obtained in the questionnaire. First, there will be an examination of the answers of both sections: the contextualising questions and the moral dilemmas. Then, the results of the most interesting groups will be analysed separately.

4.1.1. GENERAL RESULTS OF THE QUESTIONNAIRE

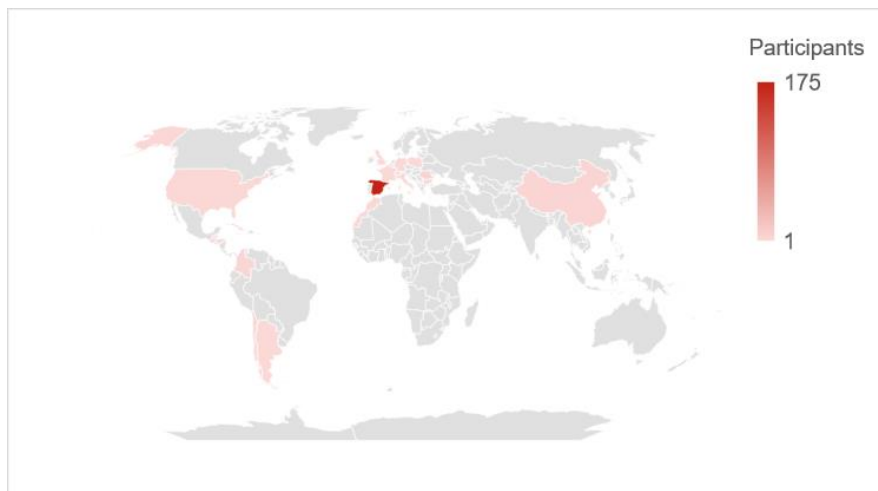
The answers to the first question of the survey show that most of the participants belong to the 18-22 age group, with 108 responses. Then, as it is observed in the following graph, the number of responses for each group decreases progressively. The 23-25 age group has a total of 45 responses, and the next group (26-30) has 24. However, the number decreases to five and eight responses in the 31-40 and 41-50 age groups, respectively. In the 51-60 age group there is an increase in responses with a total of 13, but it decreases again to two responses in the over 60 age group.



The following question asked participants about their place of birth. The answer was open-ended, so each individual wrote their response, which means a very large number of different answers. In addition, there were seven participants who wrote their date of birth instead of the place, so all their answers had to be discarded. To analyse the responses to this open-ended question, an Excel file was created to facilitate data management and graphing. Eventually, it was also used with all the other responses.

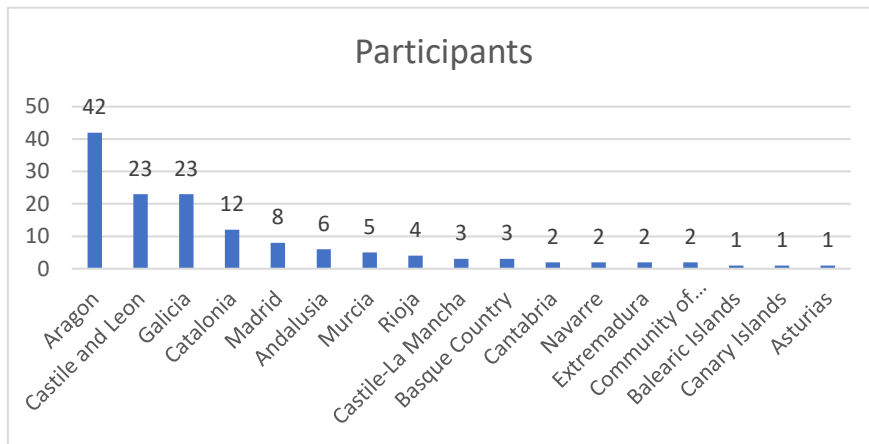
Some participants chose to answer with the city where they were born and others with the country. Therefore, in order to analyse all the responses, the countries were analysed first, and the results were as follows:

The country from which the most responses were received was Spain, with a total of 175. This was followed by seven responses from people born in Romania, five from China and three from Colombia. Then, two people from the United States of America and two from Morocco answered. Finally, only one response was received from each of the following countries: Italy, Germany, the UK, Poland, France, Bulgaria, Honduras, Cuba, Chile, Guatemala, and Argentina.



