Engagement and mobile listening

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Abstract: This research explores the effect of mobile listening on factors that have been proposed to determine enjoyment of audiovisual fictions: identification with characters, perceived realism, presence and transportation. A quasi-experimental research with 2 x 2 factorial design where the independent variables were listening condition (moving and stationary) and two different horror audio narratives (s1 and s2) was conducted. Main results show that mobile listening reduces identification, attention, narrative realism, spatial situation perception and cognitive involvement. Results also show that mobile listening does not diminish enjoyment of these narratives, which turns out to be predicted by narrative realism, empathetic-absorbent-behavioural identification, attention, high cognitive involvement and specific terrain of interest. The study also validates the scales for measuring the factors of engagement, which were originally proposed in the context of audiovisual narratives, for audio fictions.

Keywords: engagement; mobile listening; mobile reception; mobile audience; mobile consumption; mobile radio; mobile audio; identification with characters; perceived realism; presence; spatial presence; transportation; enjoyment; audio fictions; mobility; mobile communication.


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1 Engagement and mobile listening

Researchers of the psychological processes associated to media entertainment have made considerable progress in describing the factors explaining the main responses by users to the consumption of different genres of audiovisual narratives.

However, they have mainly studied the audiovisual worlds of cinema and television, while ignoring the audio-radiophonic. In fact, there is little information on audience responses to audio fictions, despite many public and private radio broadcasters around the

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world still producing and transmitting narratives in different genres (e.g., theatre, fiction, dramatised readings).

One of the objectives of this study is to explore the behaviour of psychological processes associated to the consumption of narratives by media entertainment researches in audio fictions reception. This research explores whether relevant concepts of the characterisation of the reception of audiovisual fictions (particularly engagement) could be used for explaining the experience of listening and enjoyment of radiophonic-audio fictional products. It also seeks to expand the identification of variables that predict enjoyment of such products.

Nevertheless, this study has another main objective. It wants to explore whether the modality of consumption of an audio narrative (stationary or moving) affects those psychological factors. As is known, the use of mobile audio devices, and the development of podcast or mp3 technologies, has led to growth in the consumption of audio content by different aged audiences (Madden and Jones, 2008; Zeng, 2011). Therefore, commercial radio has increased its offer of podcasts as a way of keeping its audiences involved (Menduni, 2007). Similarly, the popularisation of cell phones has led to an increase in radio audiences of all ages in Europe (RAJAR, 2012), the USA and Africa (PIWA, 2008). Likewise, the proliferation of mobile devices has had an impact on the audiobook industry. Sales in the USA reached almost two million units in 2011 and downloads have increased 300% since 2005 (APA, 2012). Nevertheless, there is not any known research that explores the effect of the modality of consumption (mobile or stationary) to the reception of sound products. Hence, there is a need to comprehend the new dynamics of the mobile consumption of audio programs of different genres.

1.1 Mobile listening

Although there is a lack of empirical information on how mobile reception affects the psychological relation between audiences an audio products, the consumption of radio while on the move is nothing new. In fact, it is said that the invention of mini transistor and battery powered portable radios in the 1950s generated the new audio culture of mobile listening. Later, the appearance in the 1980s of the Sony Walkman and ghetto blasters redefined said culture as a process that led to the current proliferation of mobile devices (Bull, 2000, 2007). Mobile listening devices have led the aural experience of sound to intermingle with everyday routines (Rebelo et al., 2008).

Tentative explanations of the characteristics of mobile listening in urban environments have originated from researchers from disparate disciplines, who also consider different aspects of the consumption of music. Bull (2000) states that the use of earphones fosters the creation of a private listening bubble within a public space: earphones provide the ears with the personally desired listening experience that seeks to eliminate the sounds of congested industrial cities. Blesser and Salter (2007) believe that the use of earphones produces a spatial experience of individual listening that destroys the perception of external space or position and reveals the boundaries between private and public listening spaces. Couldry et al. (2007) argue that audiences seek to engage with the media not only to connect but also to disconnect from the different spheres of reality. Droumeva (2005) notes that because we experience acoustic saturation due to the constant exchange of sounds caused by different media (from radio to TV, from portable audio to ambient music), modern-day listening has less to do with active or engaged
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Many of the aforesaid ideas stem from the model by Truax (2001), who defines listening as a system of holistic interconnection between sound, the listener and the ambience, which together suggest that mobile urban listening, produced in physical places that are not designed for projecting sound, or for detailed mediation and exploration by the user, could affect the resulting perception. They also imply that the qualities of the social setting in which listening occurs affect the actual sound due to the spatial characteristics of the surrounding urban geography and the complexity of sounds produced due to the spatial and temporal simultaneity of experiences, agents or events occurring within said geography. They also suggest that audio content could alter behaviour (e.g., moving in rhythm to music) or the psychological treatment of content or of one’s environment (e.g., reduce attention and/or affect spatial or temporal position).

