The Representation of Non-Linguistic Sounds in Persian and English Subtitles for the Deaf and Hard-of-Hearing: A Comparative Study

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Abstract
Subtitling for the deaf and hard-of-hearing (SDH) is an area which deserves a special attention as it enables these people to access to the part of the ‘world’ intended for hearing people, including the world of ‘motion pictures’, and particularly movie sounds. Compared to linguistic sounds, non-linguistic sounds have received little attention in the field of translation, although they are inseparable part of daily life. To address the gap, the present study aimed to investigate the strategies applied by subtitlers to translate non-linguistic sounds in English and Persian subtitles for the deaf and hard-of-hearing. To conduct the research, 25 out of 100 movies released between 2006 and 2016 with both Persian and English subtitles were selected. Based on Gottlieb’s (1992) translation strategy model, all the subtitling strategies for rendering the non-linguistic sounds were analyzed and their frequencies were measured. The findings revealed that ‘paraphrasing’ about half of the non-linguistic sounds, English subtitlers were well aware of their significance, while Persian subtitlers were neglectful of rendering the sounds since the most frequently used strategy in Persian subtitles was ‘deletion’. The results stressed the need for the inclusion of subtitling in academic training programs, especially in Persian Language context.

Keywords: Deaf and Hard-of-hearing, Nonlinguistic Sounds, SDH

INTRODUCTION
The capability to hear and react to different sounds has a dramatic effect on every aspect of persons’ lives. Bilateral or single-sided hearing loss, or hearing impairment, is a case in point that can lead to a breakdown in individual’s personal communications, and consequently, it can make negative impacts on the everyday lives of people. In other words, when a person cannot hear the sounds unmistakably, there might arise some critical communication issues. The idea is strongly supported by the World Health Organization (WHO) indicating that listening misfortune and...
deafness influence about 360 million individuals around the world (WHO, 2014).

In spite of significant differences among persons, understanding the fact that all humans are equal in the rights and obligations, is the notion that distinguishes today’s society from the past. As Neves (2005) notes, this premise stated in the Universal Declaration of Human Rights, “is the underlying of all laws and regulations” (p.15) emphasizing that all have to be performed to ensure equality, “be it in basic needs such as health and education or in complex issues such as religious beliefs and cultural expression” (ibid, p.15). So, in order to adhere to the principle of equality, it appears compulsory to admit that people with impairment (e.g. the deaf) have their own distinctive needs.

To assist the deaf and hard-of-hearing, different actions were taken both nationally and internationally to develop these people’s knowledge about the fact that they deserve a fair chance in life. They need to communicate with others and be aware of everything that happens in the society. This awareness is going to be transformed into TV programs, movies and so on. Therefore, the deaf or hard-of-hearing audiences need something like translation, specially subtitling, to follow different programs. However, these days, people do not watch TV or see movies just for fun; they live with TV and other audiovisual devices. Then they want to have alternative means for watching films and understanding the subject better just like others. Indeed, deaf and hard-of-hearing people need special subtitles for understanding movies, films series, or programs (Neves, 2005).

Since globalization makes the whole world smaller and smaller, audiovisual translation (AVT) is seen as a bridge between the cultures of different countries. This matter can be relevant to the equal rights of accessing data, culture, and the requirement of acting in special situations for the individuals who cannot receive the messages that are delivered by means of audiovisual media. For instance, a movie can reach a wider range of audience by means of subtitling which is one of the important branches of AVT (Neves, 2005).

AVT is a field in the continuous development of translation studies. Among the issues it deals with, the matter of availability for impaired groups of the audience is highly growing, since these days, there are different developments towards a more just and fair society. Public and private associations, for example, National Organization of blind Spanish people (ONCE), Foundation Orange (FO), and Spanish Center for Subtitling and Audio description (CESyA) are trying to make new advances and also make the disabled people congenial to the hearing-impairment (Abrahao, 2014).