As it can be seen, a large number of the participants were Spanish-speaking, with a total of 183 people. It is the sum of the 175 participants from Spain and the eight from Latin America.

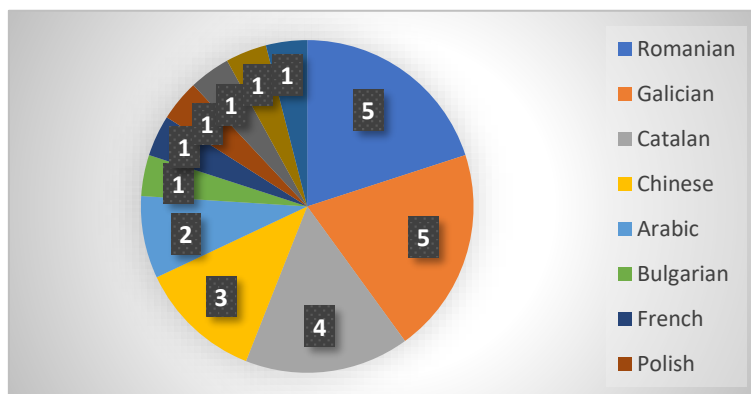
On the other hand, 140 people from Spain responded with their hometown. This is important because it is a country with bilingual regions, so the results obtained by region are shown here:



Analysing the results according to the bilingualism of each region, 44 participants were born in bilingual areas, while the remaining 96 were born in Spanish-only areas. The bilingual regions with the highest number of participants were Galicia (23 respondents) and Catalonia (12 respondents).

After that, the results of the next open-ended question in the questionnaire (place of residence) were analysed. Again, each participant wrote what they felt appropriate, so there are responses from both cities and countries. In this case it is noteworthy that 90% of the participants currently reside in Spain, with a total of 186. Another interesting fact is that out of the 19 people who participated who do not live in Spain, seven live in English-speaking countries, with the USA being the main country (five people).

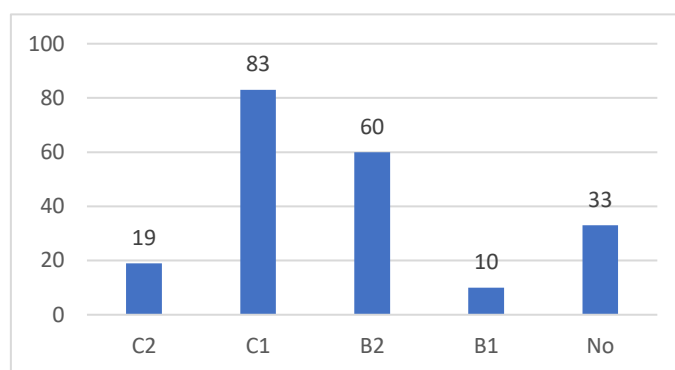
The last open-ended question asked participants about their mother tongue. The majority of participants responded Spanish (165 individuals). On the other hand, 15 people have Spanish and another language as mother tongues and, lastly, 25 responded with languages other than Spanish. Therefore, it can be said that 180 participants speak Spanish as their mother tongue, although 15 of them are bilingual by birth with other languages (the predominant ones being Galician, Catalan and Romanian). The mother tongues of the other 25 participants are shown in the following chart:



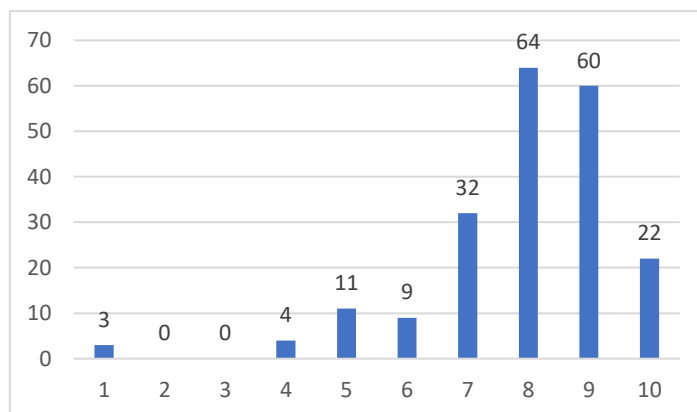
Then, the following questions are designed to be closed-ended, which facilitates the processing of the data.

