Study on Emotions' Impact on Simultaneous Interpreting

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Abstract
The purpose of this study is to explore the interpreter's rendition during the interpretation of emotionally-charged content. In fact, the focus of the research is: What happens if the appraisal of an emotionally stressful experience increases psychological arousal in simultaneous interpreting? On the basis of this idea, I have carried out a pilot study and successively an experiment on 10 simultaneous interpreting students using an emotionally-charged video, the content of which relates to the Holocaust. After having analysed the results of the students' renditions, I have observed that during particularly emotional passages of the video almost all subjects tended to modulate their voices, and I therefore began investigating some of the paralinguistic elements, particularly prosody and pauses, in order to understand whether those elements were related to the video's content.

Keywords: Simultaneous Interpreting, Emotions, Psychology, Emotional Cognitive Activation, Verbal and Non-verbal Features of Communication

1. Introduction

This article is an adaptation of my Master's Degree Research Thesis, which was dedicated on the study emotions' impact on simultaneous interpreting. When performing the simultaneous interpretation of emotionally-charged content, interpreters may incorporate paralinguistic elements into their renditions that were not present in the original speech.

Simultaneous interpreting inherently carries emotional elements due to its immediacy and the multitude of variables to which it is susceptible. On the other hand, translation can be characterised as a more analytical process. Based on this premise, the aim of this research is to explore the challenges that conference interpreters may face during their work, especially when dealing with emotionally-charged scenarios, and to examine the coping strategies they employ.

Existing literature has highlighted the various difficulties interpreters encounter in their profession, predominantly linked to cognitive load. Specifically, the process of simultaneous interpretation can be segmented into four stages: the initial reception of a message in the source language, its processing (decoding), subsequent reprocessing (recoding), and the production in the target language (Falbo, Russo, Straniero, 1999: 162). Throughout this process, short-term and long-term memory play a pivotal role by facilitating the integration of linguistic knowledge from the incoming message with the interpreter's pre-existing knowledge (*ibid.*: 163).

Simultaneous interpretation can be seen as a distinctive, communicative process, unnatural, purpose-constructed, and somewhat artificial. This arises from the interpreter simultaneously embodying the roles of listener and message producer (*ibid.:* 163). Consequently, my decision to explore this subject extends beyond a purely linguistic perspective. I have extended my research on the paralinguistic dimensions of simultaneous interpreting. Furthermore, my exploration covered emotions, cognitive approaches to emotions, as well as the concepts of psychological arousal, appraisal, and coping. This foundational understanding enabled the formulation of a robust methodology, as well as the selection of assessment instruments to explore the outcomes. This article encapsulates the essence of my thesis, and I have personally translated all quoted material into English.

2. Literature Review

2.1 Paralinguistic Features in Simultaneous Interpretation

Communication is a complex activity that involves both verbal and non-verbal elements. It plays a pivotal role not only in the transmission of verbal content, but also in conveying emotions. Anolli (2012) defines emotional speech as the manifestation of the speaker's emotions at the time of enunciation. The author describes non-verbal communication as a set of communicative processes and phenomena such as the prosodic and paralinguistic qualities of the voice, facial expressions, gestures, gaze, proxemics and haptics, chronemics, posture, clothing and makeup (p.155-156). These phenomena occur more spontaneously than verbal elements, which can be manipulated voluntarily. By encoding emotions through vocal cues, the non-verbal channel conveys the speaker's emotional states, irrespective of the verbal content of the utterance. The decoding phase, on the other hand, concerns the listener's ability to recognise a given emotion expressed through suprasegmental channels. During phonation, the suprasegmental canal runs parallel to the segmental plane, organising the intonation of the

speech (Lombardi Vallauri, 2010: 129). Poggi and Magno Caldognetto (2003) explained that, when expressing an emotion, there are many factors to consider, for example the purpose of its manifestation, the personal traits of the speaker, as well as the cognitive and personal traits of the interlocutor. According to Wierzbicka (2004), the vocabulary of emotions differs from one language to another. This implies that speakers of each language possess their own set of concepts for interpreting their own and others' feelings, specific to that language (p. 94).

Conference interpreters find themselves restricted in conveying the speaker's emotional nuances only through their vocal modulations, mostly due to their workspace in booths. In certain cases, even their visual access to the speaker is limited. Barbara Ahrens (2002) outlines the interpreter's paralinguistic communication is limited to prosodic elements and other aspects like intonation, emphasis, and pauses. This limitation arises from their spatial isolation within the booth, where their awareness of the audience is perceived solely through headphones (p. 38). Hence, when confronted with a discourse rich in non-verbal features, the interpreter strives to utilise their available tools to faithfully convey the speaker's message. This effort goes beyond mere lexical choices, as words inadequately replace the intricate interplay of verbal and non-verbal elements. Consequently, the interpreter can employ hesitations, silences, ironic laughter, syllable elongation, tremulous voice, and high-pitched inflections (*ibid*. 38). Numerous studies have explored the significance of paralinguistic components within communication. Elements such as facial mimicry, proxemics, and prosody play pivotal roles in precisely conveying messages. Pöchhacker (1994) argues that the speaker's discourse during simultaneous interpretation can be characterised as a multi-faceted process. This is due to the source text's message encompassing not only verbal content but also paralinguistic, non-verbal constituents, and visual materials (p. 99). All these elements are integrated to form a fundamental part of the original message, thereby serving as indispensable reference points for the interpreter tasked with decoding the message's essence.

Another aspect to consider is the immediacy of simultaneous interpretation. The speaker's message is presented in real-time, requiring the interpreter to skillfully grasp not only the linguistic features but also the paralinguistic elements inherent to the speaker's culture. Consequently, when paralinguistic facets come into play during simultaneous interpretation, a two-level scenario emerges. On one hand, the speakers deliver their message, using both verbal and non-verbal channels to effectively convey it. On the other hand, the interpreter occupies a completely distinct position in relation to the speaker's message. The interpreted speech should mirror the spontaneous articulation typical of monolingual discourse. Nevertheless, several factors influence the interpreter's production. As articulated by Shlesinger (1994), simultaneous interpretation possesses unique attributes not found in other forms of language (p. 226). Various characteristics of the source speech can pose significant challenges for the interpreter. These includes the persistent presence of the source text, the intricacy of the subject matter, the speaking rate, the speaker who may read the speech from a written text, an atypical accent. These challenges can result in the interpreter experiencing false starts, hesitations, and prolonged pauses (Ahrens, 2002: 39). Another phenomenon arising in the target speech involves phonological interference. Nevertheless, the target speech maintains an inherent link to the source speech due to their interrelation: the target speech is shaped by the source speech.

2.2 Emotional Cognitive Activation

The word "Emotion" derives from the Latin word "EMOVERE," signifying "to move out, remove, agitate."

In the 1960s, the landscape of emotion research underwent a transformative shift with the rise of cognitive approaches that sought to comprehend emotions from an innovative perspective. Schachter and Singer's Cognitive Arousal Theory stated that the interpretation of an event determines the experienced emotions. Weiner's Attribution Theory proposed that individuals attribute their emotional states to both internal and external factors, thereby shaping future behaviours and coping strategies. Lazarus' Cognitive Appraisal Theory of Emotion accentuated the role of personal goals, values, and beliefs in evaluating the significance of an event in order to elicit emotional responses.

Similarly, Goleman's work on primary and secondary emotions introduced the concept of emotional intelligence. Exploring non-verbal cues, the Facial Feedback Hypothesis, developed by Ekman, Levenson, and Friesen, suggested that altering facial expressions could potentially regulate emotional states. Frijda's Appraisal Theories proposed that emotions emerge from cognitive evaluations of an event's relevance, congruence, and implications for one's objectives. Scherer's Sequential Appraisal Model proposed a rapid sequence of cognitive assessments when confronting stimuli, encompassing the event's relevance, implications for well-being, available coping strategies, and one's capacity to implement them. Coping strategies could be primary or secondary, addressing stressors directly and managing emotional reactions.

These theories are pivotal in understanding emotional cognitive activation from a broader perspective. Concerning emotional cognitive activation in relation to work performance, Yerkes and Dodson's Law represented a pioneering effort to study the relationship between psychological arousal and performance (Eysenck, 1982). Easterbrook's theory emphasizes the role of appraisal in prioritizing information during emotional episodes. Broadbent's model highlights cognitive processes in emotion regulation, and Eysenck's theory establishes links between personality traits and levels of psychological arousal. Ultimately, Kahneman's Dual Process Theory highlights coping mechanisms that combine intuitive approaches with analytical reasoning. These theories underscore psychological arousal's importance, the appraisal's role in evaluating situations, and performance-linked coping strategies.

Conference interpreters work under conditions that psychologists consider stress-inducing. These conditions result from continuous information load, time pressure, heightened concentration demands, fatigue, and confined booth spaces. Multiple studies affirm that the performance of simultaneous interpretation carries numerous stress factors (Kurtz, 2003). Gile (1988) crafted the Effort Model based on cognitive psychology, proposing interpreters manage substantial cognitive load, especially during non-automatic tasks, like simultaneous interpretation, categorized as "efforts." Gile (1988) identifies three key efforts: listening and analysis, short-term memory usage, and target language production. To maintain equilibrium, interpreters must effectively manage their available cognitive resources (Falbo, Russo, Straniero, 1999: 166).

However, beyond cognitive demands, interpreters necessitate emotional stability and adept coping skills to navigate stressful situations and tolerate ambiguity. The intricate challenges of simultaneous interpretation are influenced by diverse factors, including task complexity and covered topic. Emotional topics can be particularly demanding. Interpreters should employ strategies such as enhancing their self-esteem and empathy to cope effectively. While interpreters possess unique linguistic mastery, they must balance emotional involvement to maintain professional impartiality. Otherwise, they could face the risk of emotional contagion. Hatfield suggests interpreters may mirror the speaker's expressions, leading to

emotional engagement (Hatfield, 1994). Napier notes that interpreter performance is influenced by both cognitive and personality factors, with personality playing a pivotal role alongside skills and motivation (Bontempo, Napier, 2017).

3. Methodology

My research aims to analyse the impact of emotions on simultaneous interpreting. To achieve this objective, ten Master's Degree students performed the simultaneous interpretation of an emotionally-charged video.

The selected video, titled "Holocaust Survivor Watched Her Mother Being Shot," has a duration of 13 minutes and 55 seconds, featuring an interview conducted by Sky News. The interviewee, Hannah Lewis, a Holocaust survivor from Poland who resettled in England after enduring the harrowing ordeal of life in a concentration camp, speaks with a British accent. Consequently, the entire video is presented in British English, with intermittent references to other languages (Polish and German) limited to the nomenclature of concentration camps, cities, and Nazi units.

Throughout the video, the speaker maintains a relatively consistent tone and moderate pace. Despite being an interview, the video provides a subjective account by the speaker and is predominantly characterised by brief flashbacks that recount her life before deportation up to the final moments spent in the concentration camp. As a result, the video lacks technical and specific language but it is marked by strong emotional content. Notably, from around minute 09:55:00 to minute 11:10:00, the speaker recounts a particularly poignant episode: during her childhood, she witnessed the killing of her mother by Nazi soldiers and saw her mother's body fall onto the snow. She further narrates that, despite the horror of the situation she found herself in, she could not scream because otherwise they would have killed her.

3.1 Participants

The first participant in the research, who conducted the exercise as a pilot study, is a native Italian speaker and a final-year student in the Master's programme in Interpreting and Translation. She attended the course in simultaneous interpretation from Italian to English (IT-EN-IT) and is 23 years old.

Regarding the participants chosen to perform the simultaneous interpretation of the video, ten female students who are native Italian speakers and are in their final year of the Master's programme in Interpreting and Translation, specialising in Interpretation, were selected. They attended the course in simultaneous interpretation from Italian to English (IT-EN-IT). Their ages range from around 22 to 26 years old. These participants showed greater familiarity with the English language and performing simultaneous interpretation. This is particularly crucial for my research, as comprehension is a necessary factor in analysing their interpretive performance.

3.2. Procedure

The research work was conducted in two phases: the first involved presenting the video, and the second involved administering the questionnaire. Initially, I conducted a pilot study of the simultaneous interpretation exercise with a student who then completed the questionnaire. I did not provide any indications about the video's content or any potentially complex parts or

words of the speech. Upon analysing the simultaneous interpretation, I observed that the student had omitted various parts of the speech, possibly due to not having received information about the video's content. Consequently, I decided to offer a brief introduction to the video's content before presenting it to the students.

After contacting the students, I arranged for them to meet at the university in a room equipped with interpreting booths to ensure that the exercise would take place without sound interference. I communicated with the participants and scheduled a day for their participation, forming groups based on availability and the number of booths in the room. The first group consisted of 5 students, the second group of 2 students, the third group of 2 students, and the fourth group of a single student. Before beginning the video playback, I ensured that the booth equipment was functional, and that the video's audio was clear. Subsequently, I explained to each group that the video was in English and, since they were all native Italian speakers, their interpretation would be passive, from English to Italian. I also clarified that the video's theme was the Holocaust, and the interview took place on Holocaust Remembrance Day. Furthermore, I mentioned that the speaker was a survivor of Polish origin but spoke English fluently due to her relocation to England. The video also featured two interviewers who required to be translated. I then asked the students to record their simultaneous interpretation using their mobile phones and send it to me via email.

Once the video concluded, without providing additional information, I waited for the students to exit the booths and distributed the questionnaire that I had printed on sheets for them to complete independently. After the exercise was completed, some students shared their performance experiences and emotions while conducting the simultaneous interpretation of the video.

3.3 Assessment Instruments

When evaluating how simultaneous interpretation is affected by emotionally stressful situations for interpreters, my comprehensive analysis of the recordings aimed to examine interpretive performance aspects crucial for my research. As Barbara Ahrens (2002) illustrates, various factors can pose challenges for interpreters, immediately impacting their interpretive output (p. 39). Ahrens further explains that the human voice is highly sensitive to stress and relaxation, and since simultaneous interpretation is demanding, it inherently involves a certain level of tension and stress. A speaker who is very nervous and stressed can induce significant tension in the interpreter, even when working in their native language (p. 40).

Among the various paralinguistic aspects, I examined the most common ones found in the recordings, particularly those related to the emotional sphere. These aspects include voice volume and tone, pauses, and omissions. Ahrens suggests that pauses can reflect hesitation, as the interpreters may pause analyse before continuing their interpretive output (*ibid*.: 41). Regarding omissions, Viezzi (2002) asserts that a certain amount of information loss is inevitable in interpretation, and this does not necessarily hinder communication (p. 148). However, given the emotionally-charged nature of the topic, it is important to assess whether any omissions in the recordings are linked to comprehension challenges, speaking speed, or emotional factors. To better understand these elements, I developed a questionnaire based on the COPE (Coping Orientation to the Problems Experienced) questionnaire to delve deeper into the analysis. Through this approach, I aimed to comprehensively explore the

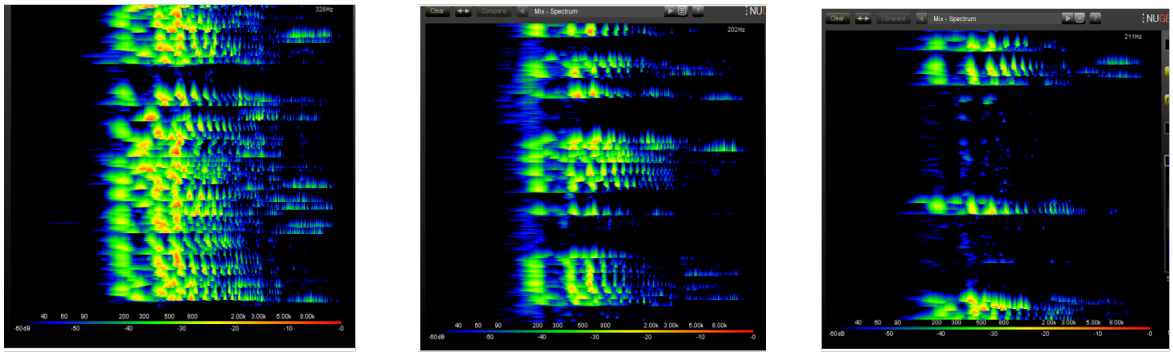
paralinguistic features of the interpretive performances and to discern how emotional stress might impact the interpreter's output.

For vocal frequency analysis, I utilised a program called REAPER. REAPER is a comprehensive digital audio production application for computers, providing multi-track audio tools for recording, editing, processing, mixing, and mastering. Supporting various hardware, digital formats, and plugins, REAPER functions as a digital audio workstation (DAW), facilitating composing, producing, recording, mixing, and editing of audio music, vocals, and sound effects. DAWs aid in mixing multiple sound sources (tracks) on a timeline grid. The program allows for the analysis of sound waves to determine the dynamic changes in the voice at a specific point during simultaneous interpretation recordings.

For spectrographical analysis, I employed a plugin named VST3: NUGEN Visualizer2 (NUGEN AUDIO). This program enables vocal frequency analysis through spectrogram readings. A spectrogram graphically represents sound, based on sound measurements concerning frequency (Hz) on the vertical axis and time (t) on the horizontal axis. Different shaded (from blue to red) represent frequency and sound amplitude. To analyse vocal frequency and establish references, I examined the fundamental frequency (F0) on the spectrogram of the analysed segments. Ahrens (2002) emphasizes the importance of prosodic features of intonation, which are crucial for constructing and organising communicative interaction (Ahrens, 2002). Vassière (2005) asserts that while intonation varies across languages, the F0 pattern follows a common model (p. 247). Different patterns convey different meanings, such as F0 increases indicating the start of a unit (e.g., statement) and F0 decreases indicating its end.

During initial recordings analysis, a decrease in vocal frequency was identified in certain parts of the speech. However, the spectrogram analysis revealed frequency variation in specific segments. I chose to analyse three distinct speech segments at three different moments to determine if and how the vocal frequency changes occurred, forming a vocal frequency curve for later comparison. The first segment spans from minute 00:00:00 to minute 00:12:00, encompassing introductions from the presenters, the speaker, and the main theme introduction - the Holocaust. The second segment covers around minute 09:55:00 to minute 10:05:00 and focusing on the emotionally engaging start of the speaker's story. The third segment spans around minute 10:47:00 to minute 11:04:00, capturing the speaker’s account of witnessing her mother’s shooting. Determining the cause of a lower voice tone and whether it stems from the video's content or other factors is complex. To enhance greater accuracy, a questionnaire was administered after simultaneous interpretation to confirm or challenge the initial hypothesis.

Figure 1: *Example of Spectrographic Analysis of speech sequences* (I_7)



328 Hz 216 Hz 211 Hz

3.4 Error Classification and Pauses Analysis

As a basis for error classification, the Simonetto (2000) grid was considered, which in turn adopted the grid proposed by Ricci and Russo in 1997, based on Altman's analysis in 1994 (p. 160). This grid primarily distinguishes content errors (misinterpretation of the text) and form errors (inadequate expressions) (*ibid*.: 160). Among the common errors and difficulties identified from the analysis of the recordings, it was evident that in the initial part of the speech, Interpreter 1 (I_1) translated the sentence containing the subject pronoun "you" - "It is a privilege to have YOU here" - from minute 00:06:00 to minute 00:09:00 as "è un privilegio avervi qui" (I_1 translated the subject pronoun "you," which refers to the interviewee, into the second plural person form in Italian "voi"), while Interpreter 3 (I_3) translated the same sentence as "è un piacere averti qui", resulting in a more informal tone. In Italian, it would have been more appropriate to maintain the formal use by translating it into "averla." Omissions were present in all recordings. Among the content errors recorded, notable errors included additions (*ibid.:* 162), particularly for Interpreter 2 (I_2); contradictions (I_3 and I_1); coherence errors (I_6 and I_8). Concerning form errors, errors in verb agreement were predominantly noted (I_1, I_4, I_6, I_7, I_9), as well as morphosyntactic calques (I_2 and I_6). Another evaluative tool pertaining to intonation, a component of prosody, is pauses. As Vassière (2005) states, there is currently no universally accepted definition of intonation. The term may be strictly restricted to the perceived F0 pattern or encompass the perception of other prosodic parameters that fulfill similar functions: pauses, relative loudness, voice quality, duration, and segmental phenomena related to varying strengthening of the speech organs (p. 238). In almost all the analysed interpretations, the presence of filled and unfilled pauses, along with omissions, were observed. The aim was to quantify the occurrences of longer filled pauses, unfilled pauses resulting in omissions, in each speech, which hindered the fluidity and smoothness of the discourse. Instances when these pauses and omissions occurred were recorded to investigate if they were in any way related to the emotional content of the speech.

Table 1: *Filled and unfilled pauses assessed during the analysis of the recordings.*

	Filled pause	**Unfilled pause**
$\mathbf{I_1}$	-00:17:00 / 3sec	-04:13:00 / 7sec with omissions -10:40:00 / 6sec
$\mathbf{I_2}$	-Various pauses throughout the entire speech. -05:57:00	-03:53:00 / 7sec -06:00:00
$\mathbf{I_3}$	-	-
$\mathbf{I_4}$	-10:37:00	-00:00:41 / 4sec -03:20:00 / 7sec -10:22:00 / 4sec -10:39:00 / 8sec
$\mathbf{I_5}$	-	-01:46:00 / 6sec -09:33:00 / 6sec -09:52:00 / 6sec
$\mathbf{I_6}$	-	-
$\mathbf{I_7}$	-01:45:00 / 1sec	-01:24:00 / 3sec -01:40:00 / 10sec
$\mathbf{I_8}$	-	-01:41:00 / 10sec
$\mathbf{I_9}$	-	-
$\mathbf{I_{10}}$	-	-10:41:00 / 17sec -11:10:00 / 6sec -11:20:00 / 8sec

3.5 Questionnaire

After performing the simultaneous interpretation, the interpreters were given a questionnaire to answer regarding their performance and emotional state. The questionnaire was specifically designed for this study, using the COPE questionnaire (Coping Orientation to Problems Experienced) as a reference. The questions were rated on a scale of 0 to 5 points, with 0 indicating "not at all" and 5 indicating "very much" (Brace, 2012). The questionnaire was structured into three distinct parts, each containing 4 questions. These three parts aligned with the phases before, during and after the simultaneous interpretation. The questions were designed to assess the interpreter's attitude and confidence in their abilities. However, the final open-ended question was more general, allowing the interpreters to share their personal thoughts on the interpreted video ("*What is your reaction to the content of the video?*"). From

the analysis of the responses, it emerged that: I_1 spoke about interpretive difficulties but also mentioned being moved while listening to the interviewee's story; I_2 expressed emotional involvement with the story's content; I_3 mentioned experiencing anguish and sadness; I_4 referred to both the emotions she felt while listening to the story and translation issues; I_5 stated that the narrative was very touching; I_6 referenced the nature of the discourse without considering the emotional aspect; I_7, on the other hand, mentioned the emotions she felt while listening to the story; I_8 only referred to the difficulties encountered when interpreting the interviewee's speech; I_9 referred to the emotional nature of the story and some translation difficulties she encountered; I_{10} mentioned that, in her opinion, a significant *décalage* needed to be maintained and commented on the speaker's life choices.

From the analysis of the responses to the open-ended question, 4 interpreters solely considered the emotional nature of the discourse (I_2, I_3, I_5, I_7); 4 interpreters referred to both the emotional nature of the story and the encountered translation difficulties (I_1, I_4, I_9, I_{10}); I_6 and I_8 focused solely on translational matters without addressing the emotional aspect.

Table 2: *Answers to the questions related to "before performing the simultaneous interpretation."*

	You had a calm attitude, without worries	You felt quite confident in your abilities	You were afraid of making mistakes during simultaneous interpretation	You did not feel capable of performing the requested exercise
I_1	4	2	3	2
I_2	2	2	5	3
I_3	4	4	2	1
I_4	0	3	3	0
I_5	4	4	2	0
I_6	4	3	4	0
I_7	2	2	5	1
I_8	5	3	5	1
I_9	4	4	0	0
I_{10}	0	0	5	5

Table 3: *Answers to the questions related to "during the simultaneous interpretation."*

	You considered your skills to be inadequate for the task at hand	You had other thoughts that hindered the interpretive performance	You remained undistracted by thoughts and maintained a high level of concentration	You assessed the exercise as fairly easy, which inspired tranquility
I_1	1	0	4	3
I_2	4	5	4	4
I_3	1	0	5	3
I_4	0	1	1	3
I_5	2	1	4	2
I_6	2	1	4	3
I_7	3	2	3	3
I_8	1	1	2	1
I_9	2	0	4	3
I_{10}	3	5	1	0

Table 4: *Answers to the questions related to "After completing the simultaneous interpretation."*

	You believe you can comfortably interpret similar videos in the future	You feel you were not able to handle the situation optimally	Despite potential errors, you evaluated your performance as satisfactory	You perceived the exercise as too challenging for your abilities
I_1	4	3	2	2
I_2	4	3	3	3
I_3	3	2	4	1
I_4	4	2	3	0
I_5	3	2	4	1
I_6	3	1	3	1
I_7	3	2	1	2
I_8	4	4	3	2
I_9	5	2	4	3
I_{10}	2	5	0	4

Conclusion

Taking into consideration the questionnaire responses and the spectrographic analysis, we can observe in the figure below (Figure 2) how certain respondents, who indicated in the questionnaire that they were particularly affected by the speaker's narrative, demonstrated a decrease in vocal frequency in the spectrographic analysis. Specifically, this is most pronounced for I_1 with a decrease of 90 Hz from the second to the third speech segment. I_3 recorded a decrease of 87 Hz from the first part to the second, followed by a further 29 Hz decrease from the second to the third part; I_4 showed a range of 65 Hz between the analysis of the first and second portions; I_5 recorded a decrease of 55 Hz from the first portion to the second, and subsequently a further decrease of 14 Hz from the second portion to the third; I_6 recorded a decrease of 62 Hz from the first analysed part to the second; I_7 recorded a range of 112 Hz. I_9 consistently maintained a vocal frequency ranging from 190 Hz to 175 Hz throughout the recording.

From the analysis of these data, it can be affirmed that the research hypothesis has been confirmed. When interpreters perform the simultaneous interpretation of emotionally-charged content, a decrease in the fundamental frequency (F0) is observed, often accompanied by an increase in unfilled pauses. As noted earlier, 9 out of 10 interpreters exhibited a decrease in their F0 during speech segments involving emotionally engaging content. Among these interpreters, those who not only reported encountering translation difficulties but also

expressed being moved or experiencing strong emotional involvement in the questionnaire, demonstrated a more substantial decrease in F0. This is particularly evident when considering the intervals of the three analysed speech segments.

Interpreters are human beings, and it is unreasonable to expect them to remain emotionally detached linguistic performers when confronted with highly emotional scenarios. Each interpreter will know how to implement their adaptive strategies to cope with emotionally-charged situations and fulfill their role as communicative bridges between two different languages and cultures.

Figure 2: *Vocal frequency analysis – figures shown in Hertz (Hz)*

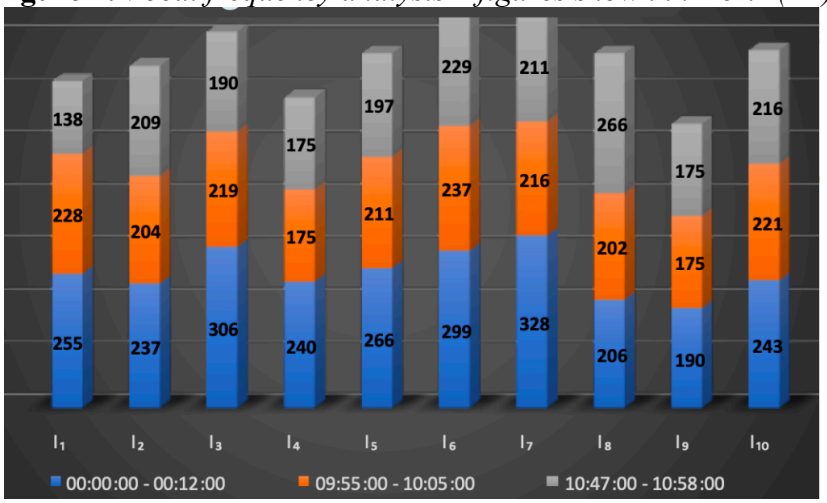
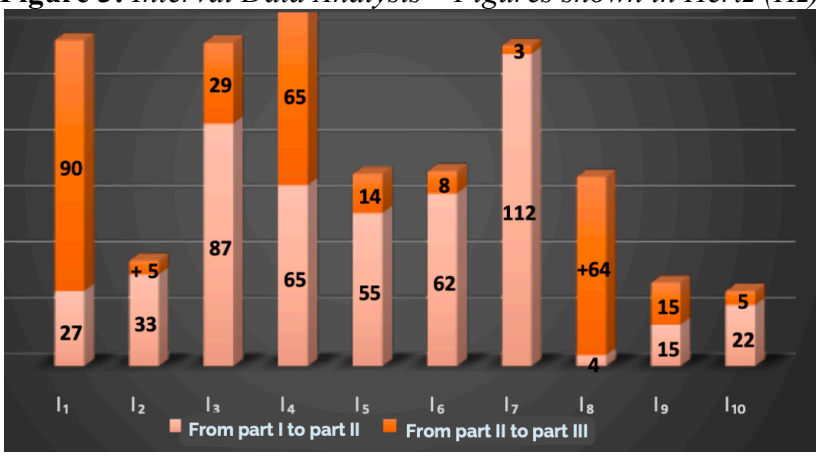


Figure 3: *Interval Data Analysis – Figures shown in Hertz (Hz)*



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