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Translating in times of crisis: A study about the emotional effects of the COVID19 pandemic on the translation of evaluative language

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ABSTRACT

This study explores the emotional impact of contextually-relevant source texts (STs) and their influence on student translators’ behavior. During the first weeks of the Spanish COVID-19 lockdown, an experimental study was carried out in which 69 Spanish translation students were instructed to translate two English STs with different evaluative attitudes (i.e. optimistic vs. pessimistic) toward the COVID-19 crisis. The study explored whether the different optimistic vs pessimistic framing of the crisis would influence the students’ use of translation strategies (h1), their levels of anxiety (h2) and their levels of affect (h3) after both reading and translating the STs. Results revealed statistically significant differences between the two translation strategies analyzed (i.e. emphasis and attenuation), with more emphasizing strategies than attenuating ones, regardless of the group. Moreover, a significant effect of the interaction between text and group was also reported, which indicated an overall stronger inclination to alter—either mitigating or emphasizing—evaluative language in the pessimistic text. A significant increase in participants’ levels of anxiety and negative affect was also found after the pessimistic framing as compared to the optimistic one. Data also pointed to differences between reading and translating in terms of the participant’s anxiety levels, with statistically significant higher anxiety scores after reading than translating.

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1. The messy effects of emotions on cognitive processing

The link between emotion and cognition is now widely accepted, with emotions being regarded as an integral part of cognitive functions and both sharing the same neural network (Duncan and Barrett, 2007). Still, lesser agreement is found regarding the type of influence that they exert on cognitive processing and how such influence takes place. Emotions have been reported to either impede or facilitate cognitive processing. The type of influence has been mostly related to emotional valence, with impairment being mainly associated with negative emotions and facilitation with positive ones. However, evidence is still emerging and results on the role of valence are not very conclusive yet.

Work on how emotions may impair our ability for cognitive control views them as a source of cognitive conflict, compromising our ability to complete tasks that require cognitive control. Emerging evidence has shown, though, that emotion processing and cognitive control do not operate independently as different brain functions, but rather share neural
circuitry in charge of cognitive-emotional conflict resolution (Pessoa, 2008). Even if no agreement has been reached yet as to which neural mechanisms specifically underlie emotional interference on cognitive control, data suggest that the conflict generated by the interference of emotion is facilitated through a brain network comprising various prefrontal regions, and that different levels of emotional conflict activate different brain patterns (Song et al., 2017). The assumption is that emotionally salient stimuli are frequently the cause of cognitive conflict, acting as distractors likely to interfere with the processing of task-relevant information. In order words, emotions may impair our ability for control, compromising our capacity to align mind and action in relation to certain task-related goals, and interfering with a variety of control-related executive processes, such as attention shifting, error monitoring, updating of working memory, and reaction conflict or inhibition. From this point of view, the ability to solve this type of emotional interference is crucial for efficient performance in daily working practice (Song et al., 2017: 1).

And yet, not everything needs to be seen in a negative light. There is also evidence showing that emotions may also have a positive influence on cognitive processing. Existing work suggests that different-valence emotions can induce different types of behaviors, with positive emotions supporting broad, creative, and flexible thinking, and negative emotions narrowing attention and fostering analytic thinking and concrete problem-solving behaviors (cf. Lehr and Shuman, 2013). Nevertheless, the evidence is still rather mixed, and besides valence, results report that effects may also be highly variable as a function of numerous factors, such as performance contingency, pre or post goal status, or stimuli content (Chiew and Braver, 2014: 523). Thus, it seems that positive emotion may promote flexibility and increased attentional shifting mostly when positive stimuli are performance-contingent (Braem et al., 2013) and post-goal (Carver, 2003), whereas non-contingent, pre-goal positive stimuli generate approach motivation and promote task focus and local processing (Gable and Harmon-Jones, 2011).

The type of task to be performed can also be a mediating factor in the effect of emotion on cognitive processing and performance. A differential effect has, for instance, been reported between verbal and spatial tasks, with performance in the former being enhanced by positive moods but impaired by negative ones, whereas in the latter negative moods may lead to successful results and positive moods to impaired outcomes (Gray, 2001). These effects are also congruent with evidence showing that positive moods may foster creativity on verbal association tasks (Isen et al., 1987) but impede memory accuracy by encouraging relational processing during encoding (Storbeck and Clore, 2005). Similarly, the effects of negative moods on spatial tasks seem consistent with results showing that they may have a beneficial effect on memory accuracy by encouraging item-specific processing at encoding (Storbeck and Clore, 2005), and even yield positive results in complex problem-solving scenarios (Packard et al., 1994; Spering et al., 2005).