When asked whether English is the first foreign language of the participants, 162 people answered yes, while 43 answered no. This means that 79% of the participants have acquired English as a second language.

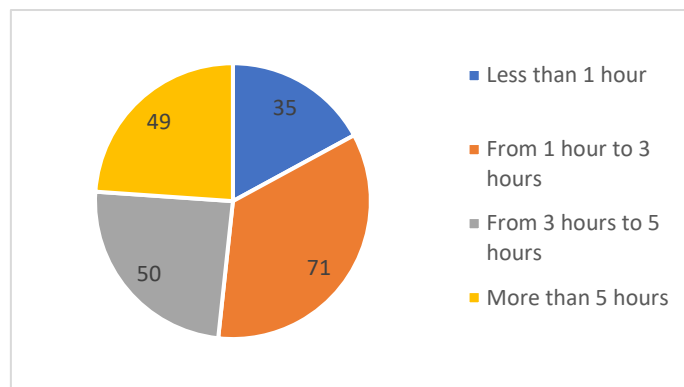
The next question asked participants if they had or not a certificate in English. The results show that 172 participants have different levels of certification, while 33 individuals do not have a certificate. The following graph illustrates the number of responses received for each option:



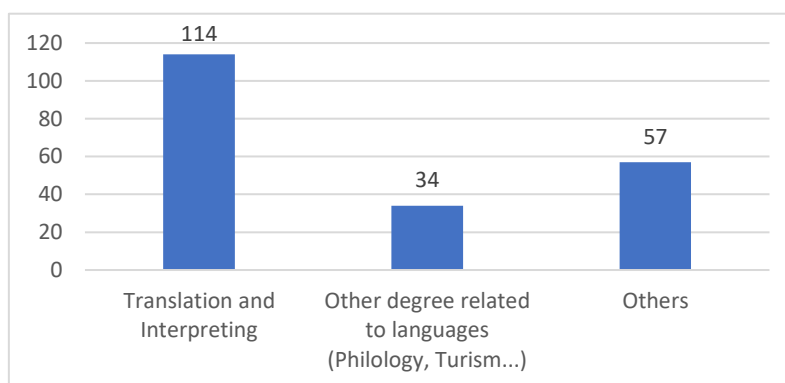
The next question asked the participants about their perceived command of English from one to ten. The top four levels received 178 responses, which represents the 86.8% of the total:



The next question asked participants to estimate the number of hours they use English per day. In addition, the question was accompanied by brackets that gave ideas of moments when participants might use the language: studying, working, leisure time... As it is observed, the results are almost equal for all possible answers. Although the most selected answer (with 71 responses) is "from 1 hour to 3 hours," the two answers involving a greater number of hours have a total of 99 responses combined.



The next question refers to the type of training of the participants. It can be seen that most of them belong to the area of Translation and Interpreting (114 answers). The next group that received the most responses is the group of non-language related degrees, with 57 responses. Finally, the option for degrees related to languages other than Translation and Interpreting (such as Tourism or Philology) received 34 responses, being the smallest group.



Finally, participants were asked if they had already completed their studies. The responses indicate that 32% of the participants have already finished them, while the remaining 68% have not finished yet. Therefore, 139 out of the 205 participants who responded to the survey are still students.

Below there are three questions that were only addressed to people who have studied or are currently studying Translation and Interpreting. Consequently, they were not mandatory questions and were not answered by all 205 people.

The first optional question asked if they have taken optional credits in interpreting, and 49 people responded that they did, which represents the 43%. The second question was about whether participants have studied a Master's degree in Interpreting. The results show that 26 people have, which is only the 22.8%. The third optional question asked participants who have studied Translation and Interpreting if they are currently working as interpreters. Only 13 of the total number of participants are professional interpreters: two are public workers for the European Union, five are public servants in Spain and six are interpreters, but not public ones.

