Subtitling Practices in Semi-Professional Persian Game Localization

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Abstract Subtitling is one of the most widely used translation practices in the localization of video games and enjoys great popularity among end-users. Given the language-bound nature of subtitling practices, the present study seeks to shed light on the subtitling practices followed in Persian game localization and empirically provide a descriptive account of how game localization is carried out in the Iranian context. To this end, five video games were tested and played by the authors, and 300 subtitle segments were extracted from each title (totaling 1500 subtitle segments) and their respective translations in localized versions (totaling 3000 segments). Subtitles were analyzed in terms of subtitle length and segmentation, font (size adjustability, type, color, and background), character identification, sound effects, emotions, and line breaks. It was revealed that the Persian localized versions were very similar to the original regarding font, character identification, sound effects, and emotions. However, subtitle length and segmentation varied between the original and localized game versions.

Keywords: *Subtitles, Video games, Localization, Interlingual, Iran*

1. Introduction

Currently, video games have turned into the number one entertainment go-to among the public, making the video games industry a multi-billion-dollar industry, surpassing the revenues of any other medium of entertainment. Localization is the main reason for the increased popularity of video games on an international scale since it ensures that a video game is linguistically, culturally, and technically accepted in another locale (Mangiron, 2018). The importance of localization can also become more pronounced considering the economic, social, and cultural relevance of video games within the recipient context (Spirchagova et al., 2021). As multimedia and multimodal software products that contain image, sound, and text with which players can interact (Mangiron, 2013), the localization of these various assets requires a completely different approach compared to the localization of any other product (Thayer & Kolko, 2004).

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Thanks to technological advancements, modern-day video games are completely different compared to the earliest instances of video games in the 1960s. The early video games included very limited text, and there were not many translatable assets for the translation and localization team to deal with. One of the major technological developments that made the inclusion of more texts and audio in video games possible was the increased storage capacities of video games by moving from CD-ROM to DVD-ROM (Pettini, 2021). As a result of this transition, more data could be stored in video games, which was synonymous with enhanced graphics and recorded human voices (Mangiron, 2013). As a result, subtitling and dubbing were incorporated into the process of localization for the first time (Mangiron, 2013). Especially when it comes to AAA titles, video games with a very large development budget, the amount of data to be translated and localized is overwhelming. For instance, the Persian localization of *Red Dead Redemption 2* (2018) involved the translation of 300 thousand lines of dialogue spanning over a playtime of 60 hours. In addition to the textual materials, the graphic, audio, and cinematic assets are also other major aspects that need to be taken into consideration throughout the process of localization.

The increased complexity of video games has, in turn, added to the complexity of game localizers' work. The translation of oral dialogues for subtitling, translating pop-up texts, time constraints, space constraints, and the number of characters per subtitle line are only some of the challenges facing the translators and localizers of video games (Bernal-Merino, 2007). Especially, issues such as space constraints, the number of characters per line, and lip-synching (in the case of dubbed video games) are of great importance since they can lead to distorted graphics or a loss of information if not properly observed and controlled. When it comes to video game subtitles, in addition to temporal and spatial constraints, alignment and segmentation are also important considerations that should not go unchecked (Mangiron, 2013).

As an audiovisual product, video games share a lot in common with the translation of other non-interactive polysemiotic products, especially in terms of dialogue writing with regard to dubbing and translation for subtitling (Bernal-Merino, 2007). Cut-scenes constitute the most salient common feature between video games and other non-interactive audiovisual products (O'Hagan & Mangiron, 2013), which "unveils the nature of game localization as an AVT-specialized sub-domain" (Pettini, 2021, p. 33). Cut-scenes can serve a variety of functions: (1) set the story and introduce the narrative of the game to the player; (2) set the central conflict of the game; (3) empathize between the central character of the game and the player; and (4) provide gameplay information to the player (Egenfeldt-Nielsen et al., 2019, pp. 209-210). Although subtitles and voice-over assets are present throughout most games, cut-scenes are where dubbing and subtitling techniques, approximately similar to those of AVT, are brought together (O'Hagan & Mangiron, 2013).

As already mentioned, video games draw on images, text, and sound to make meaning. Depending on the particular game situation at hand, the level of interactivity can vary from zero to total interactivity (Mejías-Climent, 2021). As highlighted by (Bernal-Merino, 2008), the most distinguishing feature between interactive and non-interactive multimedia products is the element of play. It is considered as an "emotional activity within society" (Bernal-Merino, 2008, p. 30). Furthermore, when it comes to video games, the players are no longer merely passive spectators who sit back and watch what transpires on the screen; they are the ones who are actively engaged with the product where the game constantly tries to challenge them and incentivize them to push even further.

Given the fact that different languages can pose particular problems in the process of localization (e.g., single-byte versus double-byte language characters) (Thayer & Kolko, 2004), it is of great importance to conduct studies on the subtitling practices followed for different languages and different contexts. Along the same line, the current study seeks to provide a descriptive account of the features of video game subtitles followed in semi-professional Persian game localization. The question to which the research seeks to provide an answer is as follows:

- What are the current subtitling practices followed in semi-professional Persian game localization?

2. Theoretical Framework

2.1. Iranian AVT Landscape

Although Iran has traditionally been recognized as a dubbing country and has a long-standing dubbing tradition, subtitling has been gaining more and more popularity among the Iranian audience (Ameri & Khoshsaligheh, 2022). This shift of preference has been reflected in the consumption of localized video games in that Iranian gamers almost equally prefer subtitling compared to dubbing (Khoshsaligheh & Ameri, 2020). With regards to non-interactive audiovisual products, the most prevalent type of subtitling activity in Iran has been that of non-professional subtitling or fansubbing. This can be explained by the increasing interest of the Iranian youth to be able to watch the latest blockbuster movies or series in Persian almost immediately upon release (Khoshsaligheh & Fazeli Haghpanah, 2016). Non-professional subtitling is characterized by a lack of remuneration, little to no academic training, a lack of respect for copyright laws, and a lack of professional code of conduct and standardization (Antonini et al., 2017). Given these characteristic features for non-professional subtitling activities, Khoshsaligheh et al. (2020) argue for the absence of any kind of professional subtitling activities within the Iranian mediascape. By analogy, the practice of game localization in Iran is done, in part, by unofficial localization groups that do not abide by copyright regulations and whose activity cannot be recognized as 'professional'. On the other hand, it cannot be clearly demarcated as non-professional since the localization teams employ in-house translators, and there is some level of remuneration involved for the activity. Furthermore, the practice is comprised of teams of both translators and software engineers who collaborate with each other to provide a final product that is sold on online websites, and such activity has been mushrooming in recent years. These localization teams also work unofficially without direct supervision by any governmental organization. Hence, to account for the activities of these localization groups, the term 'semi-professional' has been employed.

2.2. Subtitling in Video Games

Subtitling and dubbing practices in video games are different from those that are followed for other audiovisual products (Mangiron, 2017). From developers' perspective, unlike screen translation, where dubbing is the preferred option, subtitling is the preferred option for game developers when localizing their products since it is more cost-effective and more time-consuming (Mangiron & O'Hagan, 2006). Additionally ,there are differences involved between subtitling for video games and other non-interactive audiovisual products. Subtitles in video games are presented at a faster rate compared to conventional non-interactive audiovisual products and can also be controlled by the player (Mangiron & O'Hagan, 2006); however, the possibility of being able to control the pace with which subtitles are presented is not available in all video games, and this is not possible in most action-adventure or RPG (role-playing games) titles.

Given the faster presentation rate of video game subtitles, it is of great importance for translators to ensure the right amount of information is presented to the players so that they have enough time to read and understand the information necessary to progress in the game (Mangiron & O'Hagan, 2004). In terms of workflow, video game translators do not work with the typical subtitling programs for the subtitling of non-interactive audiovisual material. Instead, they usually deal with Excel spreadsheets that, more often than not, contain decontextualized strings of text (Mangiron, 2018). Further exacerbating the issue of decontextualization is the point that both subtitling and dubbing scripts are presented to translators based on the characters' dialogues; thus, the strings do not follow a logical order of presentation (O'Hagan, 2019).

Also related to the presentation of subtitles, subtitles in video games are more comic-style-like and can be presented in speech bubbles (Mangiron, 2013). With regards to subtitling, the subtitling practices followed by different game development companies, both for interlingual and intralingual subtitles, are extremely *ad hoc*, and there is no standard practice available in this regard (Mangiron, 2013). As the main mode of translation for the partial localization of video games (Khoshsaligheh et al., in press), the rendition of interlingual subtitles needs to be done at an acceptable and standard level. The importance is even further highlighted when considering the fact that subtitles serve as guides in the game.

Therefore, information related to gameplay, such as character names, place names, or objectives to be accomplished, is highlighted with a different color (Mangiron, 2007).

Adding to this complexity is the different treatment of dialogues in video games. As highlighted by Mangiron and O'Hagan (2006), in game subtitles, the semantic units are not given as much importance and it is, thus, common to find subtitle segments that are divided into units that semantically do not make sense. Against this backdrop, there is a need to address the current subtitling practices in video games, on the one hand, and how subtitling is carried out through the process of localization on the other. Keeping these considerations in mind, various attempts have been made to shed light on both interlingual and intralingual subtitling practices by video game developers.

2.3. A Quest for Guidelines

Even though subtitling guidelines are already in place for the subtitling of audiovisual products, subtitling in video games does not follow the norms followed for other AVT products (Mangiron, 2013). To provide solutions to this problem, scholars have sought to carry out both descriptive and empirical research to contribute to the development of best practices for the subtitling of video games.

Focusing on how closed captions should be presented in order to increase accessibility for those with hearing impairment, von Tol (2006) set out to introduce some ways through which games could become more accessible to the hearing impaired. He suggested the use of speaker portraits, action captions, sound balloons, sound visualization, video clips, danger meters, radars, and sign language. These suggestions constituted one of the initial attempts at making video game subtitles better and more accessible.

Further attempts have been made to improve the quality of video game subtitles by other scholars as well. Gareth Griffiths (2009) presents a set of 16 guidelines for subtitling video games. These include: (1) subtitles font; (2) using a "large enough" font size; (3) using a consistent font size; (4) viewable subtitles on different output devices; (5) subtitle length; (6) appropriate space between words and lines; (7) possibility for turning subtitles on/off; (8) controllable subtitles; (9) controllable presentation rate; (10) appropriate subtitle color; (11) proper character identification; (12) subtitling non-speech information; (13) positioning; (14) synchronization; (15) consideration for unusual speech; and (16) quality.

Combining the suggestions presented by Díaz-Cintas and Remael (2007) for subtitling AVT products for television and DVD, and von Tol (2006) and Griffiths's (2009) guidelines for subtitling for video games, Mangiron (2012) set out to develop a set of guidelines for subtitling video games that would contribute to increased accessibility and standardization. She introduced a set of 17 guidelines: (1) all elements with sound should be translated (e.g., dialogues, ambient sounds, etc.); (2) fonts should be easy to read, without Serifs; (3) font size should be adjustable by players; (4) subtitles should be legible on both standard and high-definition televisions; (5) at best 45 characters should be used per line; (6) at best two-lines of subtitles should be used; (7) players should be able to turn the subtitles on/off; (8) different buttons should be used for toggling subtitles on/off in comparison with buttons used for other actions; (9) subtitles should be presented when players are not required to focus on the action in the game; (10) the presentation of subtitles should be controllable by players; (11) subtitles should be presented in a box with a background; (12) character names should be used for proper character identification; (13) different colors should be used for identifying different characters; (14) important information should be highlighted using a different color; (15) subtitles should be synchronized with the image and sound; (16) subtitles should be free of grammatical or spelling errors; and (17) semantic unity should be observed when segmenting the subtitles (Mangiron, 2012).

In a descriptive study to provide a panoramic view of subtitling practices followed in the video games industry, Mangiron (2013) found that subtitles in video games deviate from the guidelines established in AVT. Also, it was revealed that game development companies follow an ad-hoc approach when it comes to subtitling video games, and there is great variation in the practices followed both for interlingual and intralingual subtitles.

One of the pioneering empirical studies regarding subtitling in video games was that of Mangiron (2016), who attempted to analyze the reception of video game subtitles by recruiting 25 participants (12 hearing and 13 deaf users). Preceded by a quantitative approach to capture players' preferences, it was

found that 75% of hearing players did not activate subtitles while playing the game, while 86% of deaf participants relied on subtitles to interact with the game story and to understand what the characters in the game said. Regarding the findings of the second phase of the study, it was found that the most preferred subtitle was a font size of 32 points projected on a white speech box. Also, shorter-centered two-liners were preferred by the majority of participants. Regarding the presentation of subtitles, the findings were split between presenting subtitles in a box or having them directly displayed on the screen.

The most favorable way for character identification for hearing users was the use of name tags and avatars together, while deaf participants leaned heavier towards the use of colors for this purpose. Furthermore, it was preferred by groups to make use of a comic-style pop-up onomatopoeia for the representation of sound effects. This study can serve as an important initial step towards more empirical research in order to come up with standardized guidelines for video game subtitles.

One of the latest attempts in this regard is that of Johnson (2019). Presenting a set of 14 general considerations for subtitling video games based on, primarily, BBC subtitling standards in the UK, he highlights appropriate font size (at least 46 pixels at 1080p), subtitle length (38 characters per line with, at best, two-liner subtitles), different ways for displaying subtitles, accuracy, completeness, bottom-center alignment, character identification, transcribing the important sounds, specifying the source of sounds, subtitle duration, and font type (Johnson, 2019).

In an interesting piece of research, Deckert and Hejduk (2022) sought to analyze how spelling errors would affect players' gameplay experience. It was revealed that spelling errors go mostly unnoticed by players, and it also does not affect players' perception of translators as professionals.

As highlighted by the overview presented above, attempts to highlight subtitling in video games are on the rise; however, the pace of development of this line of research has been rather slow. Furthermore, the focus has been mainly on providing suggestions regarding the best ways for subtitling video games by drawing primarily on the practices followed for non-interactive audiovisual products; thus, not providing enough insights into how the practice of video game subtitling is currently being carried out (except Mangiron, 2013; Mangiron, 2016). Given that subtitling practices are language-bound (Díaz-Cintas & Remael, 2007), it is of great importance to carry out more research on video game subtitling practices in Persian.

Research on game localization in the Persian context is nascent, and fewer scholarly attempts have been made on the practice of game localization. Particularly, the semi-professional localization of video games has been almost completely neglected in the Iranian context (except Zoraqi & Kafi, 2023) and, as a practice that has been gaining momentum in recent years in Iran, deserves scholarly attention. Furthermore, it has been suggested that Iranian gamers usually prefer subtitled video games over dubbed products (Khoshsaligheh & Ameri, 2020). Given the relative popularity of subtitled video games among Iranian gamers, it is of great prominence to study the semi-professional subtitling practices in this context.

3. Methodology

The purpose of the present study is to provide a descriptive account of the subtitling practices followed in the semi-professional localization of video games into Persian. Following the approach adopted by Mangiron (2013), the subtitles are analyzed in terms of length and segmentation, font (font size adjustability, type, color, and background), character identification, sound effects, emotions, and line breaks. The corpus of the study consists of a purposive sample, including the Persian localizations of five video games.

3.1. Material

This study draws on the subtitle segments extracted from five semi-professionally Persian localized titles. Table 1 presents the list of the video games constituting the corpus of the present study, along with their localization year.

Table 1
The Corpus of the Study

Title	Developing company	Production year	Localization group	Localization year
Assassin's Creed Odyssey	Ubisoft	2018	Gamesub	2020
Days Gone	Bend Studio	2019	Gamesub	2021
God of War	Santa Monica Studio	2018	Gamesub	2022
Max Payne 3	Rockstar Studio	2012	Gamesub	2016
Metro Exodus	4A Games	2019	Gamesub	2020

The Persian localized versions of the games are provided by Gamesub, a major unofficial semi-professional game localization group in Iran. For each game title, 300 subtitle segments were extracted and then compared with their corresponding segments in Persian localized versions, adding up to a total of 3000 subtitle segments (1500 original English segments and 1500 corresponding segments in Persian). Although the gameplay time varies depending on the game, the subtitle segments were transcribed from 1 hour of playtime from each game.

3.2. Procedure

The gameplays of the English original video games were accessed on YouTube, while all the Persian localized versions were played by one of the researchers, and the screen was recorded using Aiseesoft Game Recorder. After obtaining the recorded gameplay videos of both the English original and Persian localized versions, the subtitle segments were then transcribed into a Word document, along with the corresponding segments in all Persian localized versions. Then, the subtitle segments were analyzed in terms of the number of characters included, segmentation, and line breaks. Other aspects were analyzed based on the recorded videos.

4. Findings

The subtitle segments were analyzed from five aspects: subtitle length and segmentation, font (font size adjustability, type, color, and background), character identification, sound effects and emotions, and line breaks.

4.1. Subtitle Length and Segmentation

Regarding subtitle length, there was a great level of variation among different games, both in the original English versions and their respective Persian localized ones. Table 2 provides a comparative overview of the subtitles in the five video games (the original English versions).

Table 2
Subtitle Length in the Original English Titles

No. of lines	Assassin's Creed Odyssey	Days Gone	God of War	Max Payne 3	Metro Exodus
One-liners	202	280	299	250	206
Two-liners	89	19	1	49	80
Three-liners	9	1	0	1	14
Max. characters per line	81	101	71	110	83
Avg.	37.04	32.12	19.91	45.71	37.65

In Table 3, the number of lines in the corresponding subtitle segments in the Persian localized versions is presented. As suggested by Tables 2 and 3, there is great variation between different games in terms of their intralingual subtitling and, consequently, their Persian subtitles. Persian subtitle segments were consistently shorter than the original English subtitle segments. However, in all titles, it was not uncommon to come across long subtitle lines that would well exceed 45 characters per line, as recommended by Mangiron (2012).

Table 3
Subtitle Length in the Persian Localized Titles

No. of lines	Assassin's Creed Odyssey	Days Gone	God of War	Max Payne 3	Metro Exodus
One-liners	218	281	287	237	211
Two-liners	82	18	13	63	68
Three-liners	0	1	0	0	21
Max. characters per line	67	81	59	94	63
Avg.	37.77	26.60	17.55	35.26	31.25

The Persian localized titles were consistently characterized by what Díaz-Cintas (2012) refers to as "technical manipulation" (Díaz-Cintas, 2012, p. 284). A closer look at Tables 2 and 3 would indicate the great variation in terms of the number of lines between the original English titles and their Persian localized counterparts. The first major point of deviation between the original and localized titles was the noticeable absence of three-liners in the Persian localized game versions. The only exception is *Metro Exodus*, in which the number of three-liners was higher in the Persian localized version. However, the point worth touching upon is that the greater number of three-liners in the Persian localized version can be explained by the significantly shorter subtitle length in the target version, going down from an average of 37.65 characters per line to 31.25 characters in a single line.

4.2. Font: Size Adjustability, Type, Color, and Background

Subtitles were analyzed in terms of their size, type, color, and background across both the original English version and their Persian localized ones. Table 4 represents an overview of the subtitles of the games in terms of the aforementioned aspects in the original game.

Table 4
Font Type, Size, Color, and Background in the Original English Video Games

	Font size adjustability	Serif	Font color	Background
Assassin's Creed Odyssey	Yes	No	White	Yes
Days Gone	Yes	No	White/Grey	Yes
God of War	No	No	White	Yes
Max Payne	No	No	White/Grey	No
Metro Exodus	Yes	No	Orange	Yes

As Table 4 suggests, four video games supported the possibility of adjusting font size, which would, in turn, help the possibility of playing the video game on monitors or TVs with different resolutions. However, the same could not be said for *Max Payne 3*, which comes as no surprise given that it was produced in the early 2010s. Furthermore, none of the games made use of Serifed fonts for subtitles or the interface, with most of them using a white color. However, in one case, the font used for the subtitles was orange. Even though the reason for this choice of color is not clear, it could be argued that this color was used to increase players' immersion in the game world and match the theme of the surrounding environment. However, in order to increase contrast with the game world, a faded black background was used to increase the legibility of the captions.

Table 5 provides an analysis of Persian subtitles in the same respects that original English subtitles were analyzed. According to Table 5, there is no variation in terms of font size adjustability, font color, and background between the original video game and their localized versions. In other words, the Persian localized versions closely followed the possibilities and formations that were followed in the original English titles.

Table 5
Font Type, Size, Color, and Background in the Persian Localized Version of Games

	Font size adjustability	Serif	Font color	Background
Assassin's Creed Odyssey	Yes	No	White	Yes
Days Gone	Yes	No	White/Grey	Yes
God of War	No	No	White	Yes
Max Payne	No	No	Yellow	No
Metro Exodus	Yes	No	Orange	Yes

4.3. Character Identification

Character identification was handled in a similar manner across all video games. In all titles, both the original and localized versions, the name of the character who was speaking was included in the subtitle. No speaker portraits were used in any of the games. However, a minor degree of color variation existed in some of the games to differentiate between the name of the speaker speaking and the main body of subtitles. Figure 1 is an instance of character identification in the Persian localized version of *Days Gone* (2019).

Figure 1
Character Identification in the Persian Localized Version of Days Gone (2019)

As Figure 1 suggests, in addition to including characters' names, a different color is used in order to differentiate between the dialogues and speakers' names. Given the fact that English is a left-aligned language while Persian is right-aligned, the problem with the Persian localized version is that the names of the characters are presented on the left side, while in Persian, they should have been on the right side. This can make it difficult for players to read the subtitles naturally.

4.4. Sound Effects and Emotions

On a less common note, some games might make use of emoticons, balloons, or other ways to display the characters' emotions Mangiron (2013). In the games analyzed, there were very few instances of these occurrences. For instance, Figure 3 represents a case in which emotions were included in the subtitles.

Figure ۲
An Instance of Emotions Being Included in Subtitles in God of War (2018)

As suggested in Figure 3, the subtitle reads as "**سرفه خفیف**" [sorf-e xafīf] (mild cough) to suggest that the boy is coughing. However, this was one of the two instances that were observed across the entire corpus of the study and was practiced to a very low and limited degree.

4.5. Line Breaks

Viewers usually process subtitles by putting together words in syntactically meaningful units (Warren, 2012). Consequently, if subtitles are not segmented, heeding the syntactic relations between words,

readers' comprehension can be negatively affected (Gerber-Morón & Szarkowska, 2018). In this light, the subtitles of Persian localized versions were analyzed in terms of whether they were segmented syntactically or non-syntactically. Table 6 presents an overview of the number of two-liners and three-liners in Persian localized versions in terms of syntactically cued segmentation.

Table 6
(Non-)Syntactically Cued Segmentation in the Original English Titles

	No. of 2 liners (syntactically-cued)	No. 2 liners (non-syntactically-cued)	No. of 3 liners (syntactically-cued)	No. 3 liners (non-syntactically-cued)
Assassin's Creed Odyssey	54	35	1	8
Days Gone	18	1	1	0
God of War	1	0	0	0
Max Payne 3	21	28	1	0
Metro Exodus	63	17	14	4

As Table 6 suggests, line breaks were done arbitrarily in many cases. The non-syntactic line breaks were prevalent in titles such as *Assassin's Creed Odyssey*, *Max Payne 3*, and *Metro Exodus*. Table 7 provides a descriptive account of line breaks in the Persian localized versions.

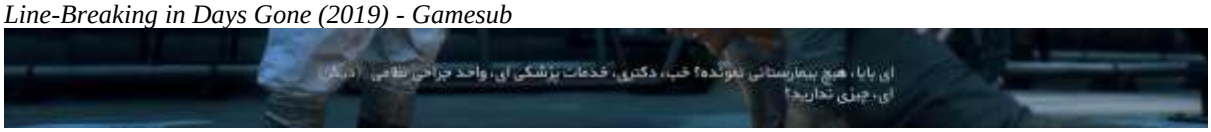
Table 7
(Non-)Syntactically Cued Segmentation in the Localized Persian Titles

	No. of 2 liners (syntactically-cued)	No. 2 liners (non-syntactically-cued)	No. of 3 liners (syntactically-cued)	No. 3 liners (non-syntactically-cued)
Assassin's Creed Odyssey	٤٠	٤٢	٠	٠
Days Gone	15	3	0	1
God of War	10	3	0	0
Max Payne 3	53	10	0	0
Metro Exodus	42	26	9	12

As Table 7 suggests, like the almost approximate frequency of two-liners in *Assassin's Creed Odyssey* (89 in the original compared to 82 in the localized Persian version), the frequency of non-syntactic line breaks is also identical. However, the localized Persian version consisted of more arbitrary and, thus, non-syntactic line breaks. The same could be said for *Days Gone* and *God of War*. On the contrary, in *Max Payne 3*, the non-syntactic line breaks were much less of an issue compared to the original English version, which, for the case of *Metro Exodus*, is the opposite.

Figure 3 is an instance of an arbitrary line-breaking in the Persian localized version of *Days Gone* (2019) by Gamesub.

Figure 3
Line-Breaking in Days Gone (2019) - Gamesub



In Figure 4, line-breaking has been done without observing syntactic considerations. The first line of the subtitle finishes after the word "نظامی" [nezāmi] (meaning 'military'), and the second line starts with "ای" [ī] (meaning 'a'), Persian indefinite article. However, the point about this subtitle segment is that these two words should have been attached to each other using a semi-space (a spacing character

that is half the length of a regular space and exists in Persian and Arabic). In the word "نظامی ای" [nezāmī ī] (meaning 'a military'), a full space has been inserted; thus, turning what should have been a single word into two words. The improper use of full space was the major source of violating syntactic rules in Persian subtitles.

5. Discussion

The semi-professional subtitling of video games has been around since the mid-2010s, in which independent and unauthorized state-independent agents carry on the task of localizing the most recent and most popular video games and selling them on the Internet (Khoshsaligheh et al., in press). The present study sought to shed light on the subtitling practices involved in the semi-professional localization of video games into Persian. The main takeaway from the findings is that there is a great degree of technical similarity between the original and the Persian localized versions. In other words, since Iran is barely a target market for international game developers, the Persian-language locale is hardly considered during the internationalization stage. Therefore, semi-professional Persian game localization is limited to textual translation, and there is very little room for further technical adjustments. The most salient example of this point is the issue of text alignment when it comes to character identification in all the titles that were analyzed in the present research. The main implication of this technical constraint is that the verisimilitude of Persian localized game versions is undermined.

The main source of variation between the original English video games and their respective localized versions was subtitle length and text segmentation. As was suggested, the Persian localized game versions tended more to increase the number of lines and include fewer characters in one single line in the subtitles. It has been suggested that condensation is of importance while approaching the translation of video games (Mangiron & O'Hagan, 2006) since players have to actively divide their attention between the action in the game and subtitles. Although empirical studies drawing on biometric devices on the reception of subtitles in video games stand on thin ice, it has been suggested that, in the case of non-interactive audiovisual products, two-liner subtitles exert less cognitive demand on viewers (Zahedi & Khoshsaligheh, 2021). An important point that can be raised in this regard is how subtitle segmentation and line breaks are conducted. As suggested in the present study, line-breaking was done arbitrarily in almost half of the cases across all the analyzed Persian localized game versions. The main implication is that even though subtitle length has been shorter in Persian localized game versions, there is no guarantee that subtitles can be processed with less cognitive load or that comprehension is necessarily higher. As suggested by previous studies on line breaks, if syntactic considerations are not observed, readers' (and by analogy, players') comprehension can be undermined (e.g., Gerber-Morón & Szarkowska, 2018).

In none of the game versions, sound effects and ambient sounds were represented in their entirety, and only in a limited number of cases were these considerations included. This can heavily affect the playability of the game for d/Deaf and hard-of-hearing players and the enjoyment and immersion they would experience as a result of playing the game. In general, the guidelines that have been put forward in the literature by both Translation Studies scholars and industry professionals are yet to be observed in video games, and there is still a great level of idiosyncrasy in the practice of subtitling in video games (Mangiron, 2013). The direct implication of following an *ad hoc* approach for the subtitling of video games is that the Persian localized versions were similar to their original counterparts. Given that the Iranian market is not a market that game developers would have an eye on and, thus, video games might not be readily localizable into Persian, greater effort and expertise have to be put into the semi-professional localization of video games into Persian since overcoming some of the restrictions (e.g., text alignment) require deeper knowledge of and experience in game development.

The presented findings are the results of a pilot phase of a larger project aiming at exploring the semi-professional localization of video games into Persian and the subtitling practices that are used in the process. The findings of this research can open new avenues to the study of game localization, especially in Persian and Iran. Given the research gap that exists in terms of subtitles standardization in video games, more studies are needed to be carried out in different locales and in different language pairs to highlight the language-bound nature of subtitling practices in this context. Further reception studies

drawing on both quantitative and qualitative approaches need to be carried out on the reception of video game subtitles to get closer to subtitling standards for video games in different languages, particularly drawing on netnographic perspectives to reception research (e.g., Chen, 2024). Additionally, such already revisited notions as quality, text, and authorship (Gambier, 2023), need to be particularly revisited within the context of semi-professional game localization. These recommendations and further research trying to overcome the limitations of the present study could prove particularly fruitful. Regarding limitations, although it was attempted to make use of representative sample size, the difficulties involved in playing the games and recording the screen for subsequent analysis and extraction by the researchers pragmatically limited the size of the used sample.

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