Researchers have also considered the consequences and/or effects of mobile listening using portable devices. Rebelo et al. (2008) believe that the sounds that accompany an everyday action are used as tool for the appropriation of experiences. Williams (2006) thinks that everyday mobile listening embellishes one’s own environment, marks frontiers and controls time and/or learning. The general opinion is that mobility inevitably changes the way we relate both with sound and space, which, in turn, could affect behaviour (Rebelo et al., 2008). Also, new listening practices have led to consumer habits that should be observed specifically by content and situation (in terms of mobility) and the listening environment (Rebelo et al., 2008; van Zeijl, 2011).

1.2 Narrative experience

As stated, one of the main objectives of this study is to observe the extent to which the main factors associated to the reception of audiovisual fictions are applicable to audio only. Because of that, this investigation is based on concepts that have been regarded as highly influential in the reception of audiovisual fictions. It particularly starts with the phenomenon of engagement: the degree of attention, comprehension, narrative presence and emotional involvement with the fiction (Busselle and Bilandzic, 2009). According to the studies, as engagement increases, also raise the consistency of related beliefs and attitudes, the elaboration of the information about the narrative and the agreement with it. Particularly, for this study, we took into account the theoretical components of engagement: identification with the characters, perceived realism, presence and transportation (Busselle and Bilandzic, 2008, 2009). According to the researchers, these concepts can predict enjoyment of conventional media audiences, as cinema and television (Busselle and Bilandzic, 2009). We will define each of them next. However, it must be stated before that the idea of applying concepts created to define audiovisual narrative reception to audio narrative reception is based not only in the common narrative nature of both kind of messages but also in the concept of Audio-Vision (Chion, 1994). According to Chion’s seminal work, most of the reactions to audiovisual (cinema and television) narratives are guided or directed by the sound (e.g., voice, soundtracks, effects, silences): we see in the image what the sounds tells us to. Due to the capacity of the audio for generating mental images, audio narratives could be considered, also, audiovisual narratives.

Regarding identification with the characters, it is known that this is a socio-psychological process related to one’s own self-perception and identity (Klimmt et al.,
2009), which makes the viewer adopt the characters’ emotions, attitudes, thoughts or forms of behaviour. Identification leads audiences to experience the incarnations of the character as if they were their own, rendering them momentarily capable of forgetting themselves to melt into the viewing experience (Cohen, 2001). With regard to its properties, identification is believed to be made up of a cognitive dimension (the capacity to understand, comprehend or put oneself in the characters’ shoes). It is also believed to entail an emotional dimension (the possibility of feeling what the characters feel, affectively get vicariously involved and feel concerned about their problems), as well as a dimension that leads the receivers to feel as if they were the characters themselves, to adopt parts of their identity and to imagine that they were the characters as they are watching (Igartua and Páez, 1998; Klimmt et al., 2009; Moyer-Gusé, 2008; Soto-Sanfiel et al., 2010).

The other concept taken into account is perceived realism, which refers to the perception that what is seen onscreen is similar to the conceptions about how the act portrayed might take place in real life. With regard to its dimensions, there is not complete agreement among researchers (Busselle, 2003; Malliet, 2006; Ribbens and Malliet, 2010). Malliet (2006) and Ribbens and Malliet (2010) have concluded that perceived realism might be defined as the perceptive result of four factors:

- factuality (the narrative’s ability to copy/reproduce the acts of real life)
- authenticity (the hypothetical meaning of reality; what happens does not have to be real but it does have to be authentic, that is, possible and therefore convincing)
- social realism (similarity between a person’s social life and the actions portrayed)
- simulated realism (the illusion of non-mediation).

In turn, Cho and Joungwha (2010) propose that perceived realism is the product of:

- the receiver’s identification with the characters
- the credibility/realism of the actions portrayed
- the attitudes towards the message
- the ‘quality’ of depiction.