Then, the results of the questions about the moral dilemmas will be analysed. Firstly, the students and graduates of Translation and Interpreting answered both versions. It is important to remember that there were 114 participants in this group. Regarding the footbridge version, 71 people answered “No” (62.3%), while 43 people said “Yes” (37.7%). Then, in the switch version, the majority of people answered “Yes” (77 individuals, which represents the 67.5% of the total), and the remaining 37 answered “No” (32.5%).

The second group involves students of degrees related to languages and, as it was explained above, is composed of only 34 people. When analysing the footbridge version, the results are divided equally: 50% and 50%. However, in the switch version, 22 answered “Yes” (64.7%), while 12 chose “No” (35.3%).

The last group is the one for students of non-related-to-languages degrees, and it consists of 57 individuals. In this case, the footbridge version received 35 “No” and 22 “Yes”, which is respectively the 61.4% and the 38.6%. In contrast, the switch version had a majority of “Yes” with 37 responses (65%).

4.1.2. RESULTS OF PROFESSIONAL INTERPRETERS

There are 13 participants in the survey that are currently working as professional interpreters (including the six interpreters who do not work in the public sector and the seven who do: five in Spain and two for the European Union). Only two of them have not studied a Master’s degree in Interpreting, and both of them are public workers in Spain.

Furthermore, not all of them have studied a degree in Translation and Interpreting: three of them have studied another degree related to languages, and two of them chose “Others” in the training question. This means that 84.6% of the professional interpreters who took part in the survey have specialised in the field by studying for a Master's degree, and only 61.5% studied Translation and Interpreting. As for the interpreters' mother tongue, none of them is bilingual by birth (nine among the 13 are native Spanish speakers).

Regarding the outcomes of the dilemmas, four people answered "Yes" for the footbridge version, which represents 30.8% of the results. On the other hand, the switch version received eight affirmative answers, which accounts for 61.5%.

4.1.2.1. RESULTS OF PUBLIC INTERPRETERS

This group is of interest due to the fact that it is necessary to pass one or more exams in order to become a public interpreter, so it is assumed that their level will be higher. As explained above, five participants are public workers in Spain, while only two individuals work for the European Union.

It is noted that two of the interpreters that work in Spain have not studied for a Master's degree to specialise in interpreting. However, both participants working for the EU have studied for a Master's degree.

In addition, among the five individuals in the first group, only two studied a degree in Translation and Interpreting and two did not study a language-related degree. In the case of EU workers, one studied Translation and Interpreting and the other one studied another language-related degree.

As for their mother tongues, none of them are bilingual by birth. In addition, four of the workers in Spain have Spanish as their mother tongue, the same as one of those in the EU.

Finally, the results of the dilemmas are divided in the following two groups: In the case of public workers in Spain, only one of them opted for the utilitarian decision in the footbridge version, while three of them did so in the switch version. In the case of public workers for the EU, neither of the two chose "Yes" in the footbridge version, while both did so in the switch version.

4.1.3. RESULTS OF MASTER'S STUDENTS AND GRADUATES IN INTERPRETING

As explained above, there were 26 individuals who are currently studying or have studied a Master's degree in Interpreting. Out of 26, only three of them do not have studied Translation and Interpreting as a degree (the three of them have selected the "Other degree related to languages" option for their training).

The mother tongue of 57.7% of this group is Spanish (15 individuals). On the other hand, three people in the cluster are bilingual/trilingual by birth, while the remaining eight people do not have Spanish as their mother tongue, nor are they bilingual. It is worth noting that two of them are native English speakers, so they have answered the dilemmas in their native language.

Analysing the results of both dilemmas, 42.3% in the case of the footbridge version (11 people) and 80.8% in the case of the switch version (21 people) opted for the utilitarian decision.

4.2. DISCUSSION

This section will discuss the results of the study. It is important to clarify that the results are divided into the three groups mentioned in the previous section, although they may sometimes be grouped together (Translation and Interpreting & language-related degrees/language-related degrees & non-language-related degrees/etc.).