Task goal and degree of difficulty may also play a relevant role in mediating the effect of emotions on creativity. Sacharin (2009) reported that when enjoyment is perceived as the task goal, positive emotion can increase cognitive breadth more than neutral or negative emotions. However, when the goal is high performance, negative emotions can increase creativity. Regarding the difficulty of the task being performed, her results suggested that in low difficulty tasks, positive emotions improved performance over negative ones, whereas high difficulty tasks reduced the difference between positive and negative emotions in increasing idea generation and categorization breadth.

Data from sociological research also point to the mediating role of moods and anxiety in task performance, suggesting that the effects may be either positive or negative, depending on the person or even the timeframe researched. While a positive mood may increase performance goals on the same day the task is to be performed, on the following day the same mood may be found to reduce performance effort (Richard and Diefendorff, 2011).

Emotion research has so far failed to establish stable response patterns for each emotion type, but has provided plenty of evidence for the strong link and interaction between emotion and cognition. Emotion may influence cognitive processes, such as memory or attention, with task-related factors playing a relevant role in such influence. But one important issue is still unresolved in relation to how the particular emotion is sparked. The following section introduces the notion of emotional framing as a method to induce a specific emotion in order to bias people’s responses.

2. The notion of emotional framing

Work on the framing effect is based on the assumption that the way an issue is presented influences how people perceive it, showing that our choices are biased depending on whether options are given with positive or negative connotations. For instance, people tend to avoid risk when faced with a positive frame, but seek it when the frame is negative (Tversky and Kahneman, 1981).

Emotion has also been found to play a decisive role within the framing process, either as a consequence of frames affecting emotional responses (Gross and D’Ambrosio, 2004); as frames themselves that can guide information processing and affect subsequent judgment (Nabi, 2003), or as tied to particular types of frames that indirectly affect opinion through emotional responses (Kim and Cameron, 2011). In all these studies, emotions have been shown to function as mediators between the message — or frame — and people’s attitudes or opinion.

The mediational role of emotions has also been explored in work focused on the impact of specific emotions and emotional intensity. Regarding specific emotions, Kim and Cameron (2011) show, for instance, that different types of emotional frames — e.g., anger and sadness-inducing frames — may lead to different types of information processing — systematic and heuristic, respectively —, affecting, in turn, people’s opinions. As far as emotional intensity is concerned, Aaroe (2011) and Yacoub (2012) claim that it acts as a mediator between the frame and belief importance, influencing subsequent opinions. However, for Aaroe emotional intensity is linked to the type of frame, with episodic frames becoming more intense and effective than...
thematic frames, whereas for Yacoub emotional intensity is generally influential for frames. Within the context of appraisal theory, the latter argues that people evaluate a stimulus cognitively and feel emotions unique to the frame that affect their evaluations. In this theory, both affect and arousal play a significant role in mediating framing effects, with affect providing information about the value of a frame and arousal about its importance and urgency (Yacoub 2012: 11–12).

The concept of appraisal has also been embraced from systemic functional linguistics to examine speakers’ emotions based on the sets of semantic systems and specific evaluative lexis to which they resort to express their judgment (Martin, 2000). Linguists are increasingly turning their attention to the workings of the expression of emotion in discourse (Mackenzie and Alba-Juez, 2019). In times of crisis, with mass media as extraordinary powerful creators of positive and negative frames of events (see An and Gower, 2009), studies have revealed how these frames can easily influence people’s appraisal of such events and incline them towards certain lexical choices revealing positive or negative attitudes (Chiluwa and Ajiboye, 2016).

But while all these studies focus on how emotions mediate framing effects, two crucial questions remain as to what task-specific factors trigger the emotions and what effects can be found. Both individual predispositions and the characteristics of the frame can act as catalyst of emotional reactions, but the study introduced in this paper focuses on the latter, using different text framing of the present COVID-19 pandemic as trigger of different-valence emotions during a translation task. Before introducing the study, the following section reviews work on how emotional framing may influence text comprehension and translation, and on the emotional impact of the COVID-19 pandemic.

3. The impact of emotions upon text comprehension and translation

Emotions are acknowledged to play a role in text comprehension. They have generally been claimed to lead to more effective processing of the text, guiding the content of mental representations (Kneepkens and Zwann, 1994) and favoring memorization of events (Davidson 2006) and students’ understanding of the texts (Afzali, 2013).

Emotional valence has also been shown to influence comprehension, but, as in other areas, evidence on its effects is still not clear. Even if some results point to the beneficial influence of negative emotions for comprehension and memorization (Clavel and Cuisinier, 2010; Davidson, 2006), there are also data suggesting a detrimental effect of negative emotions induction on text comprehension (Ducreux-Fournier, 2007). Megalakaki et al. (2019) suggest that these divergent results may be due to the types of texts used and their emotional intensity. Their study showed a significant effect of emotional valence on text comprehension and memorization, with better results for positive than negative and neutral texts. Regarding emotional intensity, their results revealed that medium emotional intensity led to better comprehension of both positive and negative text comprehension and memorization, with better results for positive than negative and neutral texts. Regarding emotional intensity, their results revealed that medium emotional intensity led to better comprehension of both positive and negative texts, while high emotional intensity was beneficial for positively valenced texts, but hindered the understanding of negatively valenced ones.

As far as translation is concerned, existing results on the impact of emotions on the translation process have started to elucidate the influence of emotions on different information processing styles, pointing to the role of valence, emotion-text congruence, and individual and text-related factors. Emotions have, in the main, been shown to affect information processing in translation, with differently valenced emotions leading to different processing styles. Thus, positive emotions broaden the attention span and foster flexible and creative thinking, whereas negative emotions reduce attention span and promote analytic thinking and specific solving-problem behavior (Lehr and Shuman, 2013; Rojo and Ramos, 2016, 2018).

Emotional valence congruence effects have also been reported to play a role in both the creativity and quality of the translated text. More specifically, the emotional content of the source text and the congruence of the valence of the emotions generated by the text and that of externally elicited emotions – such as those induced by feedback (Rojo and Ramos, 2016), narrative transportation (Naranjo, 2019), music (Naranjo, 2018, 2020) or the translator’s ideological beliefs (Ramos and Rojo, 2014) – have been reported to influence the creativity of the translated text and even the time needed to produce a translation.

Individual and text-related factors may as well mediate emotional effects. Certain personality traits, such as intuition, emotional intelligence, motivation (Hubscher Davidson, 2013a, b, c; 2017) or self-esteem (Cifuentes-Férez and Fenollar-Cortes, 2017; Cifuentes-Férez and Meseguer, 2018) may regulate the emotional impact of text content or externally induced emotions on the translator. Text-related factors, such as the loss of certain rhetorical resources – e.g. metaphorical expressions (Rojo et al., 2014) – or the use of prevalent professional practices – e.g. such as the search for objectivity in audio description (Ramos, 2014) – may diminish the emotional impact on the translation audience.

Most of these studies have focused on externally induced emotions or affective personality traits, but only a few have explored the impact of text-generated emotions. The study introduced in the following section explores how emotions may serve to frame the interpretation of an event and, in turn, affect translation performance. The COVID-19 pandemic has been chosen as a highly emotional event for this purpose. Evidence shows that emotional framing may affect people’s response to a crisis – e.g. Nabi’s (2003: 230) “emotion-as-frame perspective” – and emerging results on the impact of the COVID-19 crisis point to the psychological effects that the crisis is having on students’ mental health – mostly on their level of anxiety and stress – and academic performance (Kuhfeld et al., 2020; Grubic et al., 2020; Odriozola-González et al., 2020).

Based on the existing evidence, the study introduced in the following section uses two different framings of the COVID-19 pandemic – a positive and negative report of the general evolution of the crisis and its academic consequences on Spanish university students – to elicit either positive or negative emotional reactions and explore their effects on translation performance.
4. The study

4.1. Aim and hypotheses

This study explores whether the positive and negative framing of a contextually-relevant crisis, such as the present COVID-19 pandemic, can have an impact on student translators’ emotions, influencing, in turn, their appraisal of the event and choice of translation strategies. For this purpose, the following three hypotheses have been formulated under the framework of the appraisal theories and, more specifically, the interplay between emotions, event framing, people’s attitudes and their use of evaluative language (Martin, 2000; Nabi, 2003; Gross and D’Ambrosio, 2004; An and Gower, 2009; Kim and Cameron, 2011; Aaroe, 2011; Yacoub, 2012; Chiluwa and Ajiboye, 2016):

H1. Different emotional frames of the crisis (i.e., optimistic vs pessimistic) will influence the participants’ appraisal of the event, inclining them to choose translation strategies that will reveal their positive or negative attitudes by either intensifying or mitigating the source text emotional content.

H2. The pessimistic framing of the crisis will increase participants’ levels of self-reported anxiety both after reading and translating the ST, whereas the optimistic framing will decrease anxiety levels.

H3. Participants’ levels of negative affect will increase after the pessimistic framing of the crisis and decrease after the positive framing. In contrast, their positive affect will increase after the optimistic framing and decrease after the pessimistic one.

4.2. Participants

Sixty-nine Spanish translation undergraduate students volunteered to take part in the experiment. They were all first-year students from the Translation and Interpreting Degree at the University of Murcia (Spain). The sample included 9 males and 60 females, with a mean age of 19.04 and an age range of 18–41 years. For the purpose of the experiment, they were randomly distributed into two groups—A (for the optimistic text) and B (for the pessimistic text)—with 35 and 34 participants, respectively. They received some course credit for their participation.

4.3. Materials

Two source texts on the topic of the COVID-19 and its evolution at the time were used, each one raising opposing views (optimistic and pessimistic) about the crisis (see Appendices A and B). They were journalistic texts extracted from English online newspapers and similar in terms of word count (570–572 words). The Flesh-Kincaid readability test also corroborated a similar degree of reading comprehension difficulty (readability scores of 11 and 12 for the optimistic and pessimistic texts, respectively. The scale from 10 to 30 indicates a reading grade level of college graduates). Besides, the level of translation difficulty was checked by asking participants to answer a 7-point Likert scale question at the end of the experiment.

Two psychometric scales were used to test the psychological effects of the task:

(1) The State-Trait Anxiety Inventory (STAI) developed by Spielberger et al. (1983). This inventory measures respondents’ level of anxiety about an event and has been previously used in Translation and Interpreting studies (see Kurz, 1997). The scale contains 20 items for state anxiety to be rated in a 4-point Likert-type format. Higher scores indicate greater anxiety.

(2) The Positive and Negative Affect Schedule (PANAS) designed by Watson et al. (1988). This scale measures the level of positive and negative affect experienced by participants at a given time. It contains two 10-item scales (positive and negative) to be rated on a 5-point Likert.

Following the translation task, participants were presented with two final open-ended questions in which they were to self-assess whether their emotions had changed after reading and after translating the texts.

4.4. Procedure

All participants granted their informed consent according to the protocols approved by the Ethics Committee of the University of Murcia.

The experiment took place during the second week of the Spanish lockdown imposed by Royal Decree due to the COVID-19 pandemic. Given the confinement restrictions, the experiment was conducted from home with no time limit. Participants used their own laptops or computers to carry out the translation task. Access to Internet was allowed throughout the experiment. All materials (texts, test, and questionnaires) and participants’ answers were presented and collected through a Google Form.

Participants were previously informed of the topic of the text, the different parts of the experiment and the procedure to carry out the whole task. They were instructed to complete all the questionnaires following the instructions provided and to
translate the text. STAI and PANAS were completed at three different points in time: before the task, after reading the ST and after translating it. After completion of the task, the 69 resulting target texts were analyzed for instances of emotional “gradation” following Martin and White’s (2005) appraisal framework.

Appraisal theory aims at unveiling speakers’ covert attitudes towards their reality through the analysis of the lexicogrammatical structures used in their textual productions. The appraisal framework organizes evaluation in three main semantic systems or domains: engagement, attitude and gradation. Engagement determines the speaker’s degree of commitment in relation to the appraisal expressed and uses resources such as projection, modality, polarity, concession and comment adverbials. Attitude comprises the semantic resources for construing emotions. It has three semantic areas: affect — which is the basic, central one —, judgement and appreciation. The gradation level covers “grading phenomena whereby feelings are amplified and categories blurred” (Martin and White, 2005: 35). It envisages linguistic mechanisms by which speakers “raise” or “lower” the “force” of their utterances (e.g. slightly, somewhat, completely) and “sharpen” or “soften” the “focus” of semantic categories (e.g. pure joy, a true friend, sort of).

For ease of operationalization and testing, our analysis focused on the notion of gradation. As the optimistic and pessimistic attitudes towards the COVID19 crisis in our source texts were mainly reflected in the use of evaluative language, the grading category of this framework allowed to detect instances of intensification and attenuation in target texts. Two main parameters were, thus, included in our analysis: emotional emphasis and emotional attenuation. Emotional emphasis included instances where translator trainees raised the force (e.g. ST That’s a good thing – TT Es una gran noticia [Eng. It is great news]) or sharpened the focus (e.g. ST Some students have prosaic concerns - TT Les invaden miles de preocupaciones [Eng. They are overwhelmed by thousand concerns]) of ST utterances. Emotional attenuation accounts for instances where ST force or focus were lowered (e.g. ST Efforts can be successful - TT Esfuerzos que es posible que tengan éxito [Eng. Efforts that may be successful]) or softened (e.g. ST who is concerned remote classes will leave her ill prepared - TT que esté preocupada por si las clases a distancia la prepararán bien [Eng. who is concerned whether remote classes will prepare her well]). A score was assigned to each parameter according to the total number of occurrences found in target texts.

4.5. Design and statistical analysis

Statistical analysis was conducted using SPSS, version 20.0. To determine the effects and interaction of ST emotional content (optimistic vs. pessimistic) on participants’ levels of anxiety (STAI), positive and negative affect (PANAS) and use of translation strategies (EMPHASIS and ATTENUATION), two-way ANOVA tests were performed, with repeated measures for the PANAS and STAI scores. In all analyses, partial eta squared effect sizes were calculated and the significance level was set at p < 0.05. Between-subject comparisons were carried out to test the effects of the two emotional frames (GROUP as independent variable) on the scores on PANAS and STAI and on the use of EMPHASIS and ATTENUATION as dependent variables. Within-subject comparisons were also run to test the effects of subtask (here labeled as time for convenience of analysis and reference) as independent variable (POST-READING vs. POST-TRANSLATION) on participants’ scores on PANAS and STAI as dependent variables. Effect sizes for ANOVA were calculated using partial eta squared.

4.6. Results

4.6.1. Effect of ST different evaluative attitudes (optimistic vs. pessimistic) on attenuation and intensification translation strategies

Hypothesis 1 stated that different emotional frames of the crisis (i.e., optimistic vs pessimistic) will lead to differences in the participants’ interpretation of the event and, consequently, in their choice of translation strategies (i.e., emphasis vs. attenuation). Table 1 shows the results of the statistical analysis performed to compare emotional emphasis and attenuation in both groups. The data reveal that the difference between the two translation strategies (emphasis and attenuation) was statistically significant, with emphasis scores being significantly higher than attenuation scores, regardless of the group (p < 0.001). Moreover, there was a significant effect of the interaction between text and group, which indicates that the tendency to use emphasizing vs. attenuating strategies differed depending on the group (Fig. 1). Average scores for both emphasis and attenuation were significantly higher in group B (i.e., pessimistic text) than in group A (optimistic text) (p < 0.001).

Table 1

| Design          | Translation strategy | Within- and across-group comparisons |
|-----------------|----------------------|---------------------------------------|
|                 | Emphasis            | Attenuation                           | Group x Strategy |
|                 | Mean (SD)           | Mean (SD)                             | F (1;67)         | p-value (etα²) | F (1;67) | p-value (etα²) |
| Group           |                      |                                       |                  |               |          |               |
| Group A         | 1.06 (1.14)         | 0.26 (0.56)                           | 44.64            | <0.001 (0.4)  | 7.50     | 0.008 (0.101) |
| Group B         | 3.03 (2.22)         | 1.12 (1.12)                           |                  |               |          |               |
| Total           | 2.03 (2.01)         | 0.68 (0.98)                           |                  |               |          |               |

etα²: Partial eta squared (effect size).
4.6.2. Effect of ST evaluative attitude on participants’ levels of anxiety

Prior to testing hypotheses 2 and 3, initial levels of affect (PANAS) and anxiety (STAI) of the two groups were checked for homogeneity. In Table 2 descriptive and inferential statistics of basal measures are shown. Since baseline scores for both groups did not differ at a statistically significant level, the groups were similar in terms of pre-intervention levels of anxiety and affect.

Table 2
Descriptive and inferential statistics for basal measures groups A and B.

| GROUPS, mean (SD) | STAI | PANAS P | PANAS N |
|-------------------|------|---------|---------|
| A_OPTIMISTIC      | 30.86 (10.26) | 25 (4.76) | 26.26 (6.63) |
| B_PESSIMISTIC     | 29.24 (11.35) | 25.06 (7.60) | 25.06 (7.60) |

Student t-test

|            | t(67) | p-value |
|------------|-------|---------|
| STAI       | 0.623 | 0.535   |
| PANAS P    | -0.039| 0.969   |
| PANAS N    | 0.698 | 0.487   |

Our hypothesis 2 predicted differences in participants’ levels of anxiety after reading and translating the optimistic vs. the pessimistic text. Table 3 shows the STAI scores at three different points in time: before the task, after reading the ST and after translating it. For reading, the results reveal that the time effect was statistically significant, indicating that anxiety increased significantly after reading, regardless of the group (p < 0.001). No significant results were, however, found after translating (p < 0.758).

There was also a significant effect of the group and time interaction, which indicates that the change on the STAI scores from baseline to post-reading depended on the group (Fig. 2). Whereas in group A (optimistic text) scores did not show statistically significant changes (p = 0.065), in group B (pessimistic text) scores increased significantly (p < 0.001). Results reveal that STAI scores for students in group A were significantly lower after reading with respect to group B (p = 0.010).
For translation, results show that the time effect was not statistically significant, indicating that anxiety scores did not change after translation, regardless of the group \((p = 0.758)\). In contrast, there was a significant effect of the group and time interaction, which points to differences in STAI scores from baseline to post-translation, depending on the group (Fig. 2). Whereas in group A mean values decreased \((p = 0.003)\), in group B STAI scores increased significantly \((p = 0.010)\). In the intergroup comparison, STAI levels after translation in group A were significantly lower than in group B \((p = 0.017)\).

Table 3
Descriptive and inferential statistics for STAI scores in groups A and B. Comparison between baseline and post-task measures.

| Design          | Measures          | Baseline | Post | Within- and across-group effects | Time | Group*Time | F (1;67) | p-value (eta2) | F (1;67) | p-value (eta2) |
|-----------------|-------------------|----------|------|----------------------------------|------|------------|----------|----------------|----------|----------------|
|                 |                   | Mean (SD) | Mean (SD) |                                | F (1;67) | p-value (eta2) | F (1;67) | p-value (eta2) |
| **STAI Reading** |                   |           |       |                                  |       |             |          |                |          |                |
| Group A         |                   | 30.86 (10.26) | 29.14 (9.69) | 12.68  | 0.001 (0.159) | 38.35 | <0.001 (0.364) |
| Group B         |                   | 29.24 (11.35) | 35.59 (10.39) |       |             |          |                |
| Total           |                   | 30.06 (10.76) | 32.32 (10.48) |       |             |          |                |
| **STAI_Translation** |               | 30.86 (10.26) | 26.71 (9.11) | 0.10   | 0.758 (0.001) | 16.66 | <0.001 (0.199) |
| Group A         |                   | 29.24 (11.35) | 32.79 (11.40) |       |             |          |                |
| Group B         |                   | 30.06 (10.76) | 29.71 (10.68) |       |             |          |                |

\(\text{eta}^2\): Partial eta squared (effect size).

Additional comparisons were also performed in order to test differences in the participants’ anxiety levels between reading and translating. In Table 4 we show descriptive and inferential statistics of post-reading and post-translating STAI scores in both groups. Results point to a statistically significant effect of reading vs. translating, with post-reading STAI scores being significantly higher than post-translating scores, regardless of the group \((p < 0.001)\). Interaction between group and task (reading vs. translating) was not statistically significant, which means the group—and, therefore, the type of text (optimistic vs. pessimistic)—did not have an influence on post-reading vs. post-translating STAI values (Fig. 3).

Table 4
Descriptive and inferential statistics for STAI scores in groups A and B. Comparison between post-reading and post-translating measures.

| Design | STAI | POST READ | POST TRA | Within- and across- group effects | Reading vs. translating | Group*Reading vs. translating |
|--------|------|-----------|----------|----------------------------------|-------------------------|-------------------------------|
|        |      | Mean (SD) | Mean (SD) | F (1;67) | p-value (eta2) | F (1;67) | p-value (eta2) |
| Group  |      |           |          |          |              |          |                |
| Group A |      | 29.14 (9.69) | 26.71 (9.11) | 9.88 | 0.002 (0.129) | 0.05 | 0.827 (0.001) |
| Group B |      | 35.59 (10.39) | 32.79 (11.40) |          |             |          |                |
| Total   |      | 32.32 (10.48) | 29.71 (10.68) |          |             |          |                |

\(\text{eta}^2\): Partial eta squared (effect size).

Fig. 3. Comparison between post-reading and post-translation STAI scores.
4.6.3. Effect of ST evaluative attitudes on participants’ positive and negative affect

Hypothesis 3 predicted differences in the participants’ levels of affect induced by the framing of the crisis, with levels of negative affect increasing after reading the pessimistic text and decreasing after the optimistic one. In contrast, positive affect was expected to increase after the optimistic framing and decrease after the pessimistic one. Results for the PANAS test are shown in Table 5 below. For positive affect, data show that the time effect was not statistically significant, indicating that affect scores did not change after reading, regardless of the group (p = 0.117). The interaction between group and time was not statistically significant either, which indicates that pre- and post-reading measures for affect did not change in relation to the group (p = 0.135) (Fig. 4). Our hypothesis was, thus, not corroborated for positive affect.

For negative affect, results reveal that the time effect was not statistically significant, which means that negative affect scores did not change after reading, regardless of the group (p = 0.151). However, data indicate a significant effect in the interaction between group and time (Fig. 4) with baseline and post-reading measures significantly decreasing with the optimistic framing (group A p < 0.001) and increasing with the pessimistic framing (group B p = 0.012). Moreover, negative affect after reading was significantly higher in group B than in group A (p = 0.021). Our hypothesis was, thus, corroborated for negative affect.

5. Discussion and conclusions

This work has attempted to examine whether ST positive and negative attitudes toward the COVID-19 crisis could have an influence on translators’ emotional state and performance. For this purpose, we measured levels of anxiety (STAI scale), positive and negative affect (PANAS) as well as the use of translation strategies to emphasize or attenuate ST evaluative attitudes.

When testing the effect of the ST evaluative attitude on the students’ use of strategies, statistically significant differences were found between the two different groups, as predicted in hypothesis 1. Higher scores were in fact obtained for emotional emphasis in the pessimistic vs the optimistic text. This may be explained by previous literature revealing that people’s...
attitudes and their use of evaluative language are vulnerable to the prevailing frames, especially those fostered by mass media in times of crisis (Martin, 2000; An and Gower, 2009; Chiluwa and Ajiboye, 2016). Assuming, therefore, that when this experiment was carried out, the general public’s attitude toward the COVID-19 crisis was mainly pessimistic due to the negative impact of the crisis on their lives and the negative framing of mass media, participants intensified the pessimistic attitude to a greater degree because the attitudes portrayed aligned with the predominant public opinion at the time of translating.

Mean scores for emotional attenuation were also higher for the pessimistic text than the optimistic one. The pessimistic text seems to have led to greater alteration in evaluative language in general, either by intensifying or attenuating the ST emotional content. Differences in the psychometric scores between the two groups of participants may shed some light on this result, since, as predicted in hypotheses 2 and 3, both anxiety and negative affect were higher in the group translating the pessimistic text (group B). Whereas anxiety levels increased from baseline to after-reading and translation in group B, no pre- and post-reading differences were found in group A. Moreover, even though no differences were found in terms of positive affect in either of the groups, negative affect decreased in group A and increased in group B, with the latter also scoring significantly higher than the former. It is possible, then, that a higher emotional impact in terms of anxiety and negative affect in group B led translators to modify more instances of the ST evaluative language, mostly intensifying the negative content. Our results seem to coincide with conclusions drawn from previous studies about the influence of frames on people's attitudes and emotional response (Nabi, 2003; Gross and D'Ambrosio, 2004; Kim and Cameron, 2011; Aaroe, 2011; Yacoub, 2012).

When looking at both groups separately, an emphasizing approach was significantly more frequently adopted than an attenuating one. There is the possibility that translation students, in an effort to accommodate to the ST context and evaluative attitude, adjusted their translation behavior to promote the attitudes reflected in the STs. Alternatively, it is also possible that the prevalent influence of the current world crisis context led them to put emphasis on any crisis-related aspect, independently of whether the approach to the issue reflected a positive or negative attitude.

Additionally, differences were observed between post-reading and post-translation STAI values with both groups scoring higher before than after translating. These results are coherent with psychophysiology findings suggesting that when attentional demands are high, task performance takes precedence over anxiety-related cognitive processing (Vytal et al., 2012). When reading the ST, even if some translation processes are already started to be activated (Jakobsen and Jensen, 2008; Alves et al., 2009), students are still mainly focused on comprehension, and their emotional response is likely to be influenced by the framing of the crisis. However, when immersed in the translation task, subjects engage in a difficult and high-performance task that occupies executive resources (de Groot, 2000), and may consequently lower their levels of anxiety and negative affect. When translating, participants are no longer exclusively focused on the ST meaning, but are also highly concentrated on performing well at the task. Nevertheless, we need to bear in mind that participants were asked to answer the STAI test before and after the translation task, but no effects were measured during translation. Therefore, the differences between the post-reading and post-translation scores may have also been influenced by anticipation and resolution feelings associated to the task rather than the ST content itself. The anxiety and negative affect feelings arisen after reading the ST and before translating may have been partly promoted by the uncertainty about the difficulty of the task. Once the translation was completed and the task resolved, feelings of relaxation and probably also of accomplishment and even satisfaction with their performance may have replaced or eased their initial anxiety.

Despite these additional feelings that may also explain the post-reading and translation differences, our results suggest that the negative attitudes portrayed in the pessimistic text about the COVID-19 crisis had an impact on the participants' psychological state, leading them to alter the intensity of ST evaluative language in their translations. However, these results are still preliminary and further experiments would be necessary to corroborate them. Firstly, the positive and negative emotional content of the texts labeled here as 'pessimistic' and 'optimistic' should be validated a priori. This could be done by conducting norming studies using sentiment analysis automatic tools and surveys in which participants are instructed to tag emotions and rate the emotional intensity of a pool of texts to ensure maximum potential of emotional inducement. To minimize the subjectivity in participants’ answers, psychometric tests can also be complemented and triangulated with measures of heart rate variability and galvanic skin conductance to assess emotional arousal during the translation and reading tasks. Furthermore, a more detailed analysis of alterations of evaluative language found in translations could be useful to detect possible patterns; for example, specific instances of the ST that have been more frequently intensified or attenuated and the reasons for this behavior. It is possible that identification and empathy with some of the situations and characters portrayed in the text could have played a role during translation, as participants were experiencing first-hand some of the informed events at that time.

The influence of source texts as emotional stimuli in translation is worth examining further. Participants' emotional involvement with the text seems to have led to substantial changes in their emotional intensity through alterations of evaluative language. The use of a historically relevant context, such as the current COVID-19 pandemic may have been crucial to actually cause an emotional impact in participants. The psychological effects of such an unprecedented and devastating crisis have only started to be determined. Awareness of the emotional repercussions of translating sensitive texts in times of crisis is important to minimize psychological harm and ensure efficiency in translation performance.

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Conflicts of interest

The authors declare none.

Appendix A. Optimistic source text

As coronavirus pandemic continues to spread, big pharma’s fight is finally giving some hope
Is there any good news about the coronavirus pandemic? Will we manage to turn things around?
In the midst of the fear, worry, and uncertainty surrounding the coronavirus pandemic, there are also some good news.
“The best case is that the virus mutates and actually dies out”, said Dr. Larry Brilliant, an epidemiologist who as a young doctor was part of the fight to eradicate smallpox. “Only in movies do viruses seem to become worse” — he explained.
The cause for concern is justified. But, as in most major disasters and public health threats, there are reasons for hope and optimism. They may be hard to see, even if you’re a “cup-half-full” or “it could always be worse” type of person. But they are there. Here are a few:

- Vaccine development: An experimental vaccine developed by Moderna Inc. began the first stage of a clinical trial on Monday, with testing on 45 healthy adults in Seattle. Different drugmakers are involved in different ways in these efforts. Lilly’s Daniel Skovronsky said that his company is working with the state of Indiana to accelerate testing in the state and is piloting drive-through testing centers. Clement Lewin with Sanofi noted that the big drugmaker is evaluating Kevzara, a drug already approved for treating rheumatoid arthritis, as a potential treatment for pneumonia caused by COVID-19. Several pharmaceutical companies are developing new antiviral therapies to target COVID-19. For example, Takeda’s Julie Kim highlighted the work her company is doing to research a hyperimmune drug that could provide protection against coronavirus infection.
- Most people with COVID-19 recover. Estimates now suggest that 99% of people infected with the COVID-19 virus will recover. Some people have no symptoms at all. And while thousands of people have died, the overall death rate is about 1% (or perhaps even lower).
- The number of new cases is falling where the outbreak began. While actual numbers are hard to verify, if the number of new cases in China is truly declining, that’s a good thing and suggests that efforts to contain the spread of this infection can be successful.
- Social media. We currently have ways to practice social distancing that preserve some social and medical connections. People in isolation or quarantine can ask for help, visit friends, “see” family and doctors virtually, and provide updates on their condition.
- Online learning. There are many reasons why a student may not want or be able to attend class. The first and most obvious advantage of online education is that it does not require physical attendance: all you need is an Internet connection and you can participate in courses from an institution based on the other side of the world without leaving your room. Learning from home is not just about not moving: the beauty of it is that you can log in to your online course at any time of the day and take all the time you need to review concepts you are struggling to understand. Your schedule is your own: forget waking up early to go to class, missing vital lessons due to your work shifts, and meeting strict assignment deadlines. Most online courses are self-paced, meaning that they lack a class timetable and can last as long as each individual student needs, regardless of any obstacles standing in the way of their education and even disregarding time zones.

Appendix B. Pessimistic source text

As Spain coronavirus death toll passes 1,000, university students fear for their future
Universities are moving online, but how do you develop your oral skills in a foreign language by videoconference? What happens when jobs dry up? Will anyone get to walk the stage come graduation day?
Spain coronavirus death toll passes 1000. A total of 1093 people have died in Spain after testing positive for coronavirus, officials have confirmed. It has become the fourth-hardest hit in the world. It comes after Prime Minister Pedro Sánchez ordered the closure of all hotels and announced implementation of special measures in nursing homes, following the surge of confirmed cases.
Spain is currently under a nationwide lockdown, with people ordered to stay at home unless they have to buy food or medicine, or go to work or hospital. The first of three stages of emergency — a ‘state of alert’ — mobilised the military and gave the government wide-ranging powers, including the ability to confine people and order evacuations. Classes are moving online. Students are moving out. Graduation ceremonies may be canceled.
THREE children have already been infected with coronavirus in Spain. A four-year-old girl from Madrid tested positive after her father returned from Italy. Dozens of colleges announced last week they would extend spring break and move courses online in reaction to the COVID-19 pandemic now forcing entire European cities into partial lockdowns.
The changes wrought by the novel coronavirus for students at colleges and universities won't be fully known for months. But the outbreak has already thrown students into a state of anxious uncertainty as they grapple with a college experience now confined to laptops or rapidly emptying campuses.

Students are wondering what will happen to their jobs, whether they will get refunds for campus accoutrements they'll no longer use, and what remote classes will look like in equipment-heavy fields like art and chemistry.

"I've been trying to keep myself calm and just worry about things that I can control," said Alicia Ruiz, a senior at the University of Murcia, who is concerned remote classes will leave her ill prepared for graduate school. Alicia is disappointed: a conference she spent all semester planning has been cancelled, and said she'll miss in-person interactions with professors she wanted to ask for letters of recommendation. Most of all, Alicia hopes the virus won't rob her of the chance to walk in University's commencement — a dream her mother held before she died. "It's really heartbreaking," Alicia said. She is also worried about infecting her grandmother, with whom she lives.

At some universities, students are leaving, dormitories are shuttering and professors are quickly cobbled together virtual classes. "It's very weird to think that Thursday when I was on campus to go to class … could very well be the last time I am on campus as a student," said the student Antonio López. "Since we won't be able to use these services for the second half of the semester, then the uni should refund students," López said.

With final exams coming closer and on the prospect of having to take them online too, some students have prosaic concerns about their professors' technological capabilities, the glitches and awkwardness that can accompany video conferencing with groups as well as the possibility of technical breakdowns while tests take place. Juan Antonio López noted one of her professors looked stressed in class on Thursday, saying "I don't know how this is going to work."

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