

**National and Kapodistrian University of Athens
Department of English Language and Literature**

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**Investigating the interplay of semantic and lexical properties of
words in word recognition and translation:
The case of taboo and cognate words**

Name: Aikaterini Eikosideka
Student number: 7563112200003

Supervisor:
Dr. Anna Hatzidaki

Supervising Committee:
Dr. Anna Hatzidaki
Prof. Maria Sidiripoulou
Dr. Effrossyni Fragkou

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Declaration

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AIKATERINI EIKOSIDEKA

Signature

Handwritten signature in cursive script, appearing to read 'K. Eikasideka'.

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Abstract

Psycholinguistic research has found that taboo words, expressions, and themes can be expressed more easily in one's second language (L2) compared to their native language (L1) and this has been interpreted as bilinguals having less emotional attachment to the L2 (e.g. Altarriba, 2003; Dewaele, 2004, 2008, 2013; Pavlenko, 2012). Furthermore, this is manifested in speakers experiencing high arousal effects when encountering taboo words in their L1, compared to their L2 (e.g. Harris et al., 2006; Janschewitz, 2008; Calvin-Harris, 2015; Ferré et al., 2017; Sulpizo, 2019; Dewaele et al., 2023; Tang et al., 2023). However, it seems that the cognate status of taboo words has not been accounted for, which is what the current study has sought to examine, serving as a counterexample to "The emotional contexts of learning theory" developed by Harris, Gleason and Aycicegi (2006). Essentially, this theory has been built around the claim that emotional attachment to taboo words is stronger in the L1 than in the L2, due to the contexts in which both languages have been acquired. Based on this theory, the following hypothesis was formulated: since it is the case that taboo words invoke higher arousal effects in the L1, and given the rapid processing of cognate words due to their semantic, morphological, and phonological similarities, when bilinguals encounter cognate taboo words, it is expected to find lower arousal effects when comparing cognate to non-cognate taboo words. To test this hypothesis, 6 neutral, 6 neutral cognate, 6 taboo, and 6 cognate taboo Greek words were selected for a word recognition task. Furthermore, this study also extended its research to the field of translation, attempting to identify if taboo or cognate taboo counterparts could be suggested for the translation of cognate taboo words, so as to maintain the impact of the source text. The hypothesis formed was that, if it were to be true that cognate taboo words evoke lower arousal effects to speakers, then when a translator comes across a cognate taboo word, they will translate it using its cognate counterpart to maintain the source word's intended emotional impact. To test this hypothesis, 12 English sentences were created, with 12 Greek translations, providing both taboo and cognate taboo translation options, which were expected to be rated for their arousal. The results from both tasks showed significant differences between taboo and neutral words regarding both the reaction time to, and the arousal ratings for such words, confirming the differential status of taboo words vs. neutral words, replicating findings from previous studies. However, taboo cognate words were not processed differently from non-cognate taboo words, suggesting that it is the taboo status of words that determines the level of arousal a speaker will experience. Thus, by extension, when translating cognate taboo words, a translator could consider both its taboo and cognate taboo counterparts as translation options that would transfer the emotional impact of the source text to the target text.

Keywords:

Emotion, Taboo words, Cognate words, Visual word recognition, Bilingualism,
Psycholinguistics, Translation

Περίληψη

Η ψυχολογολογική έρευνα έχει δείξει ότι οι ταμπού λέξεις, οι ταμπού εκφράσεις και ταμπού θέματα μπορούν να εκφραστούν πιο εύκολα στη δεύτερη γλώσσα (Γ2) ενός ομιλητή από ό,τι στη μητρική του γλώσσα (Γ1). Η εξήγηση που έχει δοθεί είναι πως οι δίγλωσσοι έχουν μικρότερο συναισθηματικό δέσιμο με τη Γ2 (π.χ. Altarriba, 2003, Dewaele, 2004, 2008, 2013, Pavlenko, 2012). Επιπλέον, αυτό εκδηλώνεται στους δίγλωσσους με τη μορφή πιο έντονης συναισθηματικής αναστάτωσης όταν συναντούν ταμπού λέξεις στη Γ1 (π.χ. Calvin-Harris, 2015, Dewaele et al., 2023, Ferré et al., 2017, Harris et al., 2006, Janschewitz, 2008, Suplizo, 2019, Tang et al., 2023). Αυτό που φαίνεται να μην έχει ληφθεί υπ' όψιν είναι η ομόρριξη ιδιότητα των ταμπού λέξεων, κάτι που επεδίωξε να εξετάσει η παρούσα μελέτη, καθώς θα χρησίμευε ως αντιπαράδειγμα στη «Θεωρία συναισθηματικών πλαισίων μάθησης» που αναπτύχθηκε από τις Harris, Gleason και Aycicegi (2006). Η θεωρία αυτή έχει αναπτυχθεί γύρω από τον ισχυρισμό ότι το δυνατό συναισθηματικό δέσιμο με λέξεις ταμπού στη Γ1 σε σχέση με τη Γ2 οφείλεται στο πλαίσιο εκμάθησης της εκάστοτε γλώσσας. Βάσει αυτού, η παρούσα μελέτη υπέθεσε ότι, δεδομένου ότι οι ταμπού λέξεις προκαλούν πιο έντονη συναισθηματική διέγερση στη Γ1 και δεδομένης της ταχείας επεξεργασίας των ομόρριζων λέξεων (cognate words), η συναισθηματική διέγερση στους δίγλωσσους αναμένεται να είναι μικρότερη όταν επεξεργάζονται τέτοιες λέξεις από ό,τι όταν επεξεργάζονται ταμπού λέξεις. Προκειμένου να εξετασθεί αυτό, επιλέχθηκαν 6 ουδέτερες, 6 ομόρριζες ουδέτερες, 6 ταμπού και 6 ομόρριζες ταμπού ελληνικές λέξεις για ένα έργο λεξικής αναγνώρισης. Επιπλέον, η μελέτη επέκτεινε την έρευνά της και στον τομέα της μετάφρασης, επιχειρώντας να προσδιορίσει εάν για τη μετάφραση ομόρριζων ταμπού λέξεων θα μπορούσαν να προταθούν οι αντίστοιχες ταμπού ή ομόρριζες ταμπού μεταφράσεις, ώστε να διατηρηθεί ο συναισθηματικός αντίκτυπος του πρωτότυπου κειμένου. Η μελέτη υπέθεσε ότι, εάν όντως οι ομόρριζες ταμπού λέξεις προκαλούν μικρότερη διέγερση, τότε όταν ένας μεταφραστής τις συναντήσει, θα τις μεταφράσει χρησιμοποιώντας αντίστοιχη ομόρριξη ταμπού λέξη. Για να εξετασθεί αυτό, δημιουργήθηκαν 18 αγγλικές προτάσεις, με τις 24 ελληνικές τους μεταφράσεις, συμπεριλαμβανομένων των ταμπού και ομόρριζων ταμπού μεταφράσεών τους, οι οποίες έπρεπε να βαθμολογηθούν για τη διέγερση που προκαλούσαν. Συνολικά, τα αποτελέσματα της μελέτης έδειξαν σημαντικές διαφορές ανάμεσα στις ταμπού και στις ουδέτερες λέξεις, ως προς το χρόνο αντίδρασης προς αυτές και ως προς το βαθμό διέγερσής τους, επιβεβαιώνοντας ευρήματα από προηγούμενες μελέτες. Ωστόσο, οι ταμπού λέξεις βρέθηκαν να προκαλούν την ίδια αντίδραση ανεξάρτητα από το αν ήταν ομόρριζες ή όχι, γεγονός που δείχνει ότι η ταμπού ιδιότητα των λέξεων είναι αυτή που καθορίζει τον βαθμό διέγερσης που θα νιώσει ο ομιλητής. Κατ' επέκταση, λοιπόν, ένας μεταφραστής όταν μεταφράζει ομόρριζες ταμπού λέξεις μπορεί να χρησιμοποιεί τόσο τις αντίστοιχες ταμπού

λέξεις όσο και τις αντίστοιχες ομόρριζες ταμπού λέξεις για να μεταφερθεί επιτυχώς η συναισθηματική επίδραση του πρωτότυπου κειμένου.

Λέξεις-κλειδιά:

Συναίσθημα, Ταμπού λέξεις, Ομόρριζες λέξεις, Οπτική λεξική αναγνώριση, Διγλωσσία, Ψυχογλωσσολογία, Μετάφραση

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Chapter 1

Introduction

Humanity is living in a world that is much different than it used to be, due to the effects of globalization. There have always been traces of globalization in everyday life, but they seem to be more traceable in more recent years. The reason why its effects are much more detectable nowadays could possibly be found in the theory of globalization that Friedman (2012) provides. He theorizes that globalization has so far gone through three stages throughout history. The first stage is called globalization 1.0, which pertains to the globalization of countries, the second is globalization 2.0, which pertains to the globalization of industries, and the third, which we are now living in, is called globalization 3.0, evolving around the globalization of individuals. A major effect of globalization, which can be traced through all stages of globalization, is that of learning a second or foreign language. If we think about it, nowadays it is almost a given that the majority of individuals speak more than one language, let it be growing up in a household where two languages were spoken, or because they learned a second language for academic, or professional purposes.

This has led to language learning research, which has been of great interest in, but not limited to, the field of linguistics in terms of the linguistic and non-linguistic benefits that stem from this trend. Cognitive research in bilingualism and second or foreign language learning has led to generating major findings, such as bilinguals and multilinguals having improved memory (Morales et al., 2013), better skills in cognitive control (Bialystok, 2017), broader vocabulary and better reading skills (Kassian & Esmaili, 2011), even being more creative (Bamford & Mizokawa, 1991)

An undoubtedly important, and more practical benefit that language learning has brought upon us is the ease of travelling to foreign countries. In tandem with globalization facilitating in easier access to means of transportation for travels abroad, learning a language and being able to use it while travelling is what has fostered communication between people around the globe that do not speak the same first language. For example, when travelling for leisure, we no longer have the insecurity of getting lost and not being able to communicate with locals to find our way, nor do we feel unable to order a traditional paella when in Spain. Another example is travelling for either professional, or academic purposes. In both cases, which will most likely require longer stays in a foreign country, it is detrimental to be able to communicate in either the local language, or a predetermined

international language. Not knowing a second language would have not made travelling to other countries and connecting with their people possible and the world as we know it today would be totally different.