Before starting with the interpretation of the results obtained in the study, it would be convenient to verify that the experiment on which this study is based

(Costa *et al.*, 2014) is fulfilled according to the results obtained in the questionnaire. It is important to recall that the hypothesis of Costa *et al.* (2014) in the footbridge version of the trolley dilemma is that people would be more likely to choose sacrificing one man to save five when the dilemma is presented in a foreign language than in their mother tongue. Their results showed that no group exceeded 30% of utilitarian decisions if the dilemma was presented in the mother tongue, while the same dilemma presented in a foreign language exceeded 30% in all reliable cases (see point 2.2.1).

Returning to the questionnaire of this paper and analysing the results of the two groups of people that do not study Translation and Interpreting (language-related degrees & non-language-related degrees), it is observed that what Costa *et al.* (2014) stated is fulfilled: there were 50% of utilitarian decisions in the footbridge version in students of language-related degrees, and 38.6% in the group of non-language-related degrees.

On the other hand, the switch version of the trolley dilemma needs to be verified as well. As explained in the point 2.2.2, Costa *et al.* (2014) decided to use this version to test whether the decisive factor for answering "Yes" is emotional distance. In the switch version, people do not imagine themselves being the one to kill a person, as it simply consists of pressing a button. This is why Costa *et al.* (2014) found that this version accumulated higher percentages of positive responses than the previous version.

When exploring the results obtained in the questionnaire of this study, it can be seen that the switch version also accumulates higher percentages of positive responses than the footbridge version: there were 64.7% of utilitarian decisions in students of language-related degrees, and 65% in the group of non-language-related degrees.

In view of the results obtained, it can be affirmed that the statements of Costa *et al.* (2014) are true. However, as it was explained in the hypotheses section (point 3.2 of the work), this study seeks to analyse if the Foreign Language Effect occurs in Translation and Interpreting students and graduates. To check this, it is necessary to see whether the results obtained in this group are similar or different from those of the other groups.

In the case of Translation and Interpreting students and graduates, the footbridge version received 37.7% utilitarian results, which is very close to the results obtained in the other groups. Furthermore, Costa *et al.* (2014) found that the average number of utilitarian responses using the mother tongue is 20%. This means that the results obtained in the questionnaire do not correspond to what is usually answered when the dilemma is presented in the mother tongue.

On the other hand, in the case of the switch version, it can be seen that the percentage of utilitarian results among Translation and Interpreting students and graduates is 67.5%, which is again similar to the percentage of the rest of the groups. This shows a big difference with the results obtained by Costa *et al.* (2014): 19% of the native Spanish speakers chose the utilitarian answer when using their mother tongue.

All of the above shows that the main hypothesis of the paper does not hold true: the Foreign Language Effect occurs in Translation and Interpreting students and graduates. However, the results of the most interesting groups will be analysed (see sub-sections 4.1.2, 4.1.2.1, and 4.1.3).

The results of the participants who are currently working as professional interpreters will be analysed as follows. This group consists of 13 participants, of whom 30.8% and 61.5% made the utilitarian decision on the footbridge version and the switch version, respectively. These responses are more moderate than those of the previous group. They are also more similar to those obtained in the paragraph referring to the group of students and graduates of the degree in Translation and Interpreting. So, it can be stated that, once again, the Foreign Language Effect occurs in this group.

Now, the results of interpreters working in the public sector (both in Spain and for the European Union) will be analysed, although it should be noted that the sample of both groups is very small, so the results may not be realistic. In the case of public workers in Spain, 20% opted for the utilitarian decision in the footbridge version, which is exactly the average number of utilitarian responses that Costa *et al.* (2014) received when participants used their mother tongue. This is probably a coincidence, as it is only one person in a group of five people. Then, the switch version received three utilitarian responses, which represents the 60% of the group. In this case, the results are close to those obtained in the rest of the groups. Therefore, in order to be able to say whether the Foreign Language Effect is or is not present in this group, a more extensive study should be carried out. In the case of public workers for the EU, no utilitarian responses were received on the footbridge version, while a 100% of the responses were utilitarian on the switch version. Once again, the answers are not conclusive.

Finally, it has been observed that 42.3% of Master's students and graduates in Interpreting have made the utilitarian decision in the footbridge version. On the other hand, 80.8% made the utilitarian decision in the switch version. This shows that this group comes the least close to the decisions that, according to Costa *et al.* (2014), are usually made when dilemmas are presented in the mother tongue. Therefore, the Foreign Language Effect does occur in students and graduates of the Interpreting specialisation.