Moreover, the non-linguistic sounds content of human interactions is important, sometimes even more than the linguistic ones. These sounds such as background music, animal sounds, environmental sounds, phone ringtone, laughing sound and so forth, are tremendously challenging for the deaf and hard-of-hearing. Since the sum total of their daily auditory experiences consists of a lot of non-linguistic sounds; therefore, the translators and subtitlers need to keep working to transmit the sounds as much as possible in SDH. However, the representation of these sounds is one of the most difficult tasks facing a translator, particularly subtitlers of movies for the deaf and hard-of-hearing individuals. Quite simply, the non-linguistic sounds are not similar to linguistic ones, the translation of which can be easily found in the dictionaries.

In spite of the importance of these sounds in SDH, there is a lack of close attention to the movie subtitles for the deaf and hard-of-hearing as well as the paucity of research in the field. To narrow the gap, the present study is to analyze the representation of non-linguistic sounds in Persian and English subtitles for the deaf and hard-of-hearing. In other words, the paper is aimed at making the translators and subtitlers aware of different ways of translating non-linguistic sounds into subtitles in order to make that movie much more comprehensible for the deaf and hard-of-hearing audiences. It is hoped that the results of the study will provide implications for freelance translators, undergraduate and
postgraduate translation students. Further, the findings of this study can shed light on the frequent strategies English and Persian subtitlers used in representing non-linguistic sounds of films in Persian and English SDH. More precisely, this study is designed to answer the following questions:

1. What Subtitling strategies have been used by Persian and English subtitlers to represent the non-linguistic movie sounds for the deaf and hard-of-hearing (DHH)? What is the frequency distribution of the applied strategies?
2. What is the distribution pattern of the subtitling strategies used by English subtitlers in rendering of three main categories of non-linguistic movie sounds for DHH?
3. Considering the year-based model, what subtitling strategies have been more frequently adopted by English subtitlers in the representation of non-linguistic movie sounds for DHH?

The purpose of this section is to review the related literature on the translation of non-linguistic sounds in the subtitles for the deaf and hard-of-hearing audience. Since subtitling is the main focus of this research, its related issue including ATV will be discussed more in detail.

Zarate (2008) discussed the practice of subtitling children’s applications on British television. A specific number of cartoons from different British channels have been considered for the study. The work took into consideration the significant lookup that has been carried out on the reading unfortunates of the deaf teenagers within the subject of deaf studies as well as the limited lookup that has been carried out in the AVT area with a focus on subtitling for the deaf people. Taking into account previous lookup data, a range of observations on the production of subtitles for deaf teenagers were suggested. Deaf people were requested to perform an extra task, namely, analyzing subtitles, to reap the identical statistics that listening to young people obtain through hearing. The most apparent talent that the deaf children were expected to have in order to be capable to efficiently observe subtitled TV programs was reading. Traditionally, the field of deaf study and AVT were developed independently. And that research study tried to bridge the gap between these two fields.

Szarkowska (2012) in his article of ‘towards interlingual subtitling for the deaf and the hard-of-hearing’ was about inspecting interlingual subtitling for the deaf and hard-of-hearing as an independent audiovisual translation methodology. Despite the fact that interlingual SDH has been imparted some shared view to its elder siblings, i.e. standard interlingual subtitling for hearing watchers and monolingual subtitling for the deaf and hard-of-hearing, it varied from them as far as content lessening, excess, and altering. The shared factor of both intra- and interlingual SDH was that notwithstanding exchange, they likewise incorporate additional data about speakers, music, and sounds imperative to the comprehension of the film. An option arrangement, i.e. drawing out subtitle show times and unwinding the necessity of immaculate synchronization of subtitles with the soundtrack (accordingly permitting subtitles to go over shot changes), ought to likewise be inspected later on. (Szarkowska, 2012)