The point of convergence among these conceptions is that they view the phenomenon of perceived reality as the possibility that an event depicted may be accepted by the viewers as likely to happen in some terrain of the multiple realities they accept.

The concept of presence refers to the feeling of ‘being there’ or ‘being inside’ the scene where the story is unfolding. The phenomenon is often described as the perception of non-mediation (Lombard and Ditton, 1997). In this sense, it can be understood as the psychological state in which the person’s subjective experiences are created by some form of media technology, with a scant notion of how the technology shapes this perception (Tamborini and Skalski, 2006). According to Lee, presence is a psychological state in which the experience of virtuality goes unnoticed (Lee, 2004, p.32). With regard to its dimensions, even though there are different kinds of classifications (Biocca et al., 2003; Heeter, 1992; Lee, 2004), the majority concur in attributing presence three dimensions: spatial presence, social presence and self-presence. Spatial presence is the feeling of being physically located in a virtual setting (Tamborini and Skalski, 2006) or
experiencing physical objects as if they were real (Lee, 2004). This has two essential features: feelings of involvement and immersion in the viewer and the perception of being part of the story. In turn, social presence happens when the viewer acts as if the characters depicted were real social actors (Lee, 2004). Finally, self-presence refers to a state in which the viewers abandon the notion of themselves within a fictitiously portrayed environment (Biocca, 1997).

The concept of transportation refers to a mental process characterised by abandonment of attention, images and feelings. Likewise, it is defined as a journey into the represented text (Gerrig, 1993) or the perception of being lost in a story (Nell, 1988). According to Green and Brock (2000), it is a convergent process in which all mental systems and abilities are focused on occurrences in the narrative, which produces three types of consequence. First, through transportation, the parts of the represented world can be considered physically or psychically accessible. Second, receivers can experience strong emotions or sensations, despite knowing that the represented events are not real. Finally, it also causes receivers to experience some emotional or cognitive changes.

The achievement of these objectives will offer useful information for comprehending the complex media scenario of the present day and, in particular, the new dynamics of audio-radiophonic reception.

2 Method

2.1 Participants

The participants were 327 university students who cooperated with the research for free, without receiving any compensation. 58.7% were women and 41.3% men. The average age was 21.18 years (Rg = 17–40, SD = 3.99). The students were invited to collaborate in the vicinity of the Faculty of Communication Science, at a large University from Spain, where the data was collected.

2.2 Procedure

Quasi-experimental research was conducted with 2 × 2 factorial design, the independent variables being listening condition (moving vs. stationary) and narrative (s1 vs. s2). The participants were randomly assigned to each of the experimental situations.

The narratives used were two horror stories, of high aesthetic quality and downloadable free from the website of narrator Teo Rodríguez (http://teorodriguez.com). Both stories, ‘La habitación 323’ (‘The room 323’, 5:59 min.; hereinafter s1) and ‘El perro’ (‘The dog’, 6:24 min.; s2), had been broadcast beforehand on the ‘Cuarto milenio’ (‘Fourth millennium’) show on radio station ‘Cadena Ser’ (http://www.cadenaser.com), one of the biggest broadcasters in Spain. This genre, with fantasy elements, was chosen in view of obtaining conclusions that are not attributable to a single case and that could cause a high level of suspense to encourage engagement, and also to observe the effect of perceived realism on the theoretical model of engagement. 162 participants listened to s1 (81 in each condition) and 165 to s2 (78 moving and 87 stationary). We decided to treat them as two levels of the independent variable story for knowing if there were differences in the psychological responses to diverse
contents of the same horror genre. The stories were heard on mp3 devices with earphones. We checked that the participants had not heard the stories before.

Both listening situations were in the open air. For mobile listening, the participants were asked to listen to the story while walking around the Faculty building and back to the place they started. Having studied the route beforehand, we calculated that this was the distance required to hear the complete story and get back in time to answer the questionnaire immediately after. For stationary listening, the participants were asked to listen while seated in the same place where the moving condition started. All participants, but particularly the moving ones, were asked not to interrupt the narrative and to abstain from communicating with anybody while doing the experiment, as this could spoil the results.

2.3 Materials

The participants answered a questionnaire containing an ecological adaptation for purposes of this study of the transportation scale by Green and Brock (2000). In this study, unlike the 15 in the original, there were just 14 items because our stories only had three characters each. Also, the questionnaire included adapted versions of the scales for identification with characters by Cohen (2001), perceived realism by Green (2004; an adaptation of Elliott et al. (1983) and spatial presence by Vorderer et al. (2004).

Likewise, the questionnaire included 10 items for observing enjoyment, evaluation both of the story and the experience, intention of listening to these stories again and habit of listening to audio devices during everyday journeys (“I liked the story”, “I enjoyed the story”, “I was entertained by the story”, “I was satisfied by the story”, “I enjoyed the experience of hearing the story on a mobile device”, “I like listening to stories like this on my everyday journeys”, “I’d listen to similar stories again”, “To enjoy these stories I need to pay full attention”, “I think these stories can be enjoyed while doing other activities” and “In my everyday journeys I usually use audio reproduction devices”). In the English literature, Enjoyment has usually been measured using a single item (see Nabi and Krcmar, 2004), but because of its linguistic context, and the results of Soto-Sanfie et al. (2009, 2011), this study also includes the items of satisfaction, liking and entertainment.

All items in the questionnaire were formatted as 7-point responses (1 = not at all/ 7 = a lot).

3 Analysis of results

3.1 Identification with characters

Validation of the scale. For this sample, the complete scale obtained acceptable reliability ($\alpha = 0.860, N = 327$). It is therefore a solid instrument for measuring the identification construct with characters in this context. Also note that we only asked about the central character (just one in each story).

A principal axis factor analysis and promax rotation was conducted with Kaizer normalisation (three rotations) for all of the data ($N = 327$) producing the result of a structure formed by two factors that explained 48.52% of the variance. The KMO Test (0.867) and Bartlett’s Test of Sphericity (1.303) were significant ($p < 0.001$)
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Following Cohen (2001), we called these factors *empathetic-absorbent-behavioural* and *cognitive-motivational*. Both are formed by a different number of items, the former by 7 and the latter by 3 (Cohen groups five into each of his two proposed factors). The empathetic-absorbent-behavioural was formed by items 1, 2, 6, 7, 8, 9 and 10. As a whole, they reflect the capacity to feel like the character, to be absorbed in the audiovisual text, to adopt his or her objectives and, in general, vicariously experience what happens to the character. The second factor reflects the capacity to share or understand the character’s perspectives; moreover, it is clearly cognitive or distanced (items 3, 4 and 5). These are two different ways of dealing with identification: one guided by affective aspects (which produces adsorption and its consequences on behaviour) and the other rational, involving assimilation or remote comprehension of the character.

**Table 1**  
Factorial analysis. Rotated saturation matrix of the joint sample (*N* = 327).

Scale of identification with characters

<table>
<thead>
<tr>
<th>Items</th>
<th>Empathetic-absorbent-behavioural</th>
<th>Cognitive-motivational</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I felt part of the action</td>
<td>0.664</td>
<td></td>
</tr>
<tr>
<td>2. I forgot myself and was completely absorbed</td>
<td>0.486</td>
<td>0.799</td>
</tr>
<tr>
<td>3. I can understand the events as the character understood them</td>
<td></td>
<td>0.824</td>
</tr>
<tr>
<td>4. I have a good understanding of the central character</td>
<td>0.799</td>
<td></td>
</tr>
<tr>
<td>5. I tend to understand the reasons for the central character’s actions</td>
<td></td>
<td>0.752</td>
</tr>
<tr>
<td>6. I could feel the central character’s emotions</td>
<td>0.504</td>
<td></td>
</tr>
<tr>
<td>7. I felt I could get inside the central character’s emotions</td>
<td>0.614</td>
<td></td>
</tr>
<tr>
<td>8. At key moments, I knew exactly what the central character was going through</td>
<td>0.472</td>
<td></td>
</tr>
<tr>
<td>9. I wanted the central character to achieve his or her objectives</td>
<td>0.729</td>
<td></td>
</tr>
<tr>
<td>10. When the central character achieved his or her objectives I felt happy and if he or she failed I felt sad</td>
<td>0.677</td>
<td></td>
</tr>
</tbody>
</table>

The two factors were formed with components of the sub-scales. Both proved to be significantly correlated (*r* = 0.532, *p* < 0.001). An overall index of identification was also obtained from the sum of the indexes of the factors.

*Effect of listening condition and story.* The effect of the listening condition (moving or stationary) was observed in the overall scale and the sub-scales. It was found that the condition had an impact on cognitive-motivational identification (*t* = −2.19, *df* = 325, *p* = 0.029). The arithmetic mean of cognitive-emotional identification was lower for moving (*M* = 1.99, *SD* = 0.591, *N* = 168) than stationary (*M* = 2.12, *SD* = 0.509, *N* = 159). No statistical differences were found for empathetic-absorbent-behavioural (affective) identification depending on listening condition.

We explored the impact of the story for each of the factors. No statistical differences were obtained either for empathetic-absorbent-behavioural identification or for cognitive-motivational identification depending on the story. Finally, to check the effect of both conditions on the scale in totality, we also observed the product of the sum of both factors in both conditions. We obtained the impact of overall identification depending on listening condition (*t* = −2.103, *df* = 325, *p* = 0.037). Identification was higher when
stationary ($M = 3.25$, $SD = 0.736$, $N = 168$) than when moving ($M = 3.08$, $SD = 0.801$, $N = 159$).

3.2 Perceived realism

Validation of the scale. The first analysis showed a low reliability index between the eight items ($\alpha = 0.236$, $N = 327$), which was far-removed from what was reported by Green ($\alpha = 0.81$). The two items that produced the most noise (7 and 4 from the original scale, see Table 2) were eliminated. This obtained $\alpha = 0.551$ for six items ($N = 327$), which although lower than in the study of reference, was considered acceptable given that these were horror stories. In fact, it is believed that the results show that this scale’s functions, at least for audio narratives, depend on the genre of the story. Future studies could confirm this with other non-real genres (e.g., science fiction or mysteries) using audiovisual and audio narratives.

<table>
<thead>
<tr>
<th>Items</th>
<th>Narrative realism</th>
<th>Reflexive realism</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The dialogues in the story are realistic and credible</td>
<td>0.604</td>
<td></td>
</tr>
<tr>
<td>2. The people in the story are like people me or you might know</td>
<td>0.764</td>
<td></td>
</tr>
<tr>
<td>3. The events presented the story could happen in real life</td>
<td>0.426</td>
<td></td>
</tr>
<tr>
<td>4. The story shows that people have a good and a bad side</td>
<td></td>
<td>0.501</td>
</tr>
<tr>
<td>5. The story is related with the difficult decisions we have to make in real life</td>
<td></td>
<td>0.712</td>
</tr>
</tbody>
</table>

A principal axis factor analysis and promax rotation (three iterations) was conducted using all of the data ($N = 327$) and produced two factors that explain 34.91% of variance (all correlations lower than 0.400 were excluded). The KMO Test (0.622) and Bartlett’s Sphericity Test (213.079) were significant ($p < 0.001$). Factor 1 was formed by items 1, 3 and 5, factor 2 by items 6 and 8 of the original scale (Table 2). After comparing these results with the previous literature, using Busselle and Bilandzic (2008) as the basis, we call factor 1 narrative realism and factor 2 reflexive realism. The items conforming factor 1 as a whole refer to the evaluation of stories, and the representative elements they contain (facts, dialogues and characters), as plausible or possible in real live. As a whole, this is an evaluation of the reality extracted from the telling of the story. The second describes a moral consideration of reality based on aspects of the story, i.e., one thing is for the representation of the story to be verisimilar because of an everyday, plausible setting that could happen in real life, and another thing are more moral and profound reflections that the representation could inspire. These results indicate that both can be independent.

Two sub-scales were constructed with the sum of the average for the items extracted in each factor. We found that they were significantly correlated ($p = 0.038$), although at a low level ($r = 0.115$). An overall index of perceived realism was also obtained.

Effect of listening condition and story. The impact of the listening condition (moving or stationary) was observed for each of the factors. A statistical difference was obtained for
narrative realism depending on the listening condition \((t = -2.147, df = 325, p = 0.033)\). When moving, the average was lower \((M = 4.01, SD = 1.32, N = 159)\) than when stationary \((M = 4.32, SD = 1.34, N = 168)\). No statistical differences were observed for reflexive realism depending on the condition.

We then observed the impact of the story on the aforementioned factors and found an effect both for narrative \((t = -6.01, df = 325, p < 0.001)\) and reflexive \((t = 1.99, df = 325, p = 0.046)\) realism. Story s2 \((M = 4.60, SD = 0.132, N = 162)\) received higher scores for narrative realism than s1 \((M = 3.75, SD = 1.22, N = 165)\). In turn, s1 receives higher scores for reflexive realism \((M = 2.80, SD = 0.148, N = 165)\) than s2 \((M = 2.49, SD = 1.29, N = 162)\).

### 3.3 Spatial presence

*Validation of the scale.* A factorial analysis was made of the 35-item scale by Vorderer et al. (2004). After different tests, it was agreed that the results offered by the method of varimax rotation and extraction of main components showed the clearest structure. The results revealed the existence of eight factors that together explain 68.50% of variance. The KMO Test value was 0.881 and Bartlett’s Sphericity was 5691.145. The model was statistically significant \((p < 0.001)\).

The results of said procedure were fairly aligned with the proposal of the original scale, with some exceptions. To begin with, a difference was found in the first of the factors, which here contained eight items. It was found that the factor was the sub-set of the four items that, in the scale’s proposal, appeared in the sub-factor *self-location of spatial presence* plus the other four items of the sub-factor *possible action*, of the same spatial presence. We therefore decided to call the factor obtained by this study *spatial presence*. Afterwards, another difference was found in the suspension of disbelief factor in the original scale, which in this study was divided into two different factors. Because of the items forming part of each, they were called *persistence of disbelief* and *suspension of disbelief*. Table 3 shows the first four factors of the validation of the scale and Table 4 shows the next four.

**Table 3**   Factorial analysis. Rotated saturation matrix of the joint sample \((N = 327)\).

<table>
<thead>
<tr>
<th>Items</th>
<th>Self-location and possible action ((28.85))</th>
<th>Attention ((10.01))</th>
<th>Specific terrain of interest ((7.33))</th>
<th>Spatial situation ((6.08))</th>
</tr>
</thead>
<tbody>
<tr>
<td>I felt like I was in the setting of the story</td>
<td>0.601</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It was as if my real position had moved to the setting of the story</td>
<td>0.717</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I felt physically present in the setting of the story</td>
<td>0.737</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I felt as if I had played a part in the action of the story</td>
<td>0.810</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I got the impression that I could be active in the ambience of the story</td>
<td>0.819</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I felt as if I could move between the objects in the story</td>
<td>0.769</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 3  Factorial analysis. Rotated saturation matrix of the joint sample ($N = 327$).
Scale of spatial presence (4 first factors) (continued)

<table>
<thead>
<tr>
<th>Items</th>
<th>Factors (%) variance explained</th>
</tr>
</thead>
<tbody>
<tr>
<td>The objects in the story gave me the feeling that I could do things with them</td>
<td>0.762</td>
</tr>
<tr>
<td>I felt I could so what I wanted in the setting of the story</td>
<td>0.765</td>
</tr>
<tr>
<td>I paid full attention to the story</td>
<td>0.815</td>
</tr>
<tr>
<td>I concentrated on the story</td>
<td>0.834</td>
</tr>
<tr>
<td>The story captured my feelings</td>
<td>0.693</td>
</tr>
<tr>
<td>I was fully dedicated to the story</td>
<td>0.786</td>
</tr>
<tr>
<td>I’m generally interested in the subject of the story</td>
<td>0.807</td>
</tr>
<tr>
<td>For some time I felt great affinity with the subject of the story</td>
<td>0.808</td>
</tr>
<tr>
<td>I was already a fan of the subject of the story before I heard it</td>
<td>0.798</td>
</tr>
<tr>
<td>I love thinking about the subject of the story</td>
<td>0.817</td>
</tr>
<tr>
<td>I could imagine the layout of the spaces presented in the story</td>
<td>0.671</td>
</tr>
<tr>
<td>I had a precise idea of the spatial environment presented in the story</td>
<td>0.710</td>
</tr>
<tr>
<td>It was impossible for me to calculate the size of the space presented in the story</td>
<td>0.806</td>
</tr>
<tr>
<td>Even now I have a specific mental image of the space presented in the story</td>
<td>0.794</td>
</tr>
</tbody>
</table>

Eight sub-scales were formed, each corresponding to one of the factors, based on the sum of the partial scores of each item. We also obtained an overall index of spatial presence from the sum of all scores of all items in the scale. These were incorporated in the analysis.

Effect of listening condition and story. The effect of the listening condition on the factors was observed. Statistical differences were found for attention ($F = 0.769$, $t = -1.93$, $p > 0.054$), which was higher when stationary ($M = 5.18$, $SD = 1.15$, $N = 168$) than when moving ($M = 4.93$, $SD = 1.15$, $N = 159$). Differences were also found for spatial situation ($F = 0.665$, $t = -2.58$, $p < 0.010$), which was higher when stationary ($M = 5.14$, $SD = 1.16$, $N = 168$) than when moving ($M = 4.80$, $SD = 1.21$, $N = 159$). Likewise, a tendency towards difference was found for high cognitive involvement ($F = 0.220$, $t = -1.83$, $p > 0.067$), which tended to be greater when stationary ($M = 4.42$, $SD = 1.15$, $N = 168$) than when moving ($M = 4.18$, $SD = 1.19$, $N = 159$).

Similarly, the effect of the story on the factors was observed. Statistical differences were found for cognitive involvement ($F = 2.159$, $t = -2.13$, $p = 0.034$), which was higher
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for s2 ($M = 4.44, SD = 1.22, N = 162$) than s1 ($M = 4.16, SD = 1.11, N = 165$). Differences were also found for persistence of disbelief ($F = 0.305, t = -2.03, p > 0.043$), which was higher for s2 ($M = 4.44, SD = 1.50, N = 162$) than s1 ($M = 4.10, SD = 1.50, N = 165$). Likewise, a tendency towards difference was found for special interest ($F = 1.67, t = -2.07, p > 0.039$), which tended to be greater for s2 ($M = 3.92, SD = 1.52, N = 162$) than s1 ($M = 3.56, SD = 1.64, N = 165$).

Table 4  Factorial analysis. Rotated saturation matrix of the joint sample ($N = 327$). Scale of spatial presence (4 second factors)

<table>
<thead>
<tr>
<th>Items</th>
<th>Factors (% variance explained)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Imaginary of visual space</td>
</tr>
<tr>
<td></td>
<td>(4.85)</td>
</tr>
<tr>
<td>When someone shows me a map I can easily imagine the space</td>
<td>0.767</td>
</tr>
<tr>
<td>I find it easy to manage a space in my mind without really being there</td>
<td>0.800</td>
</tr>
<tr>
<td>When I hear a story I can normally imagine the distribution of the objects described</td>
<td>0.746</td>
</tr>
<tr>
<td>When someone describes a space to me, I can normally imagine it easily and clearly</td>
<td>0.807</td>
</tr>
<tr>
<td>Most things I was thinking were related with the story</td>
<td>0.600</td>
</tr>
<tr>
<td>I only thought a tiny bit about the things in the story being related with others</td>
<td>0.699</td>
</tr>
<tr>
<td>The story made me think</td>
<td>0.658</td>
</tr>
<tr>
<td>I wondered whether the story would be useful for me</td>
<td>0.519</td>
</tr>
<tr>
<td>I concentrated on working out whether there were any inconsistencies in the story</td>
<td>0.782</td>
</tr>
<tr>
<td>I took a critical stance with respect to the representation of the story</td>
<td>0.782</td>
</tr>
<tr>
<td>I paid no attention to the existence of errors or inconsistencies in the story</td>
<td>0.751</td>
</tr>
<tr>
<td>It did not matter to me if the story contained errors or contradictions</td>
<td>0.809</td>
</tr>
</tbody>
</table>

3.4 Transportation

Validation of the scale. The 14-item transportation scale proposed by Green and Brock (2000) was evaluated. The scale showed acceptable reliability, similar to that obtained by its authors ($\alpha = 0.642, N = 327$).

A principal axis factor analysis and promax rotation (five rotations, $N = 327$) was performed, the most recommended test for collating its results with later confirmatory factorial analyses (Brown, 2006). The analysis produced three factors that explained 36.47% of variance (all correlations below 0.400 were excluded). The KMO Test (0.797) and Bartlett’s Sphericity Test (989.351) were significant ($p < 0.001$). The analysis
revealed similarities and differences with respect to the preceding study. It also confirmed the existence of the three factors identified by its authors and showed that, like the original study, each of these factors was formed by three items. However, when compared, although the factors were very similar, there was a difference. The factor that Green and Brock call affective, formed by items 5, 7 and 11, in our study was formed by items 7, 10 and 11, hence we decided to call it affective-behavioural because these items reflect how emotional content can influence behaviour. The items forming the cognitive factor proposed by Green and Brock were the same in our study. Likewise, those forming the imaginative factor in the original were also the same (see Table 5). The second and third factors in this study were given the names suggested by Green and Brock (cