

An Experiment on Amateur and Professional Subtitling Reception in Iran

Saeed Ameri & Masood Khoshsaligheh

Abstract

Over the past decade, audiovisual translation has welcomed the swift shift towards experimental reception studies, and interdisciplinary approaches which draw on media psychology theories, such as immersion are becoming the new trend in audiovisual translation. Nonetheless, studies on amateur subtitling reception are recent and scarce, notably in dubbing countries like Iran, where both dubbing and amateur subtitling are co-existing. This paper reports the results of an experiment examining whether a select group of Iranian viewers may report different reception and immersion when watching a professionally subtitled vs. non-professionally subtitled audiovisual material. To this end, around sixty Iranian viewers attended the experiment and reported their reception and immersion through a questionnaire. Overall, the results suggested that amateur subtitling did not negatively affect the viewers' immersion in the program. Viewers' comprehension and some subtitling reception variables (subtitling reading difficulty, duration, and subtitling overall quality) were nevertheless challenged by the amateur subtitles since the participants had a better comprehension and reception when watching the program with professionally produced subtitles. Other findings indicated that (constant) exposure to foreign cinematic programs and (un)familiarity with subtitling had no significant effect on the viewers' reception and immersion.

Keywords: *amateur subtitling, professional subtitling, reception, audience, immersion*

Introduction

There is a consensus among audiovisual translation (AVT) researchers that translations by non-professionals, which are readily available on the Internet, are of poor linguistic and technical quality (Bogucki, 2009; Diaz Cintas and Muñoz Sánchez, 2006; Khoshsaligheh and Ameri, 2017). In his recent interview, Jan Pedersen mentioned that fan-made subtitles have substantially low quality, which may not only “damage the foreign audience’s general view of the subtitling craft” but also “ruin their opinion of the movie” (Pedersen, 2019, March). Such subjective statements may sound reasonable yet obviously need to be empirically substantiated since there is little empirical proof to indicate how audiences react to fan-made products, given that quality may mean differently for researchers, practitioners and audiences (Baños Piñero and Díaz-Cintas, 2015: 2). Many scholars have recommended empirical research on the reception of audiences as they can “have the potential of yielding results of a much-applied nature that the industry can easily factor into their modus operandi” (Díaz Cintas, 2020: 222).

The few studies, mainly based in the Spanish and Italian contexts, appear to suggest that viewers have expressed positive appreciations for subtitles produced by amateurs, when compared to their professional counterparts (Di Giovanni, 2018; Orrego-Carmona, 2016). This should not, however, be overlooked that the non-professional subtitling apparatus seemingly varies in each country. In addition, the way people understand translation and its quality tends to rely on their background knowledge and their familiarity with and exposure to subtitling. The absence of incontrovertible evidence reminds us to be skeptical about the erratic and hearsay opinions stated about amateur subtitling reception. This emphasizes the need for further empirical culture-specific research to offer more insights into fan and amateur subtitles in various contexts, especially in dominantly dubbing societies like Iran, where the popularity of subtitling has been growing exponentially (Khoshsaligheh et al., 2019; Ameri and Ghodrati, 2019; Khoshsaligheh et al., 2020).

Within this background, the current experimental study examines how Iranian viewers with different levels of familiarity with subtitling and varied exposure to foreign cinematic content perceive programs subtitled by amateur and professional subtitlers. The research questions explored in this study are:

- Are there any significant differences between Iranian viewers watching professional subtitling and amateur subtitling in terms of comprehension, reception and immersion?
- Does Iranian viewers' prior experience with subtitling and foreign cinematic programs have any significant effect on their comprehension, reception and immersion?

Literature review

Subtitling

Briefly, subtitling is a written translation of dialogues as well as any meaningful visual information, including letters or inserts that could be found within a program, which is synchronized with images and audio and the output is typically projected at the bottom of screen for an acceptable amount of time so that viewers could grasp the content (Guillot, 2019; Díaz-Cintas, 2019). Subtitling like dubbing and voice-over has its own rules and particularities. For example, the number of characters in each subtitle line, otherwise known as line length, is generally 36–40 maximum, which includes spaces and punctuation marks, and the maximum number of lines allowed is two (Guillot, 2019; Díaz-Cintas, 2019). Subtitles tend to divert viewers' attention from actions on screen to themselves (Kruger et al., 2016), and research has it that viewers automatically look at the subtitles appearing on screen, no matter how well they understand the spoken content. This is mainly because of the dynamic and noticeable nature of captions (Bisson et al., 2014; d'ydewalle et al., 1991). Subtitles, therefore, “compete for visual as well as cognitive attentional resources with the visuals” (Kruger et al., 2016: 174; Kruger et al., 2015) which may result in a higher cognitive load. The fact is that there is a high interplay between the multiple information channels, including the auditory and visual channels that present verbal and non-verbal information (Zabalbeascoa, 2008; Gottlieb, 2018) and the translated caption at the bottom of screen is an added channel here; therefore, the viewer has to process the program and simultaneously read the translation to grasp the verbal situation being presented to them through the audio channel, arguably not understandable to them. This processing appears to be complex as the audience's cognitive demands may get overwhelmed (Kruger et al., 2018). This is because the viewer has to combine a wide array of information coming from diverse channels to be able to

build a consistent mental model that would facilitate the understanding of the given program (Lång, 2016). Processing an additional source of information—visual and verbal—likely, on paper at least, increases the level of cognitive load and may impede viewers’ immersion into the program (Kruger et al., 2017).

Amateur subtitling

The norm-breaking features of amateur subtitling, which are translation and technical errors at times, have been evidenced by some publications in Iran (e.g. Jalili, 2001; Hassankhani, 2011; Motamedi, 2011; Khoshsaligheh and Fazeli Haghpanah, 2016; Shahba, 2020) and outside Iran (Bogucki, 2009; Diaz Cintas and Muñoz Sánchez, 2006; Massidda, 2015; Nornes, 1999). This should be admitted that the conditions in which amateur subtitles are created are drastically different from those of professional ones (Massidda, 2015; Orrego-Carmona, 2019) and that here we are discussing subtitling quality from the perspective of viewers’ appreciation (see Pedersen, 2017). Therefore, we think that faulty subtitles can likely lead to cognitive load increase as audience have to “overcome the error in order to comprehend and integrate the presented information” (Doherty and Kruger, 2018: 189), and consequently, this situation ruins their reception of and immersion in the video. Along the same line, Gerber-Morón et al. (2018: 3) maintain that the complex processes of understanding subtitles could be hampered by subtitles of questionable quality. Although amateur subtitling practices differ from country to country, contemporary practices appear to provide a translation of comparable quality to that of professional and official subtitles (Dwyer, 2012; Hatcher, 2005). This is because contemporary non-professional subtitlers have been accommodating commercial conventions and rules in their subtitles and they do not experiment with them (Jiménez-Crespo, 2017; Massidda and Casarini, 2017). Despite this, the Iranian case seemingly follows a different path as amateur subtitles do not adhere to professional norms and standards due to the lack of any professional subtitling traditions in Iran (Khoshsaligheh et al., 2020; Ameri and Khoshsaligheh, 2019). Although Iranians are now consuming non-standard subtitles, Ameri and Khoshsaligheh (2022) found that their experiment’s participants reported a higher degree of satisfaction with amateur subtitles of a single TV show episode they watched in an experiment with no control group. In other words, only a small group of them were not satisfied with the subtitles. Similar to these findings, the recent scholarship on amateur subtitling reception audience has demonstrated a positive appreciation for amateur subtitles on part of audience (Di Giovanni, 2018; Orrego-Carmona, 2016). Such satisfaction should be interpreted from expectancy norms theory (Chesterman, 2016 [1997]) as viewers of these subtitles have developed a differing set of expectancy norms (Orrego-Carmona, 2019). Baños Piñero and Díaz-Cintas (2015), for example, argue that audiences are restlessly impatient for the immediate release of their favorite AV programs; therefore, it is not unlikely to see viewers who sacrifice quality over anything less.

Before moving on, another relevant issue should be discussed here. Given the fact that subtitling exists in Iran for roughly two decades and that it has been by no means professional, some viewers may have become accustomed to such faulty and erroneous subtitles and they hardly ever notice any sort of deviations from commercial guidelines as they have never been exposed to any professional subtitling to build some habits around it (Khoshsaligheh et al., 2019). It is assumed that “thresholds of acceptability” (Chaume, 2012) or “tolerance thresholds” (Romero Fresco, 2019) should be the reasons. As indicted by Ameri and Khoshsaligheh (2022), Iranian audiences are seemingly more tolerant toward faulty subtitles. Following “suspension of linguistic

disbelief” (Romero Fresco, 2019), this can be concluded that viewers take no notice of low-quality subtitles to enjoy the video and lose themselves in video’s fictional world. Thus, they “have already internalised how to watch it [the subtitled program] without questioning it” (Romero Fresco, 2019: 50). The hypothesis, therefore, is that the viewers tend to turn a blind eye to erroneous subtitles to make themselves more immersed in the program.

Psychological immersion

A small number of reception studies have benefited from psychological immersion, which contributed to a better understanding of AVT reception (Kruger et al., 2017; Kruger et al., 2016; Fryer et al., 2013; Weibel et al., 2010b; Walczak and Fryer, 2017). The reason for including immersion as a variable in studying audience is that films and TV shows have an immersive nature (Kruger and Doherty, 2018). There are several aspects related to media and psychological immersion, deserving separate discussions here. These are transportation, character identification, presence, perceived realism and flow. A defining element of media enjoyment is “transportation” which can take individuals—who could be readers, listeners or viewers—“away from their mundane reality and into a story world” (Green et al., 2004: 311). Transportation is the feeling and emotion of being transported or immersed in a narrative world or story in such a way that the individual feels they have been absorbed or lost in a new world, which is the situation and context the story presents to them, and consequently, transported viewers simply forget their immediate surrounding world and fail to stay aware of the time (Green and Fitzgerald, 2017; Green, 2008; Green and Sestir, 2017).

Transportation is closely linked to “character identification” because identifying or affinity with media characters is boosted or facilitated by being transported and immersed in the media narrative. In other words, transported individuals feel a high affinity with characters in the media in question. This, in turn, contributes to a higher degree of enjoyment of the program (Tal-Or and Cohen, 2010). Closely connected to immersion is “telepresence” (hereafter, presence). Specifically, this concept means the feeling and sense or the subjective experience of being at a place or condition (Kim and Biocca, 1997), suggesting that the individual forgets and leaves aside the immediate environment and is mentally involved in the fictional world of the program (Kruger et al., 2017; Kruger et al., 2016). Often related to both immersion and presence is “perceived realism”. By definition, realism points to the perceptual experience of the imaginary environment created by the media as real or plausible; put simply, the individual perceives that whatever happening in the program can also take place in the present real world (Lee, 2004). Likewise, Hall (2017) and Cho and Friley (2015) define it as how individuals perceive and judge the constructed narrative world as a portrayal of real life. Given the complexity and multidimensionality of the realism concept, Hall (2017) introduces factuality, plausibility, typicality, narrative consistency, and visual persuasiveness. “Perceive plausibility” refers to what extent the event portrayed in the program is likely to happen in the present world. When a narrative event, deemed plausible yet hardly typical, extends far beyond individuals’ daily experiences but may have occurred at some point to the individual, it is called “perceived typicality”. “Perceived factuality” is to what extent a narrative is capable of presenting and portraying a particular event and character in reality. When the narrative event does not contain any contradictions, and its components and content are coherently consistent, we are talking about “perceived narrative consistency”. “Perceived perceptual quality” refers to what degree the auditory and visual components of the media narrative element convincingly and compellingly reflect the real world (Cho et al., 2014).

Cognitive load theory

The very fundamental principle of cognitive load theory rests on this concern that the mental processes involved in learning are limited by our working memory, that has a limited capacity, and is incapable of processing a large amount of information at a certain time. Cognitive overload, therefore, is likely to happen when the amount of information presented at a time far exceeds the working memory capacity, and consequently, learning the task is challenged (Sweller et al., 2019; Paas et al., 2016). The application of this theory to AVT has been prevalent because of the interest in understanding cognitive demands, if any, placed on viewers, especially those watching subtitled programs. According to Kruger et al. (2016), the addition of subtitles to a program results in an increase in the extraneous load, and as a result, the capacity remained for the germane load to process the receiving information becomes low. This process may get more complicated when the subtitles suffer from low quality as the viewing process is obstructed. Nonetheless, people watch subtitled multimedia programs because subtitles permit the possibility of experiencing immersion in a new world. This pleasing experience of immersion and engagement is probably enhanced by the multimedia nature of films and TV shows when the sound and image go hand in hand to create meaningful content. This interconnectedness between immersion and cognitive effort is straightforward, the less cognitive load or effort is increased, the more the viewer is immersed in the multimedia program, and consequently, the more enjoyment (Doherty and Kruger, 2018; Kruger and Kruger, 2017).

Methods

Purpose and design

Given the immersive nature of audiovisual programs, this article tries to understand how the subtitles made by professionals and amateurs could affect the way viewers experience immersion in an audiovisual program. Because the quality of amateur subtitling is assumed low, when compared with the professional subtitles, it is hypothesized that individuals probably report a low immersion and their understanding of the video content is hampered. As for the design, the paper follows an experimental design wherein the researchers attempt to understand the related causes and effects of associations. Such studies are conducted in a controlled environment and are made up of control and treatment groups (Saldanha and O'Brien, 2013). The present experiment uses a between-subjects design as different participants attended the control and treatment groups.

Participants

Sixty-nine university students from three undergraduate programs at a university in Iran agreed to join the experiment. At the time of the experiment, the participants were first-year students and Persian native speakers with no knowledge of German (the language of the stimuli). The participants were randomly assigned to two groups of amateur subtitling and professional subtitling ($n_1 = 34$ and $n_2 = 35$). Two participants from group one and one participant from group two could not attend the viewing sessions. In addition, the data for two participants from the amateur group and one from the other group were discarded, as they were incomplete. Finally, there were 30 participants in the first group and 33 in the other group (42 females, 21 males), and they aged between 18 to 22 ($M = 19.09$, $SD = 0.99$). These figures are pretty in line with the guidelines of doing experimental studies in AVT, requiring ideally 30 participants for each group (Orero et al., 2018: 110-111).

Table 1. AVT habits of the respondents

Scale Options	Frequency/Subtitling	Frequency/Dubbing
Always	21	5
Usually	22	17
Sometimes	11	15
Barely	7	16
Never	2	10
Total	63	

As far as the AVT habit of the participants was concerned, they were mainly users of subtitling, and the descriptive information of their AVT habits can be seen in Table 1. As can be seen, 68.3% of participants watch subtitled programs from usually to always, and 34.9% reported the same for dubbed programs. They were also asked how many hours they weekly watch foreign programs, which is reported in Table 2. More than half of the participants watch foreign programs for more than one hour per week.

Table 2. Foreign program watching habits of the respondents

Scale Options	Frequency
Less than 1	23
2 up to 4	21
5 up to 6	13
7 up to 8	2
9 up to 11	1
More than 11	3
Total	63

Stimuli

The video for the experiment included the first episode of the first season of the American sitcom TV show *Young Sheldon* which tells adventures of a 9-year-old genius, Sheldon Copper. It is a

twenty-minute episode and none of the participants had watched it before. Although the main language of the show is English, its German dubbing was deliberately chosen and shown to the participants—unknown to them—so that they would only rely on the subtitles to understand the program. Two sets of subtitles were used in this experiment. The amateur subtitles of the TV show were downloaded from <https://subscene.com>, which is the major website for amateur subtitling in Iran, and no manipulation was applied to them. Given the lack of any professional Persian subtitling for the TV shows, the subtitles were created and crafted by the researchers. The subtitles were created in *Subtitle Edit* (v. 3.5.9.) and they comply with subtitling standards and guidelines (Pedersen, 2017; Netflix, 2018). Each subtitle line contained no more than 40 characters and the maximum reading speed was 15 characters per second. Also, long subtitles were carefully segmented and the translations were according to the Persian language norms. The subtitles were proofread by two AVT colleagues to ensure that they meet the standards. The key features of both sets of subtitles can be seen in Table 3, analyzed by *Subtitle Edit* (v. 3.5.9.) and *Black Box* (v. 1.0).

Table 3. Overall information of the professional and amateur subtitles

Features	Amateur	Professional
Number of subtitles	442	334
Total words in subtitles	2,430	1,900
Number of one-line subtitles	333	201
Number of two-line subtitles	107	133
Number of subtitles with more than two lines of subtitles	2	0
Number of fast subtitles (exceeded 15 CPS)	130	0
Number of long subtitles (exceeded 40 characters per line)	35	0
Total characters per second	13.01	12.34
Total duration of subtitles	00:14:34	00:12:23

Instruments

The instrument is made up of seven sections, namely, demographic information (five items), immersive tendency (nine items), comprehension (11 items), subtitling (seven items), immersion (22 items), perceived realism (21 items), and enjoyment (one item). The instrument, except for the subtitling and comprehension items, was inspired by Kruger et al. (2016). The details are as follows:

- demographic information
 - age and gender (two items)
 - dubbing and subtitling habits (three items)
- immersive tendency adapted from Weibel et al. (2010b)
 - absorption (four items)
 - emotional involvement (five items)
- comprehension (11 items)
- immersion
 - transportation (ten items) adapted from Green and Brock (2013)
 - character identification (four items) adapted from Tal-Or and Cohen (2010)
 - presence (eight items) adapted from Kim and Biocca (1997)
- perceived realism adapted from Cho et al. (2014)
 - plausibility (five items)
 - typicality (three items)
 - factuality (three items)
 - narrative consistency (five items)
 - perceptual quality (five items)
 - enjoyment (one item)

Immersive tendency, immersion and perceived reality scales were translated into Persian given that they were developed for individuals who are familiar with English. The importance of a proper translation for an original scale lies in the fact that the translated version should be semantically close and similar to the original version, follow and respect the target language norms, and the format of the questions and the measurement properties should remain unchanged (Harkness et al., 2010). To translate the questionnaires mentioned above, the researchers followed the “Translation, Review, Adjudication, Pretesting, and Documentation” model (Harkness, 2003). To begin with, two skilled translators with Persian as their mother tongue were invited. The translators had an MA in translation, and have been translating texts for several years. The translators were, to some extent, familiar with the field of AVT since their master’s theses were written in this area. They were briefed to deliver a high-quality translation, which is semantically close to the original, but respects the Persian language norms and conventions. They were also paid for their translations. After the translators submitted their translations, an online meeting, using Skype, was run by the authors. The meeting included the translators and one evaluator who was a doctoral candidate of translation studies and was well-familiar with the area of reception and AVT. The one-hour online meeting resulted in resolving the discrepancies in translations and choosing the best translation for each item. To pilot the fine-tuned version of the questionnaire and flag difficulties and ambiguities in understanding items, focus group interviews and face-to-face interviews were carried out. The last version of the questionnaire was fine-tuned to incorporate the comments collected from the preceding stage. The overall reliability of the whole questionnaire was very good with a Cronbach’s alpha of 0.89. The reliability of immersive tendency, subtitling

reception, transportation, character identification, presence, and perceived realism was 0.68, 0.83, 0.70, 0.81, 0.89, and 0.87, respectively.

Data collection and analysis

The participants were randomly assigned to two groups; one watched the video with amateur subtitles and the other with professional subtitles. A brief description of the research general ground rules and guidelines was presented to the participants. They were, however, not told about the exact objective of the experiment, the AVT mode, language and genre of the video and they were asked not to work with their mobile phones and not to talk during the viewing session. Once the participants watched the TV show, they completed the post-questionnaires. The questionnaire data were analyzed in SPSS (v. 22) and descriptive and inferential statistics were used to report the findings.

Results

Data screening and comparability of the groups

Data screening and clearing were performed to make the data prepared for the analysis. After flagging the outliers in the dataset using box plots and z-scores, three cases were accordingly excluded. The final sample, therefore, contains 60 participants (amateur $n = 29$; professional $n = 31$). Comparability in experimental studies indicates that participants of each group are virtually equal in every aspect (Saint-Mont, 2015). Although the present literature admits that the audiences of films and TV shows are not generally a homogenous group (Fox, 2016: 14), it was of paramount importance to create comparable groups when it comes to measuring immersion so as to avoid the unwanted effect of any moderator variable. This is because individuals may display different engagement levels with the multimedia content due to the subjectivity of immersion and individuals' personality differences (Weibel et al., 2010a). The immersion tendency test (Weibel et al., 2010b) was administered prior to the experiment and the result of an independent samples t -test showed that the participants in the amateur and professional groups were not significantly different in their engagement tendency: absorption ($M = 4.23$ & $M = 3.91$, $p > .05$, respectively) and emotional involvement ($M = 3.77$ & $M = 4.17$, $p > .05$, respectively).

Reception across the groups of amateur and professional subtitling

To answer the first research question, the descriptive statistics for the dependent variables between the two groups of amateur and professional subtitling are offered in Table 4. The respondents' responses range on a seven-point scale for eleven dependent variables. As can be seen, there seem to be some differences between the two groups. Nonetheless, the difference must be significantly meaningful. To find the results of manipulation checks, an independent-samples t -test was used. This is reminded that higher means here indicate larger and positive reception, and consequently, better immersion.

Table 4. Descriptive statistics of the groups

	Subtitling Type	<i>N</i>	<i>M</i>	<i>SD</i>
Subtitling reception	Amateur	29	5.67	.90
	Professional	31	6.14	.68
Transportation	Amateur	29	4.30	.73
	Professional	31	4.28	.74
Character identification with Sheldon	Amateur	29	3.67	1.43
	Professional	31	3.74	1.42
Presence	Amateur	29	4.55	1.27
	Professional	31	3.84	1.48
Plausibility	Amateur	29	5.31	1.12
	Professional	31	4.97	1.08
Typicality	Amateur	29	2.95	1.34
	Professional	31	2.80	1.38
Factuality	Amateur	29	4.22	1.61
	Professional	31	4.38	1.65
Narrative consistency	Amateur	29	5.37	.98
	Professional	31	5.07	.98
Perceptual Quality	Amateur	29	4.83	1.06
	Professional	31	4.80	1.42
Enjoyment	Amateur	29	6.31	1.07
	Professional	31	6.32	.83
Comprehension	Amateur	29	7.93	1.51
	Professional	31	8.67	1.16

The independent samples *t*-test was conducted to compare amateur and professional groups in terms of the dependent variables. As seen in Table 5, no statistically significant difference between those who watched the TV show with amateur subtitles and those who watched it with professional ones can be observed. A significant difference was, however, found between the

amateur subtitling group and professional subtitling group in terms of only subtitling reception and comprehension. This suggests the individuals who attended the professional subtitling group reported a higher subtitling reception ($M = 8.67$ & $M = 7.93$, $p < .05$) and comprehension ($M = 6.14$ & $M = 5.67$, $p < .05$), when compared to those in the amateur subtitling group. However, the effect size was moderate for both variables (Cohen's $d = .58$ & $= .55$) (Cohen et al., 2018).

Table 5. Independent samples *t*-test

		<i>t</i> -test for Equality of Means		
		t	df	Sig
Subtitling Reception	Equal variances assumed	-2.263	58	.03
	Equal variances not assumed	-2.242	52.193	.03
Transportation	Equal variances assumed	.137	58	.89
	Equal variances not assumed	.137	57.796	.89
Character Identification with Sheldon	Equal variances assumed	-.188	58	.85
	Equal variances not assumed	-.188	57.715	.85
Presence	Equal variances assumed	1.980	58	.05
	Equal variances not assumed	1.990	57.597	.05
Plausibility	Equal variances assumed	1.200	58	.24
	Equal variances not assumed	1.199	57.376	.24
Typicality	Equal variances assumed	.418	58	.68
	Equal variances not assumed	.418	57.913	.68
Factuality	Equal variances assumed	-.372	58	.71
	Equal variances not assumed	-.372	57.904	.71
Narrative Consistency	Equal variances assumed	1.183	58	.24
	Equal variances not assumed	1.183	57.734	.24
Perceptual Quality	Equal variances assumed	.086	58	.93
	Equal variances not assumed	.087	55.399	.93
Enjoyment	Equal variances assumed	-.050	58	.96
	Equal variances not assumed	-.049	52.791	.96
Comprehension	Equal variances assumed	-2.151	58	.04

	Equal variances not assumed	-2.133	52.649	.04
--	-----------------------------	--------	--------	------------

To have a more accurate and detailed analysis of the subtitling reception, which turned out to be significantly different across the groups, an item-by-item analysis was run on this variable using an Independent samples *t*-test. This variable contains seven sub-variables addressing cognitive effort, frustration, enjoyment and so forth. The analysis revealed a significant difference between the two groups in terms of subtitling reading difficulty, subtitling duration, and the overall quality of subtitles, and the other variables did not reach a significant level. More specifically, those who watched the TV shows with professional subtitles found that the duration (i.e., reading speed) of the subtitles enough, as opposed to those who watched it with amateur subtitles ($M = 6.52$ & $M = 5.21$, $p < .05$, respectively). In addition, the individuals who attended the amateur subtitling group reported that the subtitles were difficult to read and follow, while those attending the professional subtitling group had a differing opinion ($M = 6.03$ & $M = 6.61$, $p < .05$, respectively). The overall quality of subtitles was also rated higher by those in the professional subtitling group (professional: $M = 6.06$ & amateur: $M = 5.44$, $p < .05$). The effect size also suggests medium ($d = .60$), strong ($d = 1.02$) and medium ($d = .53$) effects for subtitling reading difficulty, duration, and subtitling overall quality, respectively.

Reception across viewers' audiovisual habits

The second research question of the article was to examine the effects of participants' subtitling habits as well as their constant exposure to foreign programs (see Tables 1 and 2). It was decided to create three categories for the frequency variable by combining the categories that contained a small number of participants. The analysis was therefore performed on three categories. Those who watched less than one hour per week are called the uncommitted group ($n = 22$) and those who watched more than five hours are called the enthusiast group ($n = 19$). There is also another group, placed between these two and is called the average group ($n = 19$). When it comes to subtitling habits, the categories were mixed to form two groups; those who are more interested in watching foreign programs with Persian subtitles ($n = 42$) and those who are not ($n = 18$). The first group is called enthusiast subtitling users and the other one is named uncommitted subtitling users.

A two-way ANOVA (subtitling habit X subtitling group types) was conducted to measure differences across groups in the dependent variables. There were not any statistically significant interactions between the effects of subtitling habits and subtitling group types on subtitling reception ($F(1, 56) = .069$, $p = .79$), comprehension ($F(1, 56) = 2.381$, $p = .13$), transportation ($F(1, 56) = .032$, $p = .86$), character identification ($F(1, 56) = .130$, $p = .72$), presence ($F(1, 56) = 2.169$, $p = .15$), plausibility ($F(1, 56) = .781$, $p = .38$), typicality ($F(1, 56) = .183$, $p = .67$), factuality ($F(1, 56) = .038$, $p = .85$), narrative consistency ($F(1, 56) = .262$, $p = .61$), perceptual quality ($F(1, 56) = .484$, $p = .49$) and enjoyment ($F(1, 56) = .810$, $p = .37$). Besides this, there were no significant interactions between the effects of constant exposure to foreign cinematic programs and subtitling group types on subtitling reception ($F(2, 54) = 1.849$, $p = .17$), comprehension ($F(2, 54) = .076$, $p = .93$), character identification ($F(2, 54) = .751$, $p = .48$), presence ($F(2, 54) = 3.225$, $p = .05$), plausibility ($F(2, 54) = .743$, $p = .48$), factuality ($F(2, 54) = 3.025$, $p = .06$), narrative consistency ($F(2, 54) = 1.238$, $p = .30$), perceptual quality ($F(2, 54) = 3.180$, $p = .05$) and enjoyment ($F(2, 54) = .228$, $p = .78$). Notwithstanding this, an ANOVA on transportation ($F(2, 54) = 4.324$, $p = .02$) and typicality ($F(2, 54) = 3.948$, $p = .03$) yielded significant interactions between the effects of constant exposure to foreign cinematic programs and subtitling group types.

Overall, the viewers had a similar reception of and immersion in the subtitled programs, regardless of their (constant) exposure to foreign cinematic programs and (un)familiarity with subtitling.

Discussions and conclusion

This experiment aimed to contribute to the strand of amateur subtitling reception research. As for the research question, which addressed if different forms of subtitles affect viewers' reception of, immersion in and comprehension of the programs, the results showed that those who watched the program with professional subtitles did not show any significant higher immersion in the TV show when compared with those who watched the program with amateur subtitles. Further analyses, however, revealed that the viewers in the professional subtitling group reported a significantly higher subtitling reception and comprehension scores. Indeed, a close analysis of the subtitling reception variable suggested that the viewers of the professional subtitles found the duration (i.e., reading speed) of the subtitling adequate, and it was easy for them to follow the subtitles, and they were generally satisfied with overall quality. The overall results, to a large extent, corroborated the findings of the previous studies indicating that amateur subtitling was not associated with a negative reception on the part of viewers (Di Giovanni, 2018; Orrego-Carmona, 2016). The lack of significant differences observed in terms of many of the variables in the study could be justified on several grounds. First, the results came to emphasize that the lack of any experience with professional subtitling has not created a baseline for Iranian viewers for a possible comparison (Khoshsaligheh et al., 2019). The other reason could be ascribed to the assumption that the Iranian viewers have accepted and come to terms with amateur subtitling features in the absence of any professional subtitling over time. According to Perego et al. (2016: 270), users may have already “adapted to the cognitive demands of subtitles” and in the case of Iranian situation, subtitles are far from perfect. The third relevant factor is the quality of professional and amateur subtitles. Despite the claims by Jiménez-Crespo (2017) and Orrego-Carmona (2019) that the present translations made fansubbers aim at achieving professional and commercial subtitling conventions, Persian subtitles barely respect the technical aspects, such as temporal and spatial constraints (Ameri and Khoshsaligheh, 2019; Khoshsaligheh et al., 2020). Therefore, translations made by Iranian amateurs are barely perfect and comparable with commercial subtitles; however, the participants enjoyed both amateur and professional subtitles alike. This leads us to believe that users probably conceive quality from another perspective, at least different from what is understood in the industry and academia (Baños Piñero and Díaz-Cintas, 2015; Orrego-Carmona, 2019). The last reason, as discussed in the literature review, can be ascribed to “thresholds of acceptability” (Chaume, 2012) or “tolerance thresholds” (Romero Fresco, 2019). Iranian viewers have the tendency to ignore incorrect subtitles to immerse themselves in the program and enjoy it.

Some exceptions should be discussed too. The participants in the amateur group had problems with the duration of the subtitles, as the reading speed of some subtitles far exceeded the recommended figure. For Pedersen (2019), when the subtitling reading speed is much higher than expected, subtitles become quite unreadable since the viewer needs adequate time for “cognitive processing of the information [within the subtitle] to understand it” (Tamayo, 2016: 276). Despite all these, a recent study revealed that individuals are capable of keeping up with the subtitles with higher reading speed even though they spend less time watching on-screen actions (Szarkowska and Gerber-Morón, 2018). This should not be overlooked that the participants of our study were from a dubbing country and they had grown up accustomed to dubbing—although they may now be subtitling users—therefore their unfamiliarity with professional subtitling may cause them to

become slower readers. Thus, “the more you watch subtitled products, the more proficient you become” (Massidda, 2015: 54).

Amateur subtitling, however, resulted in comprehension losses, while professional subtitling boosted the comprehension. Poor comprehension scores in the amateur subtitling group can be well ascribed to the linguistic inaccuracies and higher reading speeds in Persian non-professional subtitling (Khoshsaligheh et al., 2020). This finding is in sharp contrast with the findings of Künzli and Ehrensberger-Dow (2011) and Orrego-Carmona (2016) who reported no significant comprehension loss.

The other results suggested that individuals’ level of exposure to foreign cinematic programs and subtitling did not affect their reception. This is not in line with the findings of Szarkowska and Gerber-Morón (2018) who found that those who are more exposed to subtitles might show less cognitive efforts and frustrations. There is one possible explanation; the participants of Szarkowska and Gerber-Morón (2018) were from three different countries with diverse AVT traditions, whereas our participants were Iranians with different degrees of experiences with subtitles and foreign cinematic programs. In addition, Orrego-Carmona (2015) showed that individuals with a varying degree of familiarity with subtitling presented significantly different reception, especially in terms of comprehension, fixation, and reading effort. To sum up, the findings suggest that audience’s immersion and engagement into the program were not significantly affected by amateur subtitles as the reception of the viewers remained the same across the two groups, except for subtitling reception and comprehension.

Despite in need for further studies with different samples, diverse stimuli and varying language pairs, this article has offered some fruitful insights, yet, with the consideration of some limitations, which could contribute to the existing research on amateur subtitling. The use of self-report questionnaires, as “offline measures” leaves room for “online measures” such as eye trackers and electroencephalograms (see Kruger and Doherty, 2018). In view of the relationship between subtitling reception and age (Perego et al., 2015), interested researchers could examine how amateur subtitling is differently received by the young and the elderly. The language of the stimuli used in this study was German dubbing due to methodological considerations. To maximize the credibility of findings, future reception studies are recommended to incorporate a stimulus with original language and the language competency of the participants could be assessed prior to the experiment to understand how people with varying levels of English react to the subtitled programs (see Orrego-Carmona, 2015). More importantly, the present study analyzed amateur subtitling reception from a broad perspective. It is known that Persian amateur subtitling encompasses some specific features, as discussed in Ameri and Khoshsaligheh (2019). These specific features, say higher reading speed, poor segmentation, literal translation, and frequent commentaries, could be examined as a separate variable. Previous research, for instance, has examined poor segmentation and its reception (Gerber-Morón et al., 2018; Perego et al., 2010). The TV show used for this study was dialogue-based but not fast-paced. Given the possible effect of the subtitles of fast-paced dialogues on users’ comprehension (Szarkowska and Bogucka, 2019), future research is suggested to replicate this research with a sample of fast-paced content. Non-professional and amateur subtitling has registered splendid research achievements over its lifetime; it is hoped this study has advanced our current knowledge of this phenomenon.

References

- AMERI, Saeed, and Maryam Ghodrati. 2019. " جایگاه محصولات سینمایی خارجی در یادگیری زبان انگلیسی از کلاس درس خارج از کلاس [Watching foreign audiovisual programs and out-of-class language learning]." *Journal of Language and Translation Studies* 52 (2):127-156.
- AMERI, Saeed, and Masood Khoshsaligheh. 2019. "Iranian amateur subtitling apparatus: A qualitative investigation." *Mutatis Mutandis: Revista Latinoamericana de Traducción* 12 (2):431-451. doi: 10.27533/udea.mut.v12n2a08.
- AMERI, Saeed, and Masood Khoshsaligheh. 2022. "Insights into Iranian younger audiences of Persian amateur subtitling." *Onomázein*. doi: 10.7764/onomazein.56.07.
- BAÑOS PIÑERO, Rocío, and Jorge Díaz-Cintas. 2015. "Audiovisual translation in a global context." In *Audiovisual translation in a global context: Mapping an ever-changing landscape*, edited by Rocío Baños Piñero and Jorge Díaz Cintas, 1-10. Basingstoke, England: Palgrave Macmillan.
- BISSON, Marie-JosÉE, Walter J. B. Van Heuven, Kathy Conklin, and Richard J. Tunney. 2014. "Processing of native and foreign language subtitles in films: An eye tracking study." *Applied Psycholinguistics* 35 (2):399-418. doi: 10.1017/S0142716412000434.
- BOGUCKI, Łukasz. 2009. "Amateur subtitling on the internet." In *Audiovisual translation: Language transfer on screen*, edited by J Diaz-Cintas and Gunilla Anderman, 49-57. Basingstoke, England: Palgrave Macmillan.
- CHAUME, Frederic. 2012. *Audiovisual Translation: Dubbing*. Manchester, England: St. Jerome.
- CHESTERMAN, Andrew. 2016 [1997]. *Memes of translation: The spread of ideas in translation theory*. Revised ed. Amsterdam, The Netherlands: John Benjamins.
- CHO, Hyunyi, and L. Brooke Friley. 2015. "Narrative communication of risk: Toward balancing accuracy and acceptance." In *The SAGE handbook of risk communication*, edited by Hyunyi Cho, Torsten Reimer and Katherine A. McComas, 180-192. Thousand Oaks, CA: SAGE.
- CHO, Hyunyi, Lijiang Shen, and Kari Wilson. 2014. "Perceived realism: Dimensions and roles in narrative persuasion." *Communication Research* 41 (6):828-851. doi: 10.1177/0093650212450585.
- COHEN, Louis, Lawrence Manion, and Keith Morrison. 2018. *Research methods in education*. 8th ed. London, England: Routledge.
- D'YDEWALLE, Géry, cCaroline Praet, Karl Verfaillie, and Johan Van Rensbergen. 1991. "Watching Subtitled Television: Automatic Reading Behavior." 18 (5):650-666. doi: 10.1177/009365091018005005.
- DI GIOVANNI, Elena. 2018. "The reception of professional and non professional subtitles: Agency, awareness and change." *Cultus Journal* 11:18-37.
- DÍAZ-CINTAS, Jorge. 2019. "Audiovisual Translation in Mercurial Mediascapes." In *Advances in Empirical Translation Studies: Developing Translation Resources and Technologies*, edited by Meng Ji and Michael Oakes, 177-197. Cambridge: Cambridge University Press.
- DÍAZ CINTAS, Jorge. 2020. "Audiovisual translation " In *The Bloomsbury companion to language industry studies*, edited by Erik Angelone, Maureen Ehrensberger-Dow and Gary Massey, 209-230. London, England: Bloomsbury.
- DIAZ CINTAS, Jorge, and Pablo Muñoz Sánchez. 2006. "Fansubs: Audiovisual translation in an amateur environment." *Jostrans: The Journal of Specialised Translation* 6:37-52.
- DOHERTY, Stephen, and Jan-Louis Kruger. 2018. "Assessing quality in human and machine-generated subtitles and captions." In *Translation quality assessment: From principles to*

- practice*, edited by Joss Moorkens, Sheila Castilho, Federico Gaspari and Stephen Doherty, 179-197. London: Springer.
- DWYER, Tessa. 2012. "Fansub Dreaming on Viki: "Don't Just Watch But Help When You Are Free"." *The Translator* 18 (2):217-243. doi: 10.1080/13556509.2012.10799509.
- FOX, Wendy. 2016. "Integrated titles: An improved viewing experience?" In *Eyetracking and Applied Linguistics*, edited by Silvia Hansen-Schirra and Sambor Grucza, 5-30. Berlin: Language Science Press.
- FRYER, Louise, Linda Pring, and Jonathan Freeman. 2013. "Audio Drama and the Imagination." *Journal of Media Psychology* 25 (2):65-71. doi: 10.1027/1864-1105/a000084.
- GERBER-MORÓN, Olivia, Agnieszka Szarkowska, and Bencie Woll. 2018. "The impact of text segmentation on subtitle reading." *Journal of Eye Movement Research* 11 (4):1-18. doi: 10.16910/jemr.11.4.2.
- GOTTLIEB, Henrik. 2018. "Semiotics and translation." In *The Routledge handbook of translation studies and linguistics*, edited by Kirsten Malmkjaer, 45-63. London, England: Routledge.
- GREEN, M. C., and T. C Brock. 2013. Transport narrative questionnaire. http://www.midss.org/sites/default/files/transport_narrative_questionnaire.pdf.
- GREEN, Melanie C. 2008. "Transportation theory." In *The international encyclopedia of communication*, edited by Wolfgang Donsbach, 1-7. New Jersey, NJ: John Wiley & Sons.
- GREEN, Melanie C., Timothy C. Brock, and Geoff F. Kaufman. 2004. "Understanding Media Enjoyment: The Role of Transportation Into Narrative Worlds." 14 (4):311-327. doi: 10.1111/j.1468-2885.2004.tb00317.x.
- GREEN, Melanie C., and Kaitlin Fitzgerald. 2017. "Transportation theory applied to health and risk messaging." In *Oxford research encyclopedia of communication*, edited by Jon F. Nussbaum, 1-25. Oxford, England: Oxford University Press.
- GREEN, Melanie C., and Marc Sestir. 2017. "Transportation theory." In *The international encyclopedia of media effects.*, edited by Patrick Rössler, 1-14. John Wiley & Sons.
- GUILLOT, Marie-Noëlle. 2019. "Subtitling on the cusp of its futures." In *The Routledge handbook of audiovisual translation*, edited by Luis Pérez-González, 31-47. London, England: Routledge.
- HALL, A. E. 2017. "Perception of Reality." In *The international encyclopedia of media effects*, edited by C. A. Hoffner and L. Zoonen P. Rössler, 1-20. New York, NY: John Wiley & Sons.
- HARKNESS, J. A. 2003. "Questionnaire translation." In *Cross-cultural survey methods*, edited by J.A Harkness, F van de Vijver and P. Ph Mohler, 35-56. New York, NY: John Wiley and Sons.
- HARKNESS, J. A, A Villar, and B Edwards. 2010. "Translation, adaptation, and design." In *Survey methods in multinational, multiregional, and multicultural contexts*, edited by J. A Harkness, Sabine Braun, B Edwards, Timothy P. Johnson, Lars E. Lyberg, Peter Ph. Mohler, Beth-Ellen Pennell and Tom W. Smith, 15-140. Hoboken, NJ: John Wiley & Sons.
- HASSANKHANI, A. 2011. "Two samples of subtitles: Killing the meaning by the incompetent translator." *Film Quarterly* 434:34-36.
- HATCHER, Jordan S. 2005. "Of Otakus and fansubs: A critical look at anime online in light of current issues in copyright law." *SCRIPT-ed* 2 (4). doi: 10.2966/scrip.020405.514.
- JALILI, A. R. 2001. "سیدی فیلم‌های روز جهان، با زیرنویس فارسی برای تقویت زبان انگلیسی." *Iranian Film Magazine* 272:32-33.

- JIMÉNEZ-CRESPO, Miguel A. 2017. *Crowdsourcing and Online Collaborative Translations: Expanding the Limits of Translation Studies*. Amsterdam, Netherlands: John Benjamins.
- KHOSH-SALIGHEH, Masood, and Saeed Ameri. 2017. "عاملیت مترجم و ویژگی‌های ترجمه غیر حرفه‌ای [Translator's agency and features of non-professional translation of video games (A case study of Uncharted 4: A Thief's End)]." *Language Related Research* 8 (5):181-204.
- KHOSH-SALIGHEH, Masood, Saeed Ameri, Binazir Khajepour, and Farzaneh Shokoohmand. 2019. "Amateur subtitling in a dubbing country: The reception of Iranian audience." *Observatorio* 13 (3):71-94.
- KHOSH-SALIGHEH, Masood, Saeed Ameri, Farzaneh Shokoohmand, and Mehdi Mehdizadkhani. 2020. "Subtitling in the Iranian Mediascape: Towards a Culture-Specific Typology." *International Journal of Society, Culture & Language* 8 (2):55-74.
- KHOSH-SALIGHEH, Masood, and Elham Fazeli Haghpanah. 2016. "فرایند و ویژگی‌های زیرنویس [The process and features of fansubtitling in Iran]." *Language and Translation Studies* 49 (2):67-95.
- KIM, Taeyong, and Frank Biocca. 1997. "Telepresence via television: Two dimensions of telepresence may have different connections to memory and persuasion." *Journal of Computer-Mediated Communication* 3 (2):online. doi: 10.1111/j.1083-6101.1997.tb00073.x.
- KRUGER, Haidee, and Jan-Louis Kruger. 2017. "Cognition and reception." In *The handbook of translation and cognition*, edited by John W. Schwieter and Aline Ferreira, 71-89. Hoboken, NJ: John Wiley & Sons.
- KRUGER, Jan-Louis, S Doherty, W Fox, and P. de Lissa. 2018. "Multimodal measurement of cognitive load during subtitle processing: Same-language subtitles for foreign language viewers." In *Innovation and Expansion in Translation Process Research*, edited by I. Lacruz and R. Jääskeläinen, 267-294. Amsterdam, Netherland: John Benjamins.
- KRUGER, Jan-Louis, and Stephen Doherty. 2018. "Triangulation of online and offline measures of processing and reception in AVT." In *Reception studies and audiovisual translation*, edited by Elena Di Giovanni and Yves Gambier, 92-109. Amsterdam: John Benjamins.
- KRUGER, Jan-Louis, Stephen Doherty, and María-T. Soto-Sanfie. 2017. "Original language subtitles: Their effects on the native and foreign viewer." *Comunicar* 50 (1):23-32.
- KRUGER, Jan-Louis, María T. Soto Sanfel, Stephen Doherty, and Ronny Ibrahim. 2016. "Towards a cognitive audiovisual translatology: Subtitles and embodied cognition." In *Reembedding translation process research*, edited by Ricardo Muñoz Martín, 171-193. Amsterdam, Netherlands: John Benjamins
- KRUGER, Jan-Louis, Agnieszka Szarkowska, and Izabela Krejtz. 2015. "Subtitles on the moving image: An overview of eye tracking studies." *Refractory: A Journal of Entertainment Media* 25:<http://refractory.unimelb.edu.au/2015/02/07/kruger-szarkowska-krejtz/>.
- KÜNZLI, Alexander, and Maureen Ehrensberger-Dow. 2011. "Innovative subtitling: A reception study." In *Methods and strategies of process research: Integrative approaches in translation studies*, edited by Cecilia Alvstad, Adelina Hild and Elisabet Tiselius, 187-200. Amsterdam, Netherlands: John Benjamins.
- LÅNG, Juha. 2016. "Subtitles vs. narration: The acquisition of information from visual-verbal and audio-verbal channels when watching a television documentary." In *Eyetracking and applied linguistics*, edited by Silvia Hansen-Schirra and Sambor Grucza, 59-82. Berlin, Germany: Language Science Press.

- LEE, Kwan Min. 2004. "Presence, explicated." *Communication Theory* 14 (1):27-50. doi: 10.1111/j.1468-2885.2004.tb00302.x.
- MASSIDDA, Serenella. 2015. *Audiovisual Translation in the Digital Age: The Italian Fansubbing Phenomenon*. Basingstoke, England: Palgrave Macmillan.
- MASSIDDA, Serenella, and Alice Casarini. 2017. "Sub me do: The development of fansubbing in traditional dubbing countries – the case of Italy." In *Non-Professional Subtitling*, edited by David Orrego-Carmona and Yvonne Lee, 63-86. Cambridge: Cambridge Scholars Publishing.
- MOTAMEDI, A. 2011. "سیري در آشفته بازار زیرنویس فارسي در شبکه قاچاق فيلم همه چیز درباره زیرنویس فارسي" *Film Quarterly* 434:26-31.
- NETFLIX. 2018. General subtitling guidelines. <https://backlothelp.netflix.com/hc/en-us/articles/215758617-Timed-Text-Style-Guide-General-Requirements>.
- NORNES, Abe Mark. 1999. "For an Abusive Subtitling." *Film Quarterly* 52 (3):17-34. doi: 10.2307/1213822.
- ORERO, Pilar, Stephen Doherty, Jan-Louis Kruger, Anna Matamala, Jan Pedersen, Elisa Perego, Pablo Romero-Fresco, Sara Rovira-Esteva, Olga Soler-Vilageliu, and Agnieszka Szarkowska. 2018. "Conducting experimental research in audiovisual translation (AVT): A position paper." *Journal of Specialised Translation* (30):105-126.
- ORREGO-CARMONA, David. 2015. "The reception of (non) professional subtitling." Unpublished doctoral dissertation, Universitat Rovira i Virgili
- ORREGO-CARMONA, David. 2016. "A reception study on non-professional subtitling: Do audiences notice any difference?" *Across Languages and Cultures* 17 (2):163–181. doi: 10.1556/084.2016.17.2.2.
- ORREGO-CARMONA, David. 2019. "A holistic approach to non-professional subtitling from a functional quality perspective." *Translation Studies* 12 (2):196-212. doi: 10.1080/14781700.2019.1686414.
- PAAS, F, A Renkl, and J Sweller. 2016. *Cognitive load theory: A special issue of Educational psychologist*. London, England: Routledge.
- PEDERSEN, Jan. 2017. "The FAR model: Assessing quality in interlingual subtitling." *JoSTrans* 28:210-229.
- PEDERSEN, Jan. 2019. "Fansubbing in subtitling land: An investigation into the nature of fansubs in Sweden." *Target* 31 (1):50–76. doi: 10.1075/target.18017.ped
- PEDERSEN, Jan. 2019, March. Celebrity interview: Jan Pedersen. In <https://www.mdsubs.com/about-me>, edited by Max Deryagin.
- PEREGO, Elisa, Fabio Del Missier, Marco Porta, and Mauro Mosconi. 2010. "The cognitive effectiveness of subtitle processing." *Media Psychology* 13 (3):243-272. doi: 10.1080/15213269.2010.502873.
- PEREGO, Elisa, Fabio Del Missier, and Sara Bottiroli. 2015. "Dubbing versus subtitling in young and older adults: Cognitive and evaluative aspects." *Perspectives: Studies in Translatology* 23 (1):1-21. doi: 10.1080/0907676X.2014.912343.
- PEREGO, Elisa, David Orrego-Carmona, and Sara Bottiroli. 2016. "An empirical take on the dubbing vs. subtitling debate. An eye movement study." *Lingue e Linguaggi* 19:255-274.
- ROMERO FRESCO, Pablo. 2019. *Accessible filmmaking: Integrating translation and accessibility into the filmmaking process*. London, England: Routledge.
- SAINT-MONT, Uwe. 2015. "Randomization does not help much, comparability does." *PLOS ONE* 10 (7):e0132102. doi: 10.1371/journal.pone.0132102.

- SALDANHA, Gabriela, and Sharon O'Brien. 2013. *Research methodologies in translation studies*. Manchester, England: St. Jerome.
- SHAHBA, Mohammad. 2020. "In conversation with Mohammad Shahba about film subtitling." *Motarjem* 29 (72):77-83.
- SWELLER, John, Jeroen J. G. van Merriënboer, and Fred %J Educational Psychology Review Paas. 2019. "Cognitive Architecture and Instructional Design: 20 Years Later." 31 (2):261-292. doi: 10.1007/s10648-019-09465-5.
- SZARKOWSKA, Agnieszka, and Lidia Bogucka. 2019. "Six-second rule revisited: An eye-tracking study on the impact of speech rate and language proficiency on subtitle reading." 2 (1):101-124. doi: 10.1075/tcb.00022.sza.
- SZARKOWSKA, Agnieszka, and Olivia Gerber-Morón. 2018. "Viewers can keep up with fast subtitles: Evidence from eye movements." *PLOS ONE* 13 (6):e0199331. doi: 10.1371/journal.pone.0199331.
- TAL-OR, Nurit, and Jonathan Cohen. 2010. "Understanding audience involvement: Conceptualizing and manipulating identification and transportation." *Poetics* 38 (4):402-418. doi: <https://doi.org/10.1016/j.poetic.2010.05.004>.
- TAMAYO, Ana. 2016. "Reading speed in subtitling for hearing impaired children: An analysis in Spanish television." *JoSTrans* 26:275-294.
- WALCZAK, Agnieszka, and Louise Fryer. 2017. "Vocal delivery of audio description by genre: measuring users' presence." *Perspectives*:1-15. doi: 10.1080/0907676X.2017.1298634.
- WEIBEL, David, Bartholomäus Wissmath, and Fred W Mast. 2010a. "Immersion in Mediated Environments: The Role of Personality Traits." *Cyberpsychology, Behavior, and Social Networking* 13 (3):251-256. doi: 10.1089/cyber.2009.0171.
- WEIBEL, David, Bartholomäus Wissmath, and Fred W Mast. 2010b. "Immersion in mediated environments: the role of personality traits." *Cyberpsychology, Behavior, Social Networking* 13 (3):251-256.
- ZABALBEASCOA, Patrick. 2008. "The nature of the audiovisual text and its parameters." In *The didactics of audiovisual translation*, edited by Jorge Díaz Cintas, 21-37. Amsterdam, The Netherlands: John Benjamins.

Saeed Ameri
 Postdoctoral Researcher in Translation Studies
 Department of English
 Ferdowsi University of Mashhad
 Mashhad, Iran
 s.ameri@mail.um.ac.ir

Masood Khoshsaligheh (corresponding author)
 Professor in Translation Studies
 Department of English
 Ferdowsi University of Mashhad
 Mashhad, Iran
 khoshsaligheh@um.ac.ir

In SKASE Journal of Translation and Interpretation [online]. 2021, vol. 14, no. 2 [cit. 2021- 07-29].
Available online at http://www.skase.sk/Volumes/JTI21/pdf_doc/01.pdf. ISSN 1336- 7811.