Szarkowska, Zbikowska, and Krejtz (2013) analyzed the different ways that multilingualism could be noticeable in subtitling for the deaf and hard-of-hearing people in multilingual films. They proposed an arrangement of strategies to handle multilingualism in SDH. Later on, they presented the results of an online review directed between the deaf and almost hard-of-hearing poles on their preferences with respect to the SDH methodologies. Their results demonstrated that members inclined toward more educational techniques, for example, phonetic homogenization. Similarly, the results showed that present SDH practices could be enhanced by utilizing a more changed arrangement of strategies, particularly by incorporating foreign language context in the subtitles, with the goal that multilingualism show in movies is better reflected in SDH. The choice regardless of whether an outside foreign
language in a film ought to be deciphered, interpreted, unequivocally credited, or semantically homogenized depends on a vast degree the movie producer’s choice to give the essential target gathering of people with an interpretation or not (Szarkowska, Zbikowska & Krejtz, 2013).

Iriarte (2014) in his paper on the reception of subtitling by the deaf and hard-of-hearing explained that AVT is a complex potential of verbal exchange that multiple sources of dynamic statistics interact. This complex offers methodological challenges for research, specifically when reading the way one of a kind viewers acquire data with subtitles. In a strive to tackle this complexity, she combined eye monitoring and oral questionnaires in a reception, learn about seventy-two subjects, an inclusion of the deaf and hard-of-hearing sign language users, the deaf and hard-of-hearing to oral-language customers and listening to oral-language users. Preliminary discovering recommend that oral-language customers have a tendency to be greater efficient with verbal information, whereas sign-language users may additionally be more environmentally friendly with visual information.

McIntyre and Lugea (2015) have written an article about the effects of deaf and hard-of-hearing subtitles on the characterization process: a cognitive stylistic study of the wire. This article covered a venture to examine the inconsistencies between sound exchange and comparing subtitles for the deaf and hard-of-hearing watchers in a scene of HBO’s (Home Box Office: is a subscription-only channel and as such does not use advertisement breaks, giving the viewer a more involved and cinematic experience than other television dramas) police procedural dramatization the wire. The researchers secluded and arranged errors between the exchange and the subtitles and utilized a subjective model of characterization to figure out if such contrasts were probably going to prompt to varying originations of character for the deaf and hard-of-hearing watchers. They found that most common exclusions from the subtitles were related to interpersonal components of exchange, for example, talk markers and that signs of the connection between characters were unfavorably influenced as a result. Therefore, McIntyre (2015) and his companions have shown the estimation of phonetic expressive learning for subtitlers, approving Luyken’s (1991) supposition that semantics was probably going to be of significant worth to the subtitling calling.

Romero-Fresco (2015), in his study, showed that even though a great majority of viewers, whether with hearing loss or hearing, were quite satisfied with the way subtitling was performed in Denmark, there was enough room for improvement. One of the most obvious consequences was that the needs of viewers with hearing impairment vary from the needs of hearing ones. In combination with various other quantitative and qualitative information introduced in the study, this result suggests that they wanted at least three simultaneous elective types of subtitles for any TV production, preferably four, consisting of subtitling in the original language.

Considering the preceding literature, although the few studies were carried out on ‘subtitling for the deaf and hard of hearing audiences’, none of them mainly focused on the translation of ‘non-linguistic sounds’ for DHH. Therefore, the present study aimed at investigating the representation of non-linguistic sounds in subtitles for hearing impaired persons. More significantly, the present comparative study of Persian and English translation of non-linguistic sounds seems to provide the field with further information about issues of interlingual as well as intralingual subtitling.

**METHODS**

The present study is a comparative, descriptive, objective analysis of English and Persian audio scripts of 25 selected movies with both English and Persian subtitles. To achieve the main purpose of the study, the researchers used the classification of subtitling strategies proposed by Gottlieb (2004) as the theoretical framework of the present study.
**Materials**

25 movies with Persian and English subtitles in different genres were collected by the researchers firstly. To do the research, the sum total of 3110 minutes including both Persian and English subtitle were analyzed. These 25 movies were randomly chosen out of 100 movies produced between 2006 and 2016. The researchers downloaded the films featured the icon which means that subtitles are produced for the deaf and hard-of-hearing. The following list outlines the selected movies:

<table>
<thead>
<tr>
<th>Table 1</th>
<th>List of the selected movies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original English Movies</td>
<td>Release Date</td>
</tr>
<tr>
<td>1. Night at the Museum</td>
<td>2006</td>
</tr>
<tr>
<td>2. Mr. Bean's Holiday</td>
<td>2007</td>
</tr>
<tr>
<td>5. Alice in Wonderland</td>
<td>2010</td>
</tr>
<tr>
<td>7. Ghost Rider: Spirit of Vengeance</td>
<td>2011</td>
</tr>
<tr>
<td>8. Hugo</td>
<td>2011</td>
</tr>
<tr>
<td>9. The Muppets</td>
<td>2011</td>
</tr>
<tr>
<td>11. The Dark Knight Rises</td>
<td>2012</td>
</tr>
<tr>
<td>12. The Amazing Spider-Man</td>
<td>2012</td>
</tr>
<tr>
<td>13. The Avengers</td>
<td>2012</td>
</tr>
<tr>
<td>14. The Bourne Legacy</td>
<td>2012</td>
</tr>
<tr>
<td>15. Step Up Revolution</td>
<td>2012</td>
</tr>
<tr>
<td>16. Gravity</td>
<td>2013</td>
</tr>
<tr>
<td>17. Oz the Great and Powerful</td>
<td>2013</td>
</tr>
<tr>
<td>18. The lone ranger</td>
<td>2013</td>
</tr>
<tr>
<td>19. Into the woods</td>
<td>2014</td>
</tr>
<tr>
<td>20. The Amazing Spider-Man 2</td>
<td>2014</td>
</tr>
<tr>
<td>21. The Revenant</td>
<td>2015</td>
</tr>
<tr>
<td>22. The Cokeville Miracle</td>
<td>2015</td>
</tr>
<tr>
<td>23. War craft</td>
<td>2016</td>
</tr>
<tr>
<td>24. The Conjuring 2</td>
<td>2016</td>
</tr>
<tr>
<td>25. The Jungle Book</td>
<td>2016</td>
</tr>
</tbody>
</table>

It is worth mentioning that English and Persian subtitles of the selected movies were randomly downloaded from ‘www.subscence.com’, ‘www.subtitle.hr’, and ‘www.subsmax.com’ websites which are the best websites for accessing subtitles to the best of researchers’ knowledge.

**Procedure**

The procedures performed in conducting the present research consist of the following phases: Once the movies were selected, the researchers began to watch them carefully. Afterwards, the different non-linguistic sounds were underlined in the Persian and English subtitles in order to be closely examined and compared with their translations. Subsequently, based on Gottlieb’s (1992) subtitling strategies, the collected data were analyzed. Then, the frequency was measured manually for finding the distribution of different strategies of Gottlieb’s model in the representation of non-linguistic sounds in the SDH. Next, the percentages were calculated and reported. Later on, to simplify the comparison, the analyzed data in
some cases were fitted to graphs (e.g. bar graph) in order to visualize the trends in the data. In addition, the actual instances of each strategy were provided in the form of tables.

**Theoretical framework**

The present study adopts Gottlieb’s (1992) model of translation strategies as its theoretical framework. The model summarizes ten subtitling strategy “to deal with a range of {translational} problems, including language and culture specific ones.” (Zhang and Liu, 2009, P. 114) The list of the strategies is as follows:

1. **Expansion** is used when the original text requires an explanation because of some cultural nuance not retrievable in the target language.
2. **Paraphrase** is resorted to in cases where the phraseology of the original cannot be reconstructed in the same syntactic way in the target language.
3. **Transfer** refers to the strategy of translating the source text completely and accurately.
4. **Imitation** maintains the same forms, typically with names of people and places.
5. **Transcription** is used in those cases where a term is unusual, even in the source text, for example, the use of a third language or nonsense language.
6. **Dislocation** is adopted when the original employs some sort of special effect, e.g. a silly song in a cartoon film where the translation of the effect is more important than the content.
7. **Condensation** would seem to be the typical strategy used, that is, the shortening of the text in the least obtrusive way possible.
8. **Decimation** is an extreme form of condensation where perhaps for reasons of discourse speed, even potentially important elements are omitted.
9. **Deletion** refers to the total elimination of parts of a text.
10. **Resignation** describes the strategy adopted when no translation solution can be found and meaning is inevitably lost (Gottlieb, 1992, pp. 161-170).