The thing about finding ourselves in one of the two situations mentioned above is that, after a while we start to realize that there is some kind of obstacle in terms of being able to be ourselves through language. There is something about expressing ourselves in a second or foreign language that does not allow us to feel like we have efficiently communicated our thoughts, and emotions. As very well put by Pinker (2007, p. 3) regarding the semantics of words, “it is about the relation of words to emotions: the way in which words don’t just point to things but are saturated with feelings, which can endow the words with a sense of magic, taboo, and sin.” To put things into perspective, imagine communicating with people in a second language in an informal context, when the discussion of taboo topics and the use of taboo words in that given language will unavoidably occur. It is almost certain that you will find yourselves, on the one hand, participating in the conversation with much ease than you would, with someone from back home with whom you would speak in your first language, but on the other hand, you will feel like you will not have potentially vented out the way your body would truly want to. Situations like these have been up to psycholinguistics to unfold and explain.

Indeed, psycholinguistic research has been able to investigate, and address these questions and it has successfully managed to generate answers that have been the pillar, and basis for further psycholinguistic research. That is, it has indeed been found that a speaker is more emotionally attached to their native language (L1) than their second language (L2; e.g. Altarriba 2003; Dewaele, 2004, 2008, 2013; Pavlenko, 2012) making it either easier or more difficult for people to express themselves in their L2, depending on the context. In order to discover the lengths to which these findings can go, psycholinguistics has also extended them to specific types of emotional words and themes. With a specific focus on taboo words, it has been found that these types of words cause speakers to feel emotional intensity overall, but it is heightened in their L1 rather than in their L2 (e.g. Dewaele, 2004; Gonzalez-Regiosa, 1976; Liébana-Martinez, 2023; Rastovic et al., 2019;). On a general note, Pinker (2007) also adds that “the ability of taboo words to evoke an emotional reaction is useful not just when speakers wish to convey their own distress to a listener but also when they want to create that distress in a listener from scratch. (p. 352).

Personal experience in studying abroad and interacting with people in a second language on a formal and informal context has been the inspiration to this study, along with having discovered the lengths to which psycholinguistic research has gone in studying language and emotions. Specifically, the first question this study has sought to answer is what happens to a speaker’s emotions when using cognate taboo words in either a first or second language, since it seems to be the case that

this still remains a novel context to be researched in the field of Psycholinguistics. Ultimately, the investigation of this question will help us understand if it potentially is the cognate or the taboo status of words that regulates the emotional intensity a speaker will experience when encountering such words.

Going back to globalization and the fact that it is more or less a given that people nowadays speak more than one language, this has made the need to not only ensure that oral communication can take place between individuals, but that written communication can, as well. This has been the job of translation professionals from translating documents, to translating movies, and much more. Regardless of the topic or of translation, there always seems to be a battle between remaining faithful to a source text (ST), so that its intended meaning remains the same and intervening to it so that the target text (TT) is more fitting to the linguistic comprehension, and cultural understandings of the target audience. Thus, it has been more up to style rather than following a specific set of predetermined rules.

Translation studies have been concerned with this decision-making debate, in terms of which translational method is more appropriate from ancient times. For the most part, throughout history, translators have disagreed with following a literal translation, being in favor of free translation. As explained in Munday (2016), the rejection of literal or ‘word-for-word’ translation can be traced back to Cicero (106 – 43 CE) and St. Jerome (347 – 420 CE). They both believed that following a literal translation technique alienated the target text, since it would not allow for the intended message of the source text to be conveyed. In order to demonstrate how much of a diachronic issue this has been, it is worth referring to Venuti’s (2008) work, not only because he managed to trace the history of translation, but also because he poses the opposite opinion on the role of the translator. Specifically, Venuti (2008) demonstrates examples of what he calls *foreignized* translation, in order to explain how much translators have catered to the dominance of western languages, which has resulted in TTs not being as representative as they could be of the STs. Thus, he suggests that what he calls a *domesticated* translation should not be completely rejected, finding himself expressing the opposite opinion from his great predecessors, such as Cicero, and St. Jerome on the topic.

As it is clear and as mentioned before, there is not one right way to go about translating texts, since it remains a subjective decision to make. Nonetheless, scholars within the field of translation studies have managed to develop translation theories that do not necessarily apply to either literal or free translation. Rather, they work as recommendations to the translator for them to use as they please. Some of the most common translation theories translators abide by are those of Baker (1992), Toury (1995), and Robinson (2006), as we will also see later.

All this to conclude that, it seems that the translator's point of view of translating is always debatable and may change depending on the case. That is, the same translator might approach a ST using literal translation techniques, while another using free ones. What seems to not be clear is if it could be the case that we could generalize the approaches per text genre, or even per word category. To be specific and with a focus on words' category, it has not always been clear what happens in the case of translating emotional words and what factors play a role in the translator's decision-making process. The inclusion of such words in texts has a two-folded purpose, as mentioned before. They serve the intense emotional expression of the speaker, as well as the triggering of emotions to the recipient or reader in this case. Thus, we may argue that it is important to approach such words from a literal translation perspective, in order to successfully transfer the intended meaning and emotional impact of the ST.

The issue of translating emotional words is another topic that Psycholinguistics has also investigated. There have been attempts to generalize findings as to the decision-making processes a translator will undergo when coming across emotional language. (Han, 2023; Hanić et al., 2016; Lomas, 2018;) This applies to taboo words, as well. There have been attempts to find potential patterns in the methodology translators follow when translating such words, but the subjectivity of the translator's decision-making process does not always allow to generate consistent findings. (Alavi, 2013; Hendal, 2021; Orang'I, 2022) Some choose literal translations, while others follow more descriptive methods, or even completely omit taboo words. Nonetheless, within this obscurity, it seems to be the case, once again, that there have been no studies on what happens with the translation of cognate taboo words.

In order to answer this question, this study has taken into consideration types of translators that remain faithful to the source text and choose to follow techniques that will make their interference to the ST as transparent as possible. Specifically, in the case of cognate taboo words, the translators that have been taken into consideration are those who would be interested in transferring not only the intended meaning of the source text, but also the intended intensity that has been added to it through the use of cognate taboo words. The only two options that the translator is given is to opt for the word's cognate taboo counterpart or a taboo counterpart in the target language. It is not clear though what effect each option will have on the target text and if either or both of these will succeed in sustaining the intended impact of the source text.

Consequently, this is the other question this study attempts to answer. Combined with the previous question, this study has sought to investigate if cognate taboo or taboo translations of cognate taboo words are more appropriate for sustaining the emotional impact of a source text.

To test these two questions, we conducted an experiment consisting of a Lexical Decision Task (LDT) that compared word recognition between taboo and neutral words that were cognates or non-cognates and a Translation Arousal Rating Task that measured readers' arousal when reading taboo and neutral sentences translated either with a cognate equivalent or a non-cognate equivalent.

This dissertation is organized as follows: Chapter 2 presents the existing literature on the effects of emotional language on both monolinguals and bilinguals, the effects of taboo words, the processing of cognate words, the translation of emotions, as well as the translation of taboo, and cognate words. Chapter 3 presents the hypotheses and predictions of this study. Chapter 4 outlines the methodology of the study. Chapter 5 lays out the experimental method that the study followed. Chapter 6 presents the results that were yielded, using a descriptive statistical analysis. Chapter 7 provides an explanation of the study's results, along with their significance, as well as the limitations of the study.

Chapter 2

Literature Review

2.1 Taboo words

2.1.1 *Taboo words and emotions*

Emotions have been of much interest in the field of Psycholinguistics, in terms of the arousal effects they have on speakers when they encounter emotional words (Calvin-Harris, 2015; Dewaele, 2004; Dewaele et al., 2023; Ferré et al., 2017; Gonzalez-Reigosa, 1976; Harris et al. 2006; Janschewitz, 2008; Sulpizo, 2019; Tang et al., 2023). Firstly, in order to discover how emotion is expressed through language, the field of Psycholinguistics has adopted certain terms that are used repeatedly. The two terms that account for this dimension are ‘emotion words’, and ‘emotion-laden’ words. As Pavlenko (2008) explains, emotion words are those that “directly refer to particular affective states (“happy”, “angry”) or processes (“to worry”, “to rage”), and function to either describe (“she is sad”) or express them (“I feel sad”)” (ibid:148). She also adds that this term excludes emotion-related words, which refer to behaviors that are a result of emotional states, but do not name emotions. Furthermore, Pavlenko (2008) explains that emotion-laden words, on the other hand, are such that do not refer to affective states, but trigger emotions and they also vary in their type: (a) taboo and swearwords or expletives, (b) insults, (c) reprimands, (d) endearments, (e) aversive words, and (f) interjections. This distinction is very important to this dissertation, since it will be focusing on the on taboo and swearwords or expletives, regarding how they are experienced, and manifested through language in bilingual speakers.

Findings on emotions have intrigued researchers to discover whether they can also be extended and applied to taboo words. Jay (2009) explains that taboo words refer to offensive emotional language, as well as that they “...are sanctioned or restricted on both institutional and individual levels under the assumption that some harm will occur if a taboo word is spoken” (ibid:153). Furthermore, he distinguishes taboo from swear words, but explains that the latter fall under the category of the former. Last, he states that it is a difficult task to explain the universality of taboo words, but, at the same time, it is somehow understood by speakers when it is deemed appropriate to use them. Similarly, Pinker (2006) commented that “none of this means that words should be banned, only that their effects on listeners should be understood and anticipated” (ibid: 369). That being

said, scholars from many fields, especially from psychology and psycholinguistics, have been interested in doing research on taboo words to answer how they are processed (Guillet & Arndt, 2009), when and why they are used, as well as their effects on language users (Guillet & Arndt, 2009; Jay et al., 2008).

Thus far it has been found that taboo words enhance a speaker's memory of specific, emotional events (Guillet & Arndt, 2009), a speaker's memory of taboo words themselves, that is, being able to recall taboo words (Jay et al. 2008), and that taboo words function as distractors, since they draw more attention than other word types. This has commonly been proven through lexical decision tasks (LDT; Carretié et al., 2008; Crossfield & Damian, 2021; Ferré et al., 2017; Hansen et al., 2019; Sulpizio et al., 2019). The LDT is a task during which participants are presented with a string of letters and they must decide if this string consists of a word or not, for example, 'cat' and 'hra', by simply selecting 'yes' or 'no'. The experimental procedure was coined by Meyer and Schvaneveldt (1971) when they were investigating how long-term memory is organized and how information is retrieved from it. The initial form of the LDT was designed to present two strings of letters at the same time, one on the top, and one on the bottom and participants had to make a decision per string of letters as to whether it was a word or not. The results of experiments using LDT lie in the reaction time (RT), that is, how fast the participant's response is. Meyer and Schvaneveldt (1971) found that when the nonword was positioned first, 'no' responses were faster than when it was positioned second. They also concluded that, when comparing the two strings of letters that appeared, participants responded faster to string pairs that showed a semantic relationship, e.g. tea and coffee, in contrast to string pairs that shared no semantic relationship, e.g. 'cat' and 'hra'. This dissertation will be using the LDT to generate results, but not in the initial form Meyer and Schvaneveldt (1971) introduced. The goal is to present one string of letters at a time, in order to accurately measure participants' RT. In summary, the overall pattern of taboo words is that they have high arousal effects. High arousal effects lead to more fixation on these words and, hence, in longer RTs during the LDT. This is the effect that this dissertation will be focusing on.