On the other hand, it is necessary to reflect on the second hypothesis of the work: *Assuming that the Foreign Language Effect does not occur in Translation and Interpreting students, it is due to their training.* As has been observed, the first hypothesis does not hold, so the second hypothesis does not hold either.

The problem could arise from the fact that it is expected that undergraduate students in Translation and Interpreting receive a large part of their training in a foreign language, when in reality this is not the case. It is possible that if this were in fact the case, the hypothesis of this paper would also be fulfilled. However, these are all possible studies to be carried out in the future, as well as possible changes to be considered in the training of this degree.

Another reason why training may not be decisive is because the Foreign Language Effect through Moral Cognition involves emotions. In the case of the Degree in Translation and Interpreting, it does not make students create emotional bonds in English, even though it includes some subjects in this language. This is why the training received does not imply that emotional distance decreases in the foreign language.

5. CONCLUSION

Several researchers have written about the Foreign Language Effect and how it occurs in different life situations, as explained in the theoretical framework of this paper. It is an effect that describes the fact that people react differently to situations depending on whether they occur in their mother tongue or in their foreign language. There have been several ways of testing this, although the most interesting for this paper has been the work done by Costa *et al.* (2014), as it has served as a basis. All this has been researched on people with a high level of proficiency in their foreign language, so that they could understand the situations in order to analyse their results.

However, it has been observed that there is a certain gap in terms of people working with their foreign language at almost the same level as with their mother tongue. This is the situation of translators and interpreters, whose job is to translate texts (oral and written) from one language to another (usually from a foreign language into their mother tongue). In observing this gap, the question arose as to whether the Foreign Language Effect would also occur in those who are engaged in a job that requires such a high level of foreign language proficiency.

It was assumed that students of Translation and Interpreting receive a great deal of preparation at university in the foreign language, especially interpreters, at the level of knowing how to handle it like one's own mother tongue. However, this assumption has not turned out to be true, as the reality is that the workload in the foreign language is not sufficient for this to happen. This is probably the reason why the final result of the study does not fulfil the hypothesis since the Foreign Language Effect does occur in Translation and Interpreting students and graduates.

5.1. LIMITATIONS OF THE STUDY

First of all, one point that has affected the smooth running of the work is the lack of certain questions in the questionnaire, which became apparent when analysing the answers, so there was no way back to include them. These questions are mainly related to the education of the participants, for example: to be more specific in the degree they have studied, to include the university where they have completed their studies, to specify how many subjects of the degree have been studied in English, etc.

On the other hand, there was a lack of participation by professional interpreters in order to reach a sufficiently large sample for the results to be reliable. At a certain point

in the work, contact was made with the European Commission so that interpreters from the institution who wished to take part in the study could receive the questionnaire. However, there was too little time to carry out the activity, so it could not take place.

Last but not least, writing a research paper in English has been a challenge, as none of the subjects in the last three semesters of the degree have been in English. This corresponds to what was mentioned above regarding the lack of hours dedicated to foreign language in the Translation and Interpreting degree.

5.2. POSSIBLE FUTURE RESEARCH LINES

In this last section of the paper some ideas will be put forward along different lines that could be investigated in the future. It should be noted that all of them are based on what was observed in this study, although it would be interesting to carry out the same study again with a larger sample of interpreters and avoiding the limitations mentioned in the previous section.

First and foremost, as mentioned above, it would be advisable to conduct this study only with students specialising in interpreting and with professional interpreters. This is because the practice of translation does not require the same specialisation as interpreting, nor the same command of the foreign language.

On the other hand, it would also be interesting to conduct the experiment with interpreters who have been working professionally in the sector for only a few years and with interpreters with a long career. This would show whether or not the Foreign Language Effect is caused by interpreting practice rather than training.

Finally, as a consequence of the results obtained in this study, it would be useful to investigate the difference in the foreign language training received in the different language-related degrees. For example, the difference in the number of hours or type of English classes in Tourism, Philology, and Translation and Interpreting.

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