The selected model, i.e. Gottlieb’s translation strategy, also provides a good coverage of all aspects of subtitles including verbal and non-verbal and linguistic and non-linguistic aspects. (Gottlieb, 2005) Moreover, its verified applicability in Persian and English subtitling (Ghaemi and Benyamin, 2010; Sharif and Sohrabi, 2015) was another criterion for selecting the model as the framework.

**Data Analysis**

The obtained data were analyzed in two phases. In the first phase, the content of Persian and English movie subtitles was analyzed carefully and the obtained results were classified on the basis of Gottlieb’s (1992) translation strategy model as well as three types of non-linguistic sounds. In order to make the results much clearer, some examples have been selected from the considerable body of the collected data for each strategy adopted by the English and Persian subtitlers in the translation of the non-linguistic movie sounds. The samples of the content analyses of the research data are provided in the following tables.

**Expansion:** This strategy focuses on providing extra information. It is employed when the original text needs a proof due to some cultural distinctions, which are irretrievable in the target language. The following table illustrates some fine examples of the strategy used by English and Persian subtitlers.
The data drawn from the analysis revealed that while there was a strong tendency among English subtitlers to use the strategy (82 cases), Persian subtitlers were not much in favor of the use of expansion strategy (only 2 cases) in their work.

Paraphrase: Whenever the wording of the original text cannot be reproduced in the same syntactical manner in the target language, this strategy is applied. Examples of ‘paraphrase’ are presented in the following table.

There were 150 cases of this strategy adopted in English subtitles and 0/no case in Persian subtitles. This strategy was left unapplied by Persian subtitlers, which could be due to the fact that Persian subtitlers were totally unaware of this strategy for translating non-linguistic sounds.

Transfer: This strategy refers to the strategy of translating the source text completely and accurately. The following table contains some examples of the strategy used in translating both English and Persian Non-linguistic sounds:

The obtained results indicate that there were 96 cases of this strategy applied in English subtitles and 1 case in Persian ones.

Imitation: Maintaining the original form of the words to a great extent, the strategy is usually used for the translation of names of individuals and places. Here are the examples of this strategy:
Table 5

**English and Persian Examples of Imitation Strategy**

<table>
<thead>
<tr>
<th>Film</th>
<th>Non-Linguistic Sounds</th>
<th>English Translation</th>
<th>Persian Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harry Potter and the Deathly Hallow: Part 1</td>
<td>Mm sounds</td>
<td>Mm?</td>
<td></td>
</tr>
<tr>
<td>Alice in wonderland (2010)</td>
<td>Aw! sound</td>
<td>OW!</td>
<td></td>
</tr>
<tr>
<td>Harry Potter and the Deathly Hallow: Part 1</td>
<td>Hum sound</td>
<td>Humm</td>
<td>هوم؟</td>
</tr>
</tbody>
</table>

Data drawn from the analysis of the results showed that the imitation subtitling strategy was used in the writing of 8 English subtitles, while only in one Persian SDH the strategy was applied.

**Transcription:** It is employed in those cases when a term is uncommon even in the source text. The utilization of a third language or a nonsense language provides the clear examples of the strategy. Table 6 gives the examples of the strategy.

Table 6

**English and Persian Examples of Transcription Strategy**

<table>
<thead>
<tr>
<th>Film</th>
<th>Non-Linguistic Sounds</th>
<th>English Translation</th>
<th>Persian Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Night at Museum</td>
<td>Speaking in different language</td>
<td>Shouting in foreign language</td>
<td></td>
</tr>
<tr>
<td>Ghost Rider: Spirit of Vengeance</td>
<td>Whispering sound in different language</td>
<td>Whispering in demonic language</td>
<td></td>
</tr>
</tbody>
</table>

For this strategy, 4 cases in English subtitles and no case in Persian ones were reported.

**Dislocation:** This strategy is applied when the original film or cartoon uses some types of effects, for example, a silly song. Therefore, the rendering of that effect seems more crucial than the translation of the content itself. The only two examples of this strategy are as follows:

Table 7

**English and Persian Examples of Dislocation Strategy**

<table>
<thead>
<tr>
<th>Film</th>
<th>Non-Linguistic Sounds</th>
<th>English Translation</th>
<th>Persian Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Journey 2: The Mysterious Island</td>
<td>Imitation of changing voice</td>
<td>Imitating Alexander</td>
<td></td>
</tr>
<tr>
<td>Night at Museum</td>
<td>Noise of a drum machine</td>
<td>Beat boxing</td>
<td></td>
</tr>
</tbody>
</table>

Just 2 cases of dislocation strategy in English and no cases in Persian SDH were reported by the researchers.

**Condensation:** The strategy refers to the act of the shortening of the text to such an extent that translators do not impose their opinion on the text. The following table provides some examples of the strategy.

Table 8

**English and Persian Examples of Condensation Strategy**

<table>
<thead>
<tr>
<th>Film</th>
<th>Non-Linguistic Sounds</th>
<th>English Translation</th>
<th>Persian Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harry Potter and Half-blood Prince</td>
<td>The boy mutters something</td>
<td>Mumbles</td>
<td></td>
</tr>
<tr>
<td>Ghost Rider: spirit of vengeance</td>
<td>Sounds of explosion</td>
<td>Explosion</td>
<td></td>
</tr>
</tbody>
</table>
The rate of occurrence for this strategy is 15 cases in English. On the contrary, there were not any Persian subtitles in which the strategy plays any role in rendering non-linguistic sounds.

**Decimation:** This strategy is a rigid type of condensation maybe for the reason of the discourse speed. In this case, even some parts of components might be eliminated. The following is the example of this strategy:

**Table 9**

*English and Persian Examples of Decimation Strategy*

<table>
<thead>
<tr>
<th>Film</th>
<th>Non-Linguistic Sounds</th>
<th>English Translation</th>
<th>Persian Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Night at Museum</td>
<td>Other animals and birds’ sound</td>
<td>Screeching</td>
<td>□</td>
</tr>
</tbody>
</table>

There was one case of this strategy in English subtitles and also no cases in Persian subtitles.

**Deletion:** The strategy refers to the elimination of the whole parts of a text. Here are this strategy’s examples:

**Table 10**

*English and Persian Examples of Deletion Strategy*

<table>
<thead>
<tr>
<th>Film</th>
<th>Non-Linguistic Sounds</th>
<th>English Translation</th>
<th>Persian Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Night at Museum</td>
<td>The mysterious sounds</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>War Craft</td>
<td>The sound of bell</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Harry Potter &amp; Half-blood Prince</td>
<td>The thunderbolt sound</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Oz the Great and the Powerful</td>
<td>The sound of music</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

There were 4 cases of this strategy in English subtitles and 358 cases in Persian subtitles.

**Resignation:** It relates to the strategy, which is applied when there is no translation solution. This strategy was left unused by the Persian and English subtitlers.

After extracting translation strategies used by both English and Persian subtitlers in rendering non-linguistic sounds, as has been seen, the most frequent strategies were recognized by the researchers.

In the second phase, simple statistics including-frequency and percentage were employed. First, the frequencies of strategies, concerning the translation of non-linguistic sounds, were measured. Then the percentage of each individual strategy was calculated.

**RESULTS**

Considering three main research themes of the study, i.e., type and frequency distribution of the applied strategies (question 1), strategies of rendering three types of movie sounds (question 2), and year-based strategy distribution (question three), the results will be provided in the following section.

**Distribution of subtitling strategies**

The present study initially intended to determine type distribution of the applied subtitling strategies with regard to Gottlieb’s strategy model. Achieving the distribution pattern of the subtitling strategies, in order to provide a basis for comparison, the frequency distributions of all ten subtitling strategies were measured. The following diagram depicts the results:
As figure 1 indicates, Persian subtitlers had adopted four subtitling strategies more frequently than other strategies in their translation.