There has been much research on how emotions are experienced and manifested through language in monolingual, bilingual, and multilingual speakers. For the purpose of this dissertation, the focus has been on answering how high arousal may impact visual word recognition and translation impact.

2.1.2 Taboo words, emotions and Bilingualism

As previously mentioned, the field of Psycholinguistics has been very interested in emotions and has generated very interesting findings for the case of bilingual speakers. Firstly, both Altarriba (2003) and Pavlenko (2012) found that the emotionality of an L1 is strengthened, due to speakers having more emotional

experiences in their L1 and they, thus, feel more distant from their L2. Dewaele (2013), too, concluded that there is a link between a speaker's past experiences and use of languages that affects the choice of language for emotional expression, while attempting to discover whether basic emotions are universal or if they depend on language and culture. This means that if emotionality is linked to experiences, then it is linked to memory. Thus, one can infer that the earlier a person learns a language in life, the more experiences they will have through it and the more the emotionality of that language will strengthen. All this goes hand in hand with age, which affects how well a person can acquire a language. For example, the fact that an individual is proficient in their L1 is due to them having been in the process of learning it since birth, so they also have more emotional experiences through it. On the other hand, an individual will usually acquire their L2 after their L1, so the emotional experiences through an L2 are fewer. Dewaele (2008) explored the emotional weight of the phrase "I love you" and he confirmed that the age of acquisition of a language did play a role in the emotional weight it carried. However, he also found that another factor was the environment, and context in which a language has been acquired. Specifically, he asked participants to specify the context in which they had learned their L2. He then organized their answers into three types of contexts: the naturalistic context, which completely excluded formal instruction, and accounts for learning a language outside the classroom; the mixed context, which combined formal instruction, and the naturalistic use of language outside the classroom; and the instructed context, which only accounted for language learning within the classroom. The results showed that in most cases the L2 was learned in the mixed, and the instructed context, with only 15% of the cases having learned a language in the natural context. The significance of this lies in that the participants who had learned a language in an instructed context showed less frequency in using their L2 for swearing. They also rated the emotional force of swearwords and taboo words in the L2 lower than those who had learned a language in a mixed or naturalistic context.

Harris, Aycicegi, and Gleason (2006) have accounted for the contextual factor and have offered an explanation to it by developing a theory called 'The emotional contexts of learning theory'. Essentially, they built a hypothesis around the claim that the differences traced between an L1 and an L2, regarding a bilingual's emotional attachment to them, are due to the emotional contexts in which each language has been acquired. That is, a speaker will be more emotionally attached to their L1, because "a first language is universally learned in a highly emotional context, the context of attachment to caregivers" (Harris et al., 2006: 17). On the other hand, an L2 can be learned in contexts in which emotionality varies, since it can be acquired in contexts involving caregivers or others that are more formal, such as school (Harris et al., 2006)

Moreover, in the case of taboo words, like with other types of emotional words, it has been found that an L1 evokes higher emotions than an L2, let it be uttering or reading taboo words (Dewaele, 2004; Gonzalez-Reigosa, 1976; Liébana Martínez, 2022; Rastovic et al., 2019,), or being reprimanded (Harris et al., 2003) in the L1. Furthermore, due to the emotional weight an L1 carries, speakers find it easier to utter taboo words in their L2, because they are aware of the emotional distance to that language and because they are exposed to it in a different, less formal context (Bond & Lai, 1986; Dewaele 2004, 2008; Sechrest et al., 1968). Liébana Martínez (2022) sought to examine the frequency of use of swear and taboo words (S-T words), to record the speakers' feelings using these words, as well as to discover the reason why speakers chose the language they did to express themselves. The participants of the experiment were multilingual speakers, who were divided into two groups. The first had Basque as an L1, and English as an L2 and the second had Basque as an L1, Spanish as an L2, and English as an L3. After the completion of an online questionnaire, the results showed that speakers used S-T words mostly in L2-Spanish rather than in L1-Basque, probably due to their more frequent exposure to the informal register of Spanish. Furthermore, speakers used S-T words in English as L2 or L3 even less, because they had acquired their vocabulary through social media and music. Nonetheless, all participants agreed that the emotional force of S-T words in their L1 was stronger than in their L2. Essentially, the findings from Liébana Martínez's (2002) research can be interpreted as further proof of the arousal effects taboo, and swearwords have on speakers in each language, as well as further proof to the emotional context of learning theory, with a specific focus on taboo and swearwords.

However, to the best of our knowledge, one aspect that seems to not have been taken into consideration thus far is the case of words that carry the same semantic representations and similar phonological and morphological representations across at least two languages, namely, *cognate* words. That is, it remains to be answered if the findings on the effects of taboo words and emotionality between two languages will be the same when accounting for the cognate status of taboo words.

2.2 Cognate words

The Cambridge Dictionary (2023) defines cognate words as “a word that has the same origin as another word, or is related in some way to another word.” That is, cognates are words that exist in a pair of languages, which, apart from sharing the same semantic features, also share similar morphological and phonological features. It is important, however, to not confuse cognates with loan words. Stamenov (2009) explains that a cognate word is one that is implemented into the L2 from the L1 and speakers start to use it frequently. Its status to a loan word changes only when speakers of an L2 have established the origin of the word, that

is, that it does not hold roots from the L2. Given that this dissertation will be dealing with the language pair of Greek as an L1 and English as an L2, an example of a cognate word in Greek and English is ‘γάτα’ [gata] and ‘cat’.

There have been many studies on cognate words in general in the field of psycholinguistics that have investigated how these are processed and accessed by bilinguals. Some of the findings include that multilinguals have an integrated lexicon through which cognate words are accessed (Toassi et al., 2020), along with the fact that identical cognate words are processed faster than non-cognate words, being highly dependent, though, on their frequency (Peeters et al., 2013). Last, after an array of studies, the field of psycholinguistics has generalized the phenomenon that occurs with cognate words and has named it the *cognate facilitation effect*. This is, essentially, a means of interpreting how bilinguals are capable of processing cognate words faster than other words that exist in only one of the languages that they speak (Poort & Rodd, 2017). In a recent study, Toassi and colleagues (2020) sought to investigate lexical activation in multilinguals with regard to cognate words. They hypothesized that it may be the case that all lexicons are simultaneously activated, or that it may be the case that the lexicon of the target language in each given situation may be the predominantly activated one. Thus, they examined trilingual speakers of Brazilian Portuguese, German, and English, whose eye movements were tracked while they performed a reading task in two groups: in the first one, speakers had Brazilian Portuguese as an L1 and English as an L2, whereas in the second one, speakers had Brazilian Portuguese as an L1, German as an L2, and English as an L3. The target language in both cases was English. It was found that there was less fixation on cognate words in both groups, showing traces of the cognate facilitation effect. Toassi and colleagues (2020) then concluded that the more languages share cognate words, the faster they will be processed by speakers of these languages. Last, this may also mean that the lexicons of all languages that a person speaks are possibly activated simultaneously, at least when it comes to accessing cognate words.

To further elaborate on the potential language co-activation, it is very interesting to look at the insight that Iniesta and colleagues (2021) have provided. Assuming that a bilingual’s lexicons are both activated at the same time at a certain level, they sought to identify what level this exactly is. They asked English-Spanish heritage speakers, and late bilinguals to perform a writing production task. The materials were presented to them orally, and randomly in both languages. The results showed, on the one hand, that the cognate facilitation effect was much more evident in heritage speakers, as opposed to late bilinguals. On the other hand, the most affected components of this task were the orthographic, and phonological similarities of the words presented, since the higher these were, the less room there was for interference effects. Moreover, Iniesta and colleagues (2021) highlighted that the order in which orthographic and phonological processing take place depends on the context in which two languages have been acquired. Thus, we see

that the environment in which a speaker learns a language does not only affect the emotional proximity or distance they will have with an L1 and an L2, but also the overall relationship between two languages and the interference that may occur when a speaker is attempting to retrieve words from each language's lexicon. That being said, when examining the case of cognate taboo words, the question that arises is whether this category of words will invoke similar arousal effects in the L1 and the L2 in unbalanced bilinguals, assuming that cognate taboo words will be processed as fast as non-cognate taboo words in an L1, due to the cognate facilitation effect and, thus, mediate the level of arousal a speaker will experience.

Most studies on cognate word processing have taken place in order to answer the bigger question of how the bilingual lexicon is accessed and whether it is language selective or not. The most consistent finding in the majority of the studies is that cognate words are processed much faster than non-cognate, control words, thus providing support of the existence of the cognate facilitation effect. Nonetheless, as mentioned before, although it seems to be the case that the cognate status of taboo words has not been accounted for from an emotional perspective thus far, it also seems to be the case that it has not been accounted for from a translation perspective either. That is, it has yet to be investigated whether there will be emotionality differences between an L1 and L2 when using cognate taboo words, as well as how these words will be treated in a translation context. This is another question that this dissertation has sought to answer.

2.3 Emotions and translation

Cognitive Translation Studies have opened another research path, which has generated major scientific findings. Specifically, it has been of great interest to examine the interplay between emotions and translation, if any. For the most part, many have sought to investigate how emotions may affect the decision-making processes translators undergo when translating a text (Kimovska & Cvetkoski, 2021; Rojo López & Naranjo, 2021; Rojo López & Ramos Caro, 2014, 2016, 2018) For example, positive emotions have been found to facilitate broader and creative thinking, while negative emotions limit attention and allow for more analytical thinking and concrete problem-solving, a finding that has been summarized by Fredrickson (2004) through what is called the *broaden-and-build hypothesis*. Moreover, Rojo Lopez and Ramos Caro (2014) found that when the ST topic is in alignment with the translator's feelings on the topic, then it facilitates the translation process, which was evident through reaction times (RTs) that were longer when the ST was not in alignment with the political views of the translator. This effect is the so-called *hot cognition hypothesis*, which argues that a person's thought process may be affected by their emotional state.

Another factor that comes into play and affects the translation process, and product is anxiety. Rojo López and colleagues (2021a) have been able to provide evidence on this. They asked the participants of their study to conduct a translation task under tight time constraints. Those with self-rated higher self-esteem levels were able to translate more words, but appeared to make more mistakes. On the other hand, those with higher trait anxiety did not translate as many words, but reached higher accuracy levels. Furthermore, it has recently been suggested that being emotionally intelligent, that is, being able to regulate and control one's emotions, may improve the translation process and product. (Hubscher-Davidson, 2020)

There is still further research to be done regarding the cognitive processes a speaker undergoes in order to perform a translation task, whether a professional or not. A research layer that has been developed in the realm of Translation is specifically with regards to the translation of taboo words and expressions, which is of importance to the current study.

2.3.1 Translating taboo words

As we have established by now, taboo words are considered a type of emotional words in the context of Psycholinguistics. Taboo words have also been of great interest in the field of translation, again from the perspective of the decision-making process a translator undergoes when it comes to their translatability, as well as the form they will take if translated, guided by translation strategies a translator would follow. That is, will a speaker/translator strive to maintain the high arousal effect of a sentence when translating it into the L2? There have been numerous qualitative studies that have been done to explore what strategies are implemented into translating taboo words. For example, Alavi and colleagues (2013) conducted a study which focused on the translation strategies applied when translating taboo words of English dramas into Persian. Their question was whether the skopos (purpose) of dramas affected the translation choices translators made. Alavi and colleagues (2013) took ten dramas and randomly chose thirty taboo words used in English and Persian to eliminate the variable of the type of taboo word being translated. After gathering the data, they used Robinson's (2006) framework of translation strategies that evaluates translation of taboo words based on 1) censorship, b) substitution of a taboo term with a neutral form, c) taboo for taboo, and d) applying euphemism. Ultimately, it was found that the strategy used the most was censorship. The results of this study can be interpreted as translators not accounting for the emotional intensity that is meant to be conveyed in the L1 context and they strive to maintain the semantic component.

Hendal (2021) conducted another interesting study which focused on the translation of the English *F*-word into Arabic. Specifically, they wanted to investigate the variations in the translation of the *F*-word, which are based on producing an acceptable translation for the target culture. All data were taken from the book *The Subtle Art of Not Giving a F*ck*. They were analyzed using Chesterman's (2000) comparative model, a strategy which compares translations to source or parallel texts that have not been translated and seeks to identify correlations between the two. Mona Baker's (1992) strategies of translation regarding non-equivalence on the word level ("translation by a more general word, translation by a more neutral and expressive word, translation using a loan word or a loan word plus explanation, translation by cultural substitution, translation by paraphrase using a related or unrelated word, and translation by omission") were also considered in the analysis (Mudogo, 2018). The results showed that the strategy used the most was paraphrasing using related words, but it was not specified whether the target text was deemed an accurate, and acceptable translation. Once again, the results of this study could be interpreted as translators focusing more on transferring the semantic elements of words and phrases rather than inducing readers' arousal.

Another study that focused only on translation strategies is by Orang'I (2022). Specifically, he explored the translation strategies applied to the translation of taboo words from English into Swahili in healthcare texts to identify the potential cultural mediation present in the translation following the methodology found in Toury's (1995) Descriptive Translation Studies. What this means is that the source text (ST) is compared to the target text (TT), while striving to offer a description of the source text in the source system. This results in the reconstruction of norms in the ST so that they fit into the TT and despite the differences between the two texts, there needs to be a common element, which in this study were cultural taboos. That said, the results of the study showed that for the most part, translators opted for translation with a more general word, neutralization or the use of a less expressive word, cultural substitution, substitution, paraphrasing and translating using a more general word, and substitution. Overall, there was a tendency towards euphemisms, since the translator was striving to produce a text which would be closer to the target culture, meaning that it should be more comprehensible and acceptable and not accounting for the emotional intensity invoked by the taboo words in the ST.

In the above examples, however, what must be taken into consideration is that they have all accounted for the cultural background of the target language, as far as what is considered taboo and appropriate in that culture. It is understood that, on the one hand, the translator has the task of staying faithful to the source text, but they must also make sure the target text is acceptable and comprehensible by its readers. It is natural to wonder which is more important though: to create a TT that accounts for the semantic intensity of the ST, or to create one that focuses purely

on semantics and ignores emotion invoking? This dissertation seeks to investigate if the semantic representations that are based on cognate words, which are the same across languages, will be considered more impactful when translated into the L2 with their cognate taboo counterparts, rather than with their taboo translations. It will attempt to unveil the impact of a taboo element in relation to its cognate status when translation arousal is measured. Would our findings point to any strategy a translator should adopt when translating (cognate) taboo words?

2.3.2 Translating cognate words

So far it seems to be the case that studying cognates in the context of translation has been limited to very specific settings. The majority of the findings that have been generated regarding cognates thus far from psycholinguistic research, in tandem with translation studies have a focus on the cognitive processes a bilingual/translator undergoes and how these are manifested in latencies and/or errors. Specifically, there have been numerous cases in which the cognate facilitation effect has been confirmed, since bilinguals/translators have been able to translate cognate words faster than non-cognates, which is manifested through faster RTs (e.g. de Groot, 1992, 1993; García et al., 2014; Otwinowska & Szewczyk, 2017).

Interestingly, translation tasks have helped discover that cognate facilitation and cognate interference can be studied within the same setting and still generate findings on the levels at which they occur. Muscalu and Smiley (2018) conducted an experiment through which cognate facilitation and cognate competition were simultaneously promoted, while investigating whether this could happen at the same processing level. They sought to examine this at the lexical, and orthographic level through a translation typing task in Romanian-English bilingual speakers. A control group of monolingual Romanian speakers was also included to compare RTs and draw conclusions on response latencies and if these were the outcome of the bilingual status of the participants or of the task itself. Three conditions were created under which participants had to complete the translation typing task: in Condition 1, the materials were presented visually and participants had to provide the Romanian translation of the first letter only; in Condition 2 the materials were presented visually again, but this time participants had to translate the whole word; in Condition 3 materials were presented both visually, and acoustically and participants were asked to translate the whole word again. The experiment helped prove that cognate facilitation and cognate interference could, indeed, be studied simultaneously, since it was clear that they occurred at different processing levels. Specifically, it was found that cognates were at a processing advantage at the lexical level. At the same time, when participants were asked to produce the whole word, there was an increased latency in the production of cognates when

comparing Condition 1 to Conditions 2 and 3, whereas these differences did not occur with non-cognates. Furthermore, when focusing solely on the words beginning with the same phoneme, but not the same letter, this latency in cognates decreased even more due to a required resolution time. What these results suggest is a cognate facilitation effect on lexical retrieval, as well as a potential phoneme competition during the preparation of a response. Cognate interference, however, was located when looking at the participants' written translations. That is, while producing the written translations, participants showed significantly longer latencies, and more errors on the level of orthographic production of cognates than of non-cognates. Given the existence of the monolingual control group that did not show any cognate effect, Muscalu and Smiley (2018) were able to conclude that these errors can be attributed to the complex processing demands of a bilingual.

On the other hand, there have been very few studies on the translation choices, and strategies a person may follow when having to translate a cognate word. In other words, not much emphasis has been put on the semantic choices a speaker will make when translating cognates in terms of whether they will choose the cognate translation counterpart, or a non-cognate word that shares the same meaning. One of the few studies that has attempted to answer this question is by Tercedor (2011). She sought to explore what the translation choice would be when translating cognate words. That is, would translation students opt or not for the cognate word counterparts and in what way. Additionally, she examined cognate production by Spanish speakers in specific thematic contexts through an onscreen experimental task. Thus, the study consisted of two experiments. For the first one, Spanish-English bilinguals, who were translation and interpreting students, were asked to complete a translation task from L2-English to L1-Spanish, using a CAT tool and translating texts of different genres. The results showed that cognates offered a priming effect in the context of technology, that is, having to use translation tools or to manipulate graphics and an interference effect at the word level in the translation task. In the second experiment, Spanish speakers with no experience in translation after they answered a fluency assessment questionnaire. Cognate stimuli in this experiment were not only genre specific (e.g. technology), but also general. The results showed that in all contexts, except for one, participants opted for the cognate counterpart translation. Overall, however, it was non-translators who showed more of a preference over the choice of cognates in their translations. This may have been due to their difficulty in understanding the contexts presented to them, as they reported, which means that there is cognate facilitation at the shared semantic level and not necessarily at the contextual one.

Another study that sought to investigate the translation of cognates while taking context into consideration is that by Hansen-Schira and colleagues (2017). The central question was if cognates would be translated freely or literally regarding text internal and external factors. In their chapter, they present findings they generated from a series of experiments, in an attempt to cover as many aspects and

control as many variables as possible, some of which are essential to this study, while others are not immediately relevant, but are, nonetheless, worth mentioning. To begin with, they wanted to confirm the hypothesis that, when asked to translate single words, cognate words in this case, translators will opt for a cognate counterpart translation. Thus, German bilingual students of L2-English completed a translation task during which, on the one hand, they were asked to translate single cognate words and, on the other, to translate a complete text which had many cognates. In both cases, the cognates were exactly the same. The results confirmed that cognates are translated as cognates when they are not placed in context, whereas when they were placed in a specific context, it was less likely to see a cognate counterpart translation selection. Interestingly, the opposite effect was found for non-cognates. Furthermore, they extended their research to comparing text types and how these may pose an intralingual influence on the preference or not of cognates in translation. After comparing specific cognates in newspapers and academic texts, Hansen-Schira and colleagues (2017) found text type effects, in that cognates were more preferred in academic texts rather than newspapers. Nonetheless, this still does not reveal a generalized preference for cognates over non-cognates in translation. Their study continued with the last component, that of translation-inherent predictors. Essentially, they wanted to see if the production of cognates changes overtime as translation training increases. The results showed a high correlation between the amount of cognates in the translation and the number of semesters the participants had completed. That is, the more semesters had gone by and the more training the students had received in translation, the less they were inclined to use cognates in their translations. Hansen-Schira and colleagues (2017) concluded their study with a last external factor of intralingual communication: machine translation. The main question was whether computers would generate translations with more cognates when compared to human translations. The participants were once again, German-English bilingual participants, who were professional and semi-professional translators. They were asked to translate some texts from the top, to post-edit machine translations, and to monolingually edit machine translated texts. No significant differences in cognate use were traced when comparing machine to human translations.

As previously mentioned, it seems to be the case that psycholinguistic research has, for the most part, only reached the level of expanding findings on the rapid processing of cognates to translation studies research. There have started to be attempts to focus on the semantic level and how translation products are affected through a bilingual's decision-making process and this is an aspect this dissertation would like to investigate, as well, while adding the component of emotion. Specifically, there is the question of how a bilingual will treat the translation of cognate taboo words when placed in short sentences and what the emotional intensity of a translation will be when it involves a (cognate) taboo word.

Chapter 3

The Present Study

The present study has sought to examine the arousal effects of cognate taboo words in Greek-English unbalanced bilinguals from an interdisciplinary lens. Specifically, it has combined psycholinguistics with translation studies, which led to the conceptualization of two tasks. Methodologically, a common way to test affective language processing is through a lexical decision task (LDT), which is the first task of this study. As outlined in section 2.1.1, during the LDT, participants are presented with strings of letters on a screen and they must decide whether what they have before them is a word or not. We already know that words are recognized faster than non-words (Holcomb et al, 2002; Krueger et al., 1992; Ziegler et al., 1997). Moreover, through this task, the goal is to detect and measure the arousal effect of the words on the participants. Thus, we would be left with comparing RTs to cognate taboo and taboo words vs. (cognate) neutral words. We know that RTs to both taboo categories will be longer than RTs to neutral (cognate and non-cognate) words. Nonetheless, the question of interest is to see if there are significant differences between taboo and cognate taboo words or not.

Moving to the translation part of this study, we have sought to examine which translation strategy would yield the same arousal effect when a cognate taboo word is translated into the L1. The comparison of taboo and cognate taboo words will determine if either category is more appropriate to use in translations to strive for maintaining the taboo impact of the source text. An efficient method to collect information on this is by measuring arousal effects through a translation arousal rating task. That is, participants would be presented with translated statements which would include cognate taboo or non-taboo words and would have to rate the excitement (arousal) that the translation caused them. Information on arousal can be collected not only through the submitted answers themselves, but also from how long it would take the participants to provide their answers (RTs). Furthermore, the translation arousal rating task allows for the collection of information that helps draw conclusions on whether it is the cognate or taboo status of words that determines the impact of the translated statements.

Based on the psycholinguistic findings on taboo words and emotions in the bilingual context, as presented in section 2.1.2, as well as the psycholinguistic

findings on cognate words and how they are processed, as outlined in section 2.2, the following hypotheses could be formulated:

- 1) First, taboo words (cognates or not) should be expected to yield longer RTs in comparison to neutral words in a Lexical Decision Task (LDT).

Taking into consideration the findings regarding the translation of taboo words, as explained in section 2.3.1, along with those on the translation of cognate words, presented in section 2.3.2, the following hypotheses can be formulated:

- 2) If taboo words have the same impact cross-linguistically when translated with a cognate taboo word, then readers should provide similar ratings to translations that make use of that.
- 3) However, if a cognate taboo translation in the L1 acts as an L2 word, then lower ratings should be given to translations with cognate taboo words than with synonymous taboo words.

Considering hypothesis 2), this suggests that the physiological effects taboo words have in the L1 and the L2 can be comparable when their cognate status is taken into consideration, hence, adding more perspective into the emotional context of learning theory (Harris et al., 2006), as well as to the claim that L1 carries more emotional weight than the L2 (Altarriba 2003, Pavlenko 2012). Last, it will also add perspective regarding the claim that cognates are usually translated as cognates, whereas non-cognates are translated as non-cognates (Hansen-Schira, 2017), since it will now take cognate taboo words into consideration and investigate the impact such a translation choice has on the reader.

Chapter 4

Method

4.1 Lexical Decision Task

4.1.1 Participants

A total of twenty Greek-English unbalanced bilinguals took part in the study. They were all undergraduate English students at the National and Kapodistrian University of Athens and they received credit for their participation in the study. According to the questionnaire preceding the experiment, all participants were female, 17 of which were between 18 and 22 years old, while the other 3 were 33 years old and over. Furthermore, 19 of the participants were in their third year of studies, while only 1 was in their second year. Last, when asked if they had taken any translation courses, 16 had taken between 1 and 3 courses, one had taken between 4 and 6 courses, while 3 had never taken any.

4.1.2 Materials

The stimuli consisted of 48 words in total: 24 Greek words (6 taboo, 6 cognate taboo, 6 neutral, 6 cognate neutral). Any word with available measurements in arousal, valence, and concreteness was specifically selected from Patras's (2023) Greek adaptation of Affective Norms for English Words (ANEW; Bradley & Lang, 1999). To the best of our knowledge, there are no frequency measurements available for Greek words thus far. All Greek words which did not have any measures were translations of English words. The English list of translated words was taken from Bradley, and Lang (1999) and Janschewitz (2008). Measures for arousal and valence were taken from Bradley and Lang (1999), for concreteness from Patras (2023), and frequency from Rosenberg and colleagues (2007). The selection process of the words was based on grammatical category, the goal being for the words to be nouns and adjectives, if possible. Furthermore, given that the Greek Affective Lexicon (Patras, 2023) still lacks values, these were controlled from the English translation, where possible, of the words chosen for the task. The goal was for arousal values to be over 4 for cognate taboo, and taboo words and below 4 for cognate, and non-cognate neutral words on a 9-point scale. As far as word length, the goal was to select words with around 3 syllables. The stimuli also

consisted of 24 non-words which were created by the researcher, following the approach of changing or removing letters from existing Greek words respectively.

4.1.3 Procedure

The experiment took place online using E-Prime 3 Go and a link was shared to all participants. They were first presented with a Consent form according to the Code of Ethics and Research Practice of the National and Kapodistrian University of Athens to sign. Prior to commencing the experiment, all participants were asked to answer a short questionnaire, providing information on their age, sex, year of studies, as well as the amount of translation courses they may have had already taken to the date of the completion of the experiment. After completing the short questionnaire, they were given instructions about the Lexical Decision Task that would follow. They were told that they would see words appear on the computer screen in Greek and that they would have to press 1, if they saw a word in Greek and 0 if what they saw was not in Greek. They were encouraged to do the task as fast as possible. A practice session of 4 trials preceded the actual Lexical Decision Task. The 24 words and 24 non-words that were used in the LDT were shown twice with a break in between.

4.2 Translation Evaluation Rating Task

4.2.1 Participants

The participants for this task were the same as for the lexical decision task, as outlined in section 4.1.1.

4.2.2 Materials

The stimuli in this task consisted of 12 English sentences and their Greek translations. Sentences in English consisted of 6 sentences with a cognate taboo word and 6 sentences with neutral words (3 cognate and 3 non-cognate). The Greek translations comprised 3 sentences with cognate taboo words and 3 sentences with non-cognate taboo words provided as translations for the English cognate taboo sentences. For neutral sentences there were 3 translations with cognate words and 3 with non-cognate words. All sentences were created by the researcher, using words that appeared in the LDT. The mean length of all the English sentences was $M = 4$.

4.2.3 Procedure

Participants were told they would read a sentence in English and after pressing the space bar, its Greek translation would appear, at which point they would have to rate on a 9-point scale the degree of excitement they felt, where 1 = little excitement and 9 = big excitement. A practice session of 2 trials preceded the actual translation evaluation rating task.

Chapter 5

Results

5.1 Task 1: Lexical Decision Task

The total amount of responses collected for the lexical decision task were 1920, out of which 1856 (96.7%) were correct, while 64 (3.3%) were errors. Only statistically significant results are presented, followed by a descriptive statistical analysis.

5.1.1 Accuracy

In terms of accuracy, there was a statistically significant difference ($p = .009$)¹ when comparing the recognition of words vs. non-words, such that more errors were yielded for non-words ($M = .2$), than for words ($M = .2$).

5.1.2 Reaction time (RT) analysis considering word string type

The comparison between words and non-words was statistically significant ($p = .001$), in that it took longer for participants to complete the lexical decision task when encountering non-words ($M = 753$ ms) than when encountering words ($M = 651$ ms).

5.1.3 Reaction time (RT) analysis considering word categories

A third analysis followed comparing reaction times between neutral, neutral cognate, taboo, and taboo cognate words (see Table 1 for means). The comparison between neutral and taboo words was statistically significant ($p = .001$), in that it took more time for participants to recognize taboo words ($M = 689$ ms), as opposed to neutral words ($M = 607$ ms).

Word category	Means of RTs (ms)
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¹ We report the p values that were yielded in the ANOVAs conducted by the supervisor of this dissertation.

neutral	607
neutralCog	634
taboo	689
tabooCog	675

Table 1. Descriptive statistical analysis: RTs in the LDT across word categories

5.2 Task 2: Translation Evaluation Rating Task

The total amount of responses collected for the translation evaluation rating task were 240. RTs were analyzed of L2-English sentence reading and of L1-Greek translation reading, including the time that was required for translation arousal rating.

5.2.1 Reaction time (RT) analysis of L2-English sentence reading

A comparison of reading English sentences that contained neutral, neutral cognate, or taboo cognate words took place (see Table 2 for means). It was the comparison between sentences with neutral cognates and those with taboo cognates that was statistically significant ($p = .023$). It took longer for participants to read sentences with taboo cognates ($M = 2455$ ms) than to read those with neutral cognates ($M = 1768$ ms).

Sentence type	Means of RTs (ms)
English neutral sentence	1958
English neutralCog sentence	1768
English tabooCog sentence	2455

Table 2. Descriptive statistical analysis: RTs of reading different types of English sentences.

5.2.2 Reaction time (RT) analysis of translation arousal rating

When analyzing how long it took participants to provide their arousal ratings for the Greek translations (see Table 3 for means), the comparison between sentences containing taboo words and neutral words (cognate and non-cognate) was significant ($p = .001$). That is, participants showed larger latencies for Greek translations with taboo words ($M = 3650$ ms), than for Greek translations with neutral ($M = 2462$ ms) or neutral cognate words ($M = 2508$ ms).

Translated sentence type	Means of RTs (ms)
Greek neutral translated sentence	2462

Greek neutralCog translated sentence	2508
Greek taboo translated sentence	3650
Greek tabooCog translated sentence	2922

Table 3. Descriptive statistical analysis: RTs of ratings to the different types of Greek translations.

6.2.3 Rating of translation arousal

When analyzing the arousal ratings provided by the participants on a 9-point scale (see Table 4 for means), the following comparisons were statistically significant (both $ps < .05$): between neutral words and (cognate and non-cognate) taboo words and between neutral cognate words and taboo words. As can be seen in Table 4, the highest arousal rating was provided for taboo words, followed by cognate taboo words, neutral cognates and neutral non-cognate words.

Translated sentence type	Means of arousal ratings
Greek neutral translated sentence	2.3
Greek neutralCog translated sentence	2.7
Greek taboo translated sentence	3.8
Greek tabooCog translated sentence	3.6

Table 4. Descriptive statistical analysis: Arousal ratings across the different types of Greek translated sentences

Chapter 6

Concluding Remarks

6.1 Preliminary Discussion

This study sought out to investigate a topic which has not been touched upon thus far, to the best of our knowledge: the arousal effects of cognate taboo words in unbalanced bilinguals and in a translation context. This was of interest due to the unique properties of cognate words, in tandem with the emotional context of learning theory (Harris et al., 2006), that is, that when a speaker begins to acquire their L1 and adds cognate taboo words to their lexicon, these are automatically added to their L2 lexicon, as well. Thus, the age and context in which they have acquired these words are considered the same. In other words, cognate taboo words should have the same emotional effect on bilinguals when encountered in any of their two languages.

Moreover, based on findings from the cross-linguistic emotionality differences of taboo words, when taking their cognate status into consideration, it was hypothesized that cognate taboo words unlike non-taboo words will evoke lower arousal effects on speakers. Such a finding would suggest that it is the cognate status of words that has a main effect and controls the intensity of arousal effects.

Furthermore, our research question was extended to translation studies, in order to examine the impact of translation choices when a reader encounters a translation of a taboo word that has been rendered either by a cognate taboo word or by a non-cognate taboo word. Regarding translation practices, previous studies have suggested that translators tend to avoid translating taboo words with another taboo word, thus questioning the accuracy of the translation product. At the same time, it has been suggested that cognates are usually translated as cognates, but so far emotion effects were not taken into consideration. We hypothesized that if cognate taboo words do not have as high arousal effects as taboo words on a reader, then this would show on the translation arousal rating of the reader.

6.1.1 Discussion on lexical decision task findings

Testing the performance of Greek-English unbalanced bilinguals on a lexical decision task in their L1, with neutral, neutral cognate, taboo, and taboo cognate

words, this study found a significant difference in accurate recognition of words and non-words. In other words, participants were more successful in identifying words and made more errors in the identification of non-words. They also recognized words faster than non-words, replicating previous studies (Holcomb et al, 2002; Krueger et al., 1992; Ziegler et al., 1997). Furthermore, the errors that occurred with identifying non-words may be due to the fact that they resembled pseudowords. That is, their structure was such that followed the phonological, and morphological rules of the Greek language.

Moreover, the analysis pertaining to word recognition responses per word category (neutral, neutral cognate, taboo, and taboo cognate words) unveiled a significant difference in reaction time between taboo and neutral words. Specifically, participants took more time to decide if a taboo word was a word compared to neutral words. This finding is consistent with those from previous studies, which have confirmed that taboo words have an attention-grabbing effect on speakers, leading to higher latencies in responding to a given task.

The results generated by the lexical decision task suggest that it is the taboo status of words that controls the attention-grabbing effect on speakers, without the cognate status of words playing a role in this.

6.1.2 Discussion on translation evaluation rating task findings

Through the analysis of the arousal ratings to Greek translations of English sentences, this study found significant effects in reaction times of English sentence reading, in reaction times of translation arousal rating, as well as in the translation arousal ratings of different types of words.

First, when it came to reading the English sentences, the results showed that participants took longer to read those with cognate taboo words, as opposed to sentences with neutral words. This finding is once again consistent with the word recognition task of the study, as well as with previous studies that have researched and shown the arousal effects of taboo words on speakers, which grab attention and result in slower reaction to a given task.

Second, reaction times of providing translation arousal ratings showed that sentences with taboo words required more time as opposed to sentences with neutral words. Once more, this is a result of the arousal effect taboo words have on speakers, manifested through providing late responses to arousal ratings.

Third, the actual translation arousal ratings on the Greek translations showed that taboo sentences (cognate and non-cognate) were rated as more arousing than neutral (cognate and non-cognate) words. This is all consistent with the pre-

existing literature on how taboo words have a stronger emotional effect on speakers, which is not only shown indirectly, like in the two previous findings, but also reportedly by readers themselves.

As in the lexical decision task, all findings generated from the translation evaluation rating task point towards the taboo status of words exerting a strong effect, both at a cognitive level (word recognition) and at an emotional level (translation arousal).

6.2 General discussion and Conclusion

Overall, this study attempted to fill in a gap in the literature of Psycholinguistics, and Translation Studies in terms of studying cognate taboo words and exploring their effect in comparison to non-cognate taboo words. Our results suggest that non-cognate taboo words and cognate taboo words do not always trigger the same effect, at least not at a cognitive level.

From a purely psycholinguistic perspective, these findings contribute to providing more evidence on the emotional context of learning theory (Harris et al., 2006), such that even if a cognate taboo word is acquired at an early age and within a highly emotional, or a more formal context, the arousal effects will be the same, regardless of using the cognate taboo word in a first (L1) or second language (L2). For example, in Greek-English unbalanced bilinguals, the Greek word ‘σεξ’ and its English cognate counterpart ‘sex’ will have the same arousal effect on speakers as when they encounter the Greek word ‘συνουσία’ and its English translation ‘intercourse’.

Furthermore, when extending this to Translation Studies, we once again saw that there were no arousal differences between Greek translations with taboo words and those with cognate taboo words. Thus, when translating sentences that contain cognate taboo words, we could suggest that both the cognate taboo, and taboo counterpart in the target language are good translation options to opt for, since they will both successfully maintain the emotional impact of the source text. However, it would be interesting to see if the same results would be generated when placing cognate taboo words in specific contexts and asked for their arousal ratings, or translation. In other words, since there have been studies that investigated the translation options of cognate words when placed in specific contexts (Hansen-Schira et al., 2017; Tercedor, 2011), it would be interesting to apply the same methodology to cognate taboo words.

Moreover, it is worth making some remarks on the cognate taboo words that were actually used as materials in this study. We have been used to tracing cognate words in languages that show a genetic relation to each other, such as English and

German, which are both Germanic languages. Thus, it may be surprising that Greek and English share cognate words, let alone cognate taboo words. An explanation to this may be that there are certain topics, such as the LGBTQ+ community, which tend to be internationally taboo, mostly because they are such topics that only recently started to be of concern to a wider range of people. Of course, social media and the internet overall have been the biggest contributors to spreading what are considered cognate taboo words, making them international news and issues. The topic of the LGBTQ+ community may also be considered a specialized topic, but for the most part Greek and English share cognate words that have to do with everyday life, such as ‘σεξ’ and ‘sex’. The cognate taboo words of this language pair that were used for the study are all true cognates. In other words, they do not only share the same phonology and morphology, but also the same meaning, based on Barnickel’s types of cognates, as presented in Stamenov (2009). Nonetheless, only very few were chosen, since not all cognate taboo words had a taboo counterpart in either language.

Notwithstanding the small amount of materials, it is very encouraging that the study was able to yield significant differences. It would for sure be very valuable to replicate the study and add more materials in order to facilitate the generalization for these findings. To add to future studies, it would be very interesting to see what the case would be in balanced bilinguals. Given that such speakers can use, and switch between two languages with such ease, it might be the case that the cognate status of taboo words may have more of an effect than it does on unbalanced bilinguals, in that there may be more traces of differences when comparing taboo to cognate taboo words. One way to see this would be by tracing physiological effects through electrodermal activity when a speaker encounters a taboo compared to a cognate taboo word in both languages. Moreover, this research could also be extended to translation studies by potentially performing a similar task as this study, or by evaluating the accuracy of translations that will contain cognate taboo words. It would, once again, be interesting to investigate if both taboo and cognate taboo translation counterparts could potentially be suggested for the translation of cognate taboo words, in terms of striving to preserve the emotional intensity of the source text.

Last but not least, another way in which these findings may contribute to the field of Psycholinguistics and Translation Studies is with regard to the Revised Hierarchical Model (RHM) suggested by Kroll and Stewart (1994). The RHM conceptualizes how bilingual memory functions while translating, by dividing it into the lexical and conceptual level. This has been used in many studies (e.g. Kroll & Stewart, 1994; Pu & Tse, 2014;) in order to explain that translating from the L2 to the L1 is easier and, thus, faster, due to lexical, rather than semantic mediation. Nonetheless, what seems to not have been taken into consideration by Kroll and Stewart (1994) is what happens in bilingual memory when someone is asked to translate cognate words. It may be the case that both the conceptual and lexical

links will be activated and, since cognate words exist in a pair of languages, it is not necessary that there will be a clear translation direction a bilingual will follow in order to translate them. Thus, this suggests that there may be a third link that could be added to the hierarchical model which would combine the conceptual and lexical links. Sherkina (2003) has raised the point of the existence of a third link of lexical retrieval in Kroll and Stewart's (1994) revised hierarchical model, as well. She reviews a series of studies regarding cognate effects, the bilingual lexicon with a focus on cognate words, the effect of word frequency and shared representations amongst two languages. All of her points can be brought back to the revised hierarchical model. Furthermore, she suggests that further research must be done in order to examine word frequency in more depth regarding the cognate facilitation effect. Moreover, as stated in Chapter 2, more recently there have been attempts to understand what exactly happens when bilinguals translate cognate words (Toassi et al, 2020). However, the questions have been presented as either more than one lexicons being activated in the bilingual brain during the translation process specific to cognates, or as one of the two lexicons being a predominant one. Although Toassi and colleagues (2020) did find a coactivation of lexicons, what they did not consider is the potential formation of an integrated lexicon as the bilingual acquires more cognate words.

6.3 Limitations

Psycholinguistic studies on emotions became a trend over the last twenty years or so and they have unlocked another door, with many research levels to it. Given that this topic of research is relatively recent, not all languages have managed to develop the required literature, namely, an affective lexicon, which is fundamental to psycholinguistic studies and emotions. That said, this is something that the Greek language still lacks, since it was only last year that the first database for a Greek Affective Lexicon (Patras, 2023) was developed, and it still has a long way to go. Moreover, the Greek language also lacks literature with normative ratings for words. Both these points created an issue in the words that would be selected for this study, since it was difficult and almost impossible to control variables, such as word length, and frequency.

As interesting as these findings may be, they must be interpreted with caution. The amount of materials that was used was not enough to be able to generalize these findings. Furthermore, Greek and English are very different languages in terms of their origin, which means that the amount of cognate taboo words that exist in this pair of languages may be substantially lower when comparing Dutch to English, for example. Hence, it will be helpful to test cognate taboo words and emotions with more materials, as well as in as many language pairs as possible in order to facilitate the generalization of these findings.

Lastly, given that Greece does not currently have the appropriate experimental facilities and tools in order to conduct psycholinguistic research, the methodological choices of this experiment were very restricted and this is why the research questions were investigated through a lexical decision task and an arousal rating task. In other words, it is almost certain that methods such as electrodermal activity and eye tracking would generate more detailed findings.

References

- Alavi, S. Y., Karimnia, A., & Zadeh, S. S. (2013). Translation of Taboos from English into Persian: A Skopos-Based Study. *Linguistics and Translation*, 54, 12289–12292.
- Altarriba, J. (2003). Does cariño equal “liking”? A theoretical approach to conceptual nonequivalence between languages. *International Journal of Bilingualism*, 7, 305–322.
- Baker, M. (1992). *In Other Words: A Coursebook on Translation*. Routledge.
- Bamford, K. W., & Mizokawa, D. T. (1991). Additive-Bilingual (Immersion) Education: Cognitive and Language Development *. *Language Learning*, 41(3), 413–429. <https://doi.org/10.1111/j.1467-1770.1991.tb00612.x>
- Bialystok, E. (2017). The bilingual adaptation: How minds accommodate experience. *Psychological Bulletin*, 143(3), 233–262. <https://doi.org/10.1037/bul0000099>
- Bond, M. H., & Lai, T. (1986). Embarrassment and code-switching into a second language. *The Journal of Social Psychology*, 126(2), 179-186.
- Bradley, M.M., & Lang, P.J. (1999). *Affective norms for English words (ANEW): Instruction manual and affective ratings*. Technical Report C-1, The Center for Research in Psychophysiology, University of Florida.
- Cambridge Dictionary. (n.d.). Cognate. In *Cambridge Dictionary*. Retrieved December 3, 2023, from <https://dictionary.cambridge.org/dictionary/english/cognate>
- Carretié, L., Hinojosa, J. A., Albert, J., López-Martín, S., De La Gándara, B. S., Igoa, J. M., & Sotillo, M. (2008). Modulation of ongoing cognitive processes by emotionally intense words. *Psychophysiology*, 45(2), 188–196. <https://doi.org/10.1111/j.1469-8986.2007.00617.x>
- Chesterman, A. (2000). A causal model for translation studies. In M. Olohan (Ed.), *Intercultural faultlines research models in translation studies: Textual and cognitive aspects*. Routledge.
- Crossfield, E., & Damian, M. F. (2021). The role of valence in word processing: Evidence from lexical decision and emotional Stroop tasks. *Acta Psychologica*, 218, 103359. <https://doi.org/10.1016/j.actpsy.2021.103359>

- de Groot, A. M. B. (1992). Determinants of word translation. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 18(5), 1001–1018. <https://doi.org/10.1037/0278-7393.18.5.1001>
- de Groot, A. M. B. (1993). Word-type effects in bilingual processing tasks: Support for a mixed representational system. In R. Schreuder & B. Weltens (Eds.), *The Bilingual Lexicon* (pp. 27–51). John Benjamins.
- Dewaele, J.-M. (2004). The Emotional Force of Swearwords and Taboo Words in the Speech of Multilinguals. *Journal of Multilingual and Multicultural Development*, 25(2-3), 204–222. <https://doi.org/10.1080/01434630408666529>
- Dewaele, J.-M. (2006). 5. Expressing Anger in Multiple Languages. In A. Pavlenko (Ed.), *Bilingual Minds: Emotional Experience, Expression, and Representation* (pp. 118-151). Bristol, Blue Ridge Summit: Multilingual Matters. <https://doi.org/10.21832/9781853598746-007>
- Dewaele, J.-M. (2008). The emotional weight of I love you in multilinguals' languages. *Journal of Pragmatics*, 40(10), 1753–1780. <https://doi.org/10.1016/j.pragma.2008.03.002>
- Dewaele, J.-M. (2013). Multilingualism and Emotions. In *The Encyclopedia of Applied Linguistics*. Blackwell Publishing Ltd. <https://doi.org/10.1002/9781405198431.wbeal0795>
- Dewaele, J.-M. (2018). Linguistic taboos in a second or foreign language. In K. Allan (Ed.), *The Oxford Handbook of Taboo Words and Language* (pp. 218–232). Oxford Academic.
- Dewaele, J.-M., Alsuhaibani, Y., Altalhab, S., & Alghamdi, W. (2023). How frequency and intensity of exposure to a foreign language boosts its emotional resonance. *International Journal of Multilingualism*, 1–15. <https://doi.org/10.1080/14790718.2023.2233551>
- Ferré, P., Anglada-Tort, M., & Guasch, M. (2017). Processing of emotional words in bilinguals: Testing the effects of word concreteness, task type and language status. *Second Language Research*, 34(3), 371–394. <https://doi.org/10.1177/0267658317744008>
- Fredrickson, B. L. (2004). The broaden–and–build theory of positive emotions. *Philosophical Transactions of the Royal Society of London. Series B: Biological Sciences*, 359(1449), 1367–1377. <https://doi.org/10.1098/rstb.2004.1512>

- Friedman, T. L. (2012). *The Lexus and the Olive Tree: Understanding Globalization*. Picador.
- García, A. M., Ibáñez, A., Huepe, D., Houck, A. L., Michon, M., Lezama, C. G., Chadha, S., & Rivera-Rei, Á. (2014). Word reading and translation in bilinguals: the impact of formal and informal translation expertise. *Frontiers in Psychology, 5*. <https://doi.org/10.3389/fpsyg.2014.01302>
- Gonzalez-Regiosa, F. (1976). The anxiety arousing effect of taboo words in bilinguals. In C. D. Spielberger & R. Diaz-Guerrero (Eds.), *Cross-cultural anxiety* (pp. 89–105). Washington, DC: Hemisphere
- Guillet, R., & Arndt, J. (2009). Taboo words: The effect of emotion on memory for peripheral information. *Memory & Cognition, 37*(6), 866–879. <https://doi.org/10.3758/mc.37.6.866>
- Han, J. (2023). The Role of Emotion in the Translation Process from the Perspective of Embodied Cognition. *Psychology, 14*(08), 1395–1412. <https://doi.org/10.4236/psych.2023.148079>
- Hanić, J., Pavlović, T., & Jahić, A. (2016). Translating emotion-related metaphors: A cognitive approach. *ExELL, 4*(2), 87–101. <https://doi.org/10.1515/exell-2017-0008>
- Hansen, S. J., McMahon, K. L., & de Zubicaray, G. I. (2019). The neurobiology of taboo language processing: fMRI evidence during spoken word production. *Social Cognitive and Affective Neuroscience, 14*(3), 271–279. <https://doi.org/10.1093/scan/nsz009>
- Harris, C. L., Gleason, J. & Ayçiçeği, A. (2006). 10. When is a First Language More Emotional? Psychophysiological Evidence from Bilingual Speakers. In A. Pavlenko (Ed.), *Bilingual Minds: Emotional Experience, Expression, and Representation* (pp. 257-283). Bristol, Blue Ridge Summit: Multilingual Matters. <https://doi.org/10.21832/9781853598746-012>
- Harris, C. L., Ayçiçeği, A., & Gleason, J. B. (2003). Taboo words and reprimands elicit greater autonomic reactivity in a first language than in a second language. *Applied Psycholinguistics, 24*(4), 561–579. <https://doi.org/10.1017/s0142716403000286>
- Hendal, B. A. (2021). Translation of Taboos: A Case Study on Translating the F-Word Into Arabic. *Journal of Research in Language & Translation, 1*(1), 47–65.

<https://www.researchgate.net/publication/350152294> Translation of Taboo Words: A Case Study on Translating the F-Word Into Arabic

- Holcomb, P. J., Grainger, J., & O'Rourke, T. (2002). An Electrophysiological Study of the Effects of Orthographic Neighborhood Size on Printed Word Perception. *Journal of Cognitive Neuroscience*, *14*(6), 938–950. <https://doi.org/10.1162/089892902760191153>
- Hubscher-Davidson, S. (2020). The Psychology of Sustainability and Psychological Capital: New Lenses to Examine Well-Being in the Translation Profession. *European Journal of Sustainable Development Research*, *4*(4). <https://doi.org/10.29333/ejodr/7901>
- Iniesta, A. O., Rossi, E., Bajo, M. T., & Paolieri, D. (2021). The Influence of Cross-Linguistic Similarity and Language Background on Writing to Dictation. *Frontiers in Psychology*, *12*. <https://doi.org/10.3389/fpsyg.2021.679956>
- Janschewitz, K. (2008). Taboo, emotionally valenced, and emotionally neutral word norms. *Behavior Research Methods*, *40*(4), 1065–1074. <https://doi.org/10.3758/brm.40.4.1065>
- Jay, T. (2009). The Utility and Ubiquity of Taboo Words. *Perspectives on Psychological Science*, *4*(2), 153–161. <https://doi.org/10.1111/j.1745-6924.2009.01115.x>
- Jay, T., Caldwell-Harris, C., & King, K. (2008). Recalling Taboo and Nontaboo Words. *The American Journal of Psychology*, *121*(1), 83. <https://doi.org/10.2307/20445445>
- Kassian, Z., & Esmaili, S. (2011). The Effect of Bilinguality on L3 Breadth of Vocabulary Knowledge and Word Reading Skill. *Theory and Practice in Language Studies*, *1*(8). <https://doi.org/10.4304/tpls.1.8.966-974>
- Kimovska, S. K., & Cvetkoski, V. (2021). The Effect of Emotions on Translations Performance. *Research in Language*, *19*(2), 169–186. <https://doi.org/10.18778/1731-7533.19.2.05>
- Kroll, J. F., & Stewart, E. (1994). Category Interference in Translation and Picture Naming: Evidence for Asymmetric Connections Between Bilingual Memory Representations. *Journal of Memory and Language*, *33*(2), 149–174. <https://doi.org/10.1006/jmla.1994.1008>
- Krueger, L. E., Stadler, L. M., & Blum, A. J. (1992). Search for a singular word or nonword. *Journal of Experimental Psychology: Learning*,

Memory and Cognition, 18(6), 1331–1341. <https://doi.org/10.1037/0278-7393.18.6.1331>

Li, C., & Gollan, T. H. (2018). Cognates interfere with language selection but enhance monitoring in connected speech. *Memory & Cognition*, 46(6), 923–939. <https://doi.org/10.3758/s13421-018-0812-x>

Liébana Martínez, J. (2022). *Linguistic Taboos and Swear Words in EFL Learning and Teaching: An Empirical Study* (pp. 1–33). <http://hdl.handle.net/10810/55792>

Lomas, T. (2018). Translating Happiness. In *The MIT Press eBooks*. MIT Press. <https://doi.org/10.7551/mitpress/11138.001.0001>

Meyer, D. E., & Schvaneveldt, R. W. (1971). Facilitation in recognizing pairs of words: Evidence of a dependence between retrieval operations. *Journal of Experimental Psychology*, 90(2), 227–234. <https://doi.org/10.1037/h0031564>

Morales, J., Calvo, A., & Bialystok, E. (2013). Working memory development in monolingual and bilingual children. *Journal of Experimental Child Psychology*, 114(2), 187–202. <https://doi.org/10.1016/j.jecp.2012.09.002>

Mudogo, B. A. (2018). Baker's Strategies in Translation: A Lexico-Semantic Analysis of Four Luhya dialects: Lukabras, Lwisukha, Luwangaand Lukhayo in Informative Text. *The African Journal of Education and Social Sciences (AJESS)*. Vol 3, 71-85. Accessed December 3, 2023, from <https://ajess.kibu.ac.ke/bakers-strategies-in-translation-a-lexico-semantic-analysis-of-four-luhya-dialects-lukabras-lwisukha-luwanga-and-lukhayo-in-informative-text/>

Munday, J. (2016). *Introducing translation studies : theories and applications* (4th ed.). Routledge.

Muscalu, L. M., & Smiley, P. A. (2018). The illusory benefit of cognates: Lexical facilitation followed by sublexical interference in a word typing task. *Bilingualism: Language and Cognition*, 22(04), 848–865. <https://doi.org/10.1017/s1366728918000792>

Orang'i, D. O. (2022). Translating taboo words in health care texts from English into Swahili in Kenya. *Southern African Linguistics and Applied Language Studies*, 40(2), 200–211. <https://doi.org/10.2989/16073614.2022.2043758>

- Otwinowska, A., & Szewczyk, J. M. (2017). The more similar the better? Factors in learning cognates, false cognates and non-cognate words. *International Journal of Bilingual Education and Bilingualism*, 22(8), 974–991. <https://doi.org/10.1080/13670050.2017.1325834>
- Patras, A. (2023). *An updated and expanded Greek adaptation of ANEW: Affective ratings for Greek as L1 and English as L2* (pp. 1–64) [MA Dissertation].
- Pavlenko, A. (2008). Emotion and emotion-laden words in the bilingual lexicon. *Bilingualism: Language and Cognition*, 11(2), 147–164. <https://doi.org/10.1017/s1366728908003283>
- Pavlenko, A. (2012). Affective processing in bilingual speakers: Disembodied cognition? *International Journal of Psychology*, 47(6), 405–428. <https://doi.org/10.1080/00207594.2012.743665>
- Peeters, D., Dijkstra, T., & Grainger, J. (2013). The representation and processing of identical cognates by late bilinguals: RT and ERP effects. *Journal of Memory and Language*, 68(4), 315–332. <https://doi.org/10.1016/j.jml.2012.12.003>
- Pinker, S. (2007). *The stuff of thought : language as a window into human nature*. Penguin Books, Ca.
- Poort, E. D., & Rodd, J. M. (2017). The cognate facilitation effect in bilingual lexical decision is influenced by stimulus list composition. *Acta Psychologica*, 180, 52–63. <https://doi.org/10.1016/j.actpsy.2017.08.008>
- Pu, X. & Tse, C.-S. (2014). The revised hierarchical model: Explicit and implicit memory. In R. R. Heredia & J. Altarriba (Eds.), *Foundations of bilingual memory* (pp. 147-184). Springer Science + Business media. DOI: https://doi.org/10.1007/978-1-4614-9218-4_8 .
- Rastovic, A., Pélissier, M., & Ferragne, E. (2019). The perception of swear words by French learners of English: an experiment involving electrodermal activity. *Anglophonia*, 27. <https://doi.org/10.4000/anglophonia.2254>
- Robinson, D. (2006). *Translation and taboo*. Northern Illinois University Press.
- Rojo López, A. M., & Caldwell-Harris, C. L. (2023). Emotions in Cognitive Translation and Interpreting Studies. In A. Ferreira & J. Schwieter (Eds.), *The Routledge Handbook of Translation, Interpreting and Bilingualism* (pp. 206–221). Routledge.

- Rojo López, A. M., Cifuentes Férez, P., & Espín López, L. (2021). The influence of time pressure on translation trainees' performance: Testing the relationship between self-esteem, salivary cortisol and subjective stress response. *PLOS ONE*, *16*(9), 1–19.
<https://doi.org/10.1371/journal.pone.0257727>
- Rojo López, A. M., & Naranjo, B. (2021). Translating in times of crisis: A study about the emotional effects of the COVID19 pandemic on the translation of evaluative language. *Journal of Pragmatics*, *176*, 29–40.
<https://doi.org/10.1016/j.pragma.2021.01.018>
- Rojo López, A. M., & Ramos Caro, M. (2014). The impact of translators' ideology on the translation process: a reaction time experiment. *Monti. Monografías de Traducción E Interpretación*, 247–271.
<https://doi.org/10.6035/monti.2014.ne1.8>
- Rojo López, A. M., & Ramos Caro, M. (2016). Can emotion stir translation skill? Defining the impact of positive and negative emotions on translation performance. In R. Muñoz Martín (Ed.), *Reembedding Translation Process Research* (pp. 107–130). John Benjamins.
- Rojo López, A. M., & Ramos Caro, M. (2018). The role of expertise in emotion regulation: Exploring the effect of expertise on translation performance under emotional stir. In I. Lacruz & R. Jääskeläinen (Eds.), *Innovation and Expansion in Translation Process Research* (pp. 105–129). John Benjamins.
- Sechrest, L., Flores, L., & Arellano, L. (1968). Language and Social Interaction in a Bilingual Culture. *The Journal of Social Psychology*, *76*(2), 155–161.
<https://doi.org/10.1080/00224545.1968.9933607>
- Sherkina, M. (2003). The Cognate Facilitation Effect in Bilingual Speech Processing. *Toronto Working Papers in Linguistics*, *21*, 135–151.
- Stamenov, M. (2009) *Cognates in language, in the mind and in a prompting dictionary for translation*. ResearchGate. Retrieved December 1, 2023, from
https://www.researchgate.net/publication/255728787_Cognates_in_language_in_the_mind_and_in_a_prompting_dictionary_for_translation
- Sulpizio, S., Toti, M., Del Maschio, N., Costa, A., Fedeli, D., Job, R., & Abutalebi, J. (2019). Are you really cursing? Neural processing of taboo words in native and foreign language. *Brain and Language*, *194*, 84–92.
<https://doi.org/10.1016/j.bandl.2019.05.003>

- Tang, D., Fu, Y., Wang, H., Liu, B., Zang, A., & Kärkkäinen, T. (2023). The embodiment of emotion-label words and emotion-laden words: Evidence from late Chinese–English bilinguals. *Frontiers in Psychology, 14*. <https://doi.org/10.3389/fpsyg.2023.1143064>
- Tercedor, M. (2011). Cognates as lexical choices in translation. *Target. International Journal of Translation Studies, 22*(2), 177–193. <https://doi.org/10.1075/target.22.2.01ter>
- Toassi, P. F. P., Mota, M. B., & Teixeira, E. N. (2020). O efeito de palavras cognatas no acesso lexical do inglês como terceira língua. *Cadernos de Tradução, 40*(esp2), 74–96. <https://doi.org/10.5007/2175-7968.2020v40nesp2p74>
- Toury, G. (1995). Descriptive Translation Studies – and beyond. *Benjamins Translation Library*. <https://doi.org/10.1075/btl.4>
- Venuti, L. (2008). *The translator's invisibility : a history of translation*. Routledge.
- Ziegler, J. C., Besson, M., Jacobs, A. M., Nazir, T. A., & Carr, T. H. (1997). Word, Pseudoword, and Nonword Processing: A Multitask Comparison Using Event-Related Brain Potentials. *Journal of Cognitive Neuroscience, 9*(6), 758–775. <https://doi.org/10.1162/jocn.1997.9.6.758>

Appendices

Appendix I. List of Greek words for the Lexical Decision Task (LDT; Task 1)

Number	Item	WordType	Word
1	άφυλος (asexual)	taboo	word
2	εξώγαμο (bastard)	taboo	word
3	μαλάκας (asshole)	taboo	word
4	ναρκωτικά (drugs)	taboo	word
5	στύση (erection)	taboo	word
6	συνουσία (intercourse)	taboo	word
7	ασέξουαλ (asexual)	tabooCog	word
8	ηρωίνη (heroin)	tabooCog	word
9	κοκαΐνη (cocaine)	tabooCog	word
10	μπάσταρδος (bastard)	tabooCog	word
11	σεξ (sex)	tabooCog	word
12	χασίς (hashish)	tabooCog	word
13	γη (earth)	neutral	word
14	μήνας (month)	neutral	word
15	μπράτσο (arm)	neutral	word
16	πίνακας (board)	neutral	word
17	φυτό (plant)	neutral	word
18	χρόνος (time)	neutral	word
19	βαρέλι (barrel)	neutralCog	word
20	γάτα (cat)	neutralCog	word
21	δολάριο (dolar)	neutralCog	word
22	καζίνο (casino)	neutralCog	word
23	μπαρ (bar)	neutralCog	word
24	φάρμα (farm)	neutralCog	word

Appendix II. Sentences for the Translation Rating task (Task 2)

Number	Item	PhraseType	Trans1	TransType	Trans2	TransType
1	John is asexual.	tabooCog	Ο Γιάννης είναι ασέξουαλ.	tabooCog	Ο Γιάννης είναι άφυλος.	taboo
2	Nick is taking heroin.	tabooCog	Ο Νίκος παίρνει ναρκωτικά.	taboo	Ο Νίκος παίρνει ηρωίνη.	tabooCog
3	The neighbour bought cocaine.	tabooCog	Ο γείτονας αγόρασε κοκαΐνη.	tabooCog	Ο γείτονας αγόρασε ναρκωτικά.	taboo
4	The child is a bastard.	tabooCog	Το παιδί είναι εξώγαμο.	taboo	Το παιδί είναι μπάσταρδο.	tabooCog
5	There was sex evidence.	tabooCog	Βρέθηκαν ίχνη σεξ.	tabooCog	Βρέθηκαν ίχνη συνουσίας.	taboo
6	Daphne is smoking hashish.	tabooCog	Η Δάφνη καπνίζει χόρτο.	taboo	Η Δάφνη καπνίζει χασίς.	tabooCog
7	The barrel is red.	neutralCog	Το βαρέλι είναι κόκκινο.	neutralCog		
8	The earth is flat.	neutral	Η γη είναι επίπεδη.	neutral		
9	The dollar is strong.	neutralCog	Το δολάριο είναι δυνατό.	neutralCog		
10	The plant is green.	neutral	Το φυτό είναι πράσινο.	neutral		
11	The casino is near.	neutralCog	Το καζίνο είναι κοντά.	neutralCog		
12	A month has four weeks.	neutral	Ο μήνας έχει τέσσερις εβδομάδες.	neutral		
13	The board is black.	neutral	Ο πίνακας είναι μαύρος.	neutral		
14	The bar is new.	neutralCog	Το μπαρ είναι καινούργιο.	neutralCog		
15	The arm is big.	neutral	Το μπράτσο είναι μεγάλο.	neutral		
16	The farm is old.	neutralCog	Η φάρμα είναι παλιά.	neutralCog		
17	Time is a concept.	neutral	Ο χρόνος είναι μια έννοια.	neutral		
18	The cat is grey.	neutralCog	Η γάτα είναι γκρι.	neutralCog		