The highest percentage of using subtitling strategies was assigned to ‘deletion’ strategy. This strategy was used significantly by Persian subtitlers to translate most of the non-linguistic sounds in the selected movies, though in a silent way. To render non-linguistic sounds, the Persian fan subtitlers used this strategy with the frequency of 98.89 %, that is, 361 out of 365 items in other words. The next frequent strategies applied in the translation of non-linguistic sounds were ‘expansion’ ‘transfer’, and ‘imitation’ strategies. The percentages of these strategies were 0.6% and 0.2% respectively. Persian fan subtitlers did not use the rest of subtitling strategies at all.

The findings of the study also suggested that English subtitlers have adopted ‘paraphrase’, ‘transfer’, and ‘expansion’ respectively more frequently than other strategies. Among these, the greatest value was dedicated to paraphrase strategy (44%).

**Rendering three types of movie sounds: Distribution pattern**

As mentioned earlier, the non-linguistic sounds can be divided into three main categories: 1) Animal sounds 2) Human sounds 3) Environmental sounds. Based on this typology, the distribution of the ten strategies of Gottlieb’s model was investigated in the English SDH of the selected movies. Figure 2 shows the percentage of each strategy used in rendering the three main categories of non-linguistic sounds. It is worth mentioning here that since most of the Gottlieb’s translation strategies are unused by the Persian subtitlers, the analyses of three types of non-linguistic sounds have not been done by the researchers for Persian subtitles.
As it can be observed in figure 2, the distribution pattern of strategies for rendering three types of non-linguistic sounds varied significantly. The most frequently used strategies in translating the environmental non-linguistic sounds (such as horning, music sounds, doorbell sounds, tolling sounds etc.) in English SDH are ‘paraphrase’ and ‘expansion’. As to animal sounds, ‘transfer’ and ‘paraphrase’ strategies showed to be the most common frequent strategies applied by English subtitlers. Finally, ‘transfer’ and ‘paraphrase’ strategies were the frequent strategies used for rendering the non-linguistic sounds in English SDH. The following patterns summarize the distribution:

**Animal sounds:**
Transfer (39%) > Paraphrase (38.89%) > Expansion (11.11%) > Imitation (3.7%) > Condensation (3.7%) > Deletion (1.85%)

**Human sounds:**
Transfer (35%) > Paraphrase (31%) > Expansion (15%) > Condensation (7%) > Imitation (5%) > Dislocation (2%) > Deletion (1%)

**Environmental sounds:**
Paraphrase (48%) > Expansion (30%) > Transfer (18%) > Condensation (3%)

The findings also indicated that various strategies are used by subtitlers in order to translate three types of linguistic sounds. For example, ‘dislocation’ and ‘transcription’ strategies had only been adopted for the translation of human sounds, and ‘decimation’ strategy had been only adopted for the translation of animal sounds.

**Year-based Strategy Distribution**
Besides determining the type distribution of ten subtitling strategies of Gottlieb’s model, their distribution was investigated in 25 selected movies with regard to the timescale i.e., the production year of a movie. Figure 3 shows the percentage of each strategy used in rendering non-linguistic sounds in English SDH from 2006 to 2016.
Considering the above figure and the production year of the subtitled versions of movies, the results showed that from 2006 to 2016, the most frequently applied strategy for representing non-linguistic sounds in English SDH was ‘paraphrase’. Although this strategy was the most frequent used subtitling strategy for several years (2007; 2009; 2012; 2015), ‘transfer’ strategy was also used more frequently than other strategies in 2006, 2013 and 2016. The use of ‘transcription’ strategy increased in 2016.

DISCUSSION
The main focus of the current study was on the representation of non-linguistic sounds in Persian and English SDH. Drawing on Gottlieb’s (1992) subtitling strategy model, this research aimed to investigate which strategies and in what distribution have been applied by Persian and English subtitlers in representing non-linguistic sounds of 25 selected movies. In doing so, the researchers compared, contrasted, and analyzed the Persian and English SDH frame by frame and based on the obtained data of this study found out that Persian subtitlers mainly chose to apply the ‘deletion’ strategy in translating these sounds which meant no translation of them at all.

Regarding the focus of the study, there seems to be no reason why the majority of the non-linguistic sounds in SDH of movies should be left untranslated for the deaf and hard-of-hearing audience. Consequently, the results of this study support the idea that subtitlers and especially the Persian ones are to a great extent unaware of the importance of the peculiarity of SDH. In other words, there seems to be a noticeable lack of knowledge concerning the importance of SDH in Persian subtitlers even the most popular and professional ones. Subtitlers need to be aware of the content loads of the non-linguistic sounds of the movies. They need to find some ways to represent these sounds in SDH by employing the effective strategy to do so. Nevertheless, according to the obtained results, in most cases, these sounds were either left unrepresented or were scarcely represented. Subtitlers were probably unaware of the significance of this important issue in conveying the messages and meanings for the deaf and hard-of-hearings.

A further specific finding of the present research which deserves discussion here is the fact that English subtitlers have shown general tendencies for representing different non-linguistic sounds. To be more specific, English
subtitlers prefer to apply ‘paraphrase’ strategy for representing the sounds which are classified as “environmental sounds, “transfer” strategy for ‘animal sounds’ and finally, ‘transcription’ and ‘dislocation’ strategies were the most prevalent strategies in representing ‘human sounds’. Consequently, English subtitlers have shown some kind of creativity in the process of representing non-linguistic sounds and they used different subtitling strategies in order to render non-linguistic movie sounds.

Finally, the overall results of this study showed some pattern for the application of different subtitling strategies with regard to the time dimension. Concerning the year-based analyses of the SDH, the results showed that generally in more than half of the cases, the most applied strategy for representing non-linguistic sounds in English SDH, between 2006 and 2016, was ‘paraphrase’. In contrast to this finding, in recent years, a parallel move to the application of ‘transcription’ strategy in the representation of these sounds in English SDH can be observed.

CONCLUSION
This comparative study was set out to investigate the representation of non-linguistic sounds for DHH in Persian and English subtitles. The finding of the study revealed that quite a few strategies of Gottlieb’s model were used by Persian subtitlers to represent these sounds. The only strategy which was frequently used by these subtitlers in the selected movies was ‘deletion’ strategy, the least demanding on the part of the subtitlers. Indeed, many translation strategies were left unapplied which could be due to the fact that Persian subtitlers were totally unaware of the importance of these sounds. This fact shows that they might have no serious belief in the significant effect of these sounds. On the other hand, English subtitlers applied most of the strategies to transfer the semantic content of non-linguistic sounds for their deaf and hard-of-hearing audience. English subtitlers used ‘paraphrase’ strategy more than other strategies in order to display the emotion and feeling of that part of the movie just as whatever the sounds do for hearing audiences.

The researchers hope that the findings of the present study provide some implications for those interested in the field, professionals as well as those planning to join in a profession such as AVT, especially subtitling, and humbly call the attention of policy makers and educators to include subtitling for the deaf and hard-of-hearing in academic translator training programs all over the world, particularly in Iran. It could be concluded that all translation courses, at the university level or not, for the deaf and hard-of-hearings or not, should include instructions on the theoretical foundations of translating non-linguistic sounds. It is evident that linguistic knowledge does not merely suffice to educate professional translators.

The researchers also would like to point out some suggestions for further research. To provide equal opportunities for the deaf and hard-of-hearing audiences to better understand different items, such as music, third person dialogues, sounds effect, natural sounds etc., the researchers invite other enthusiastic researchers to research into strategies of translating these items in order to improve the quality of SDH. One further step that can be taken in light of the present findings is to conduct interviews with the subtitlers and to make sure to what extent they are aware of the significant role of non-linguistic sounds in conveying the message of the movies.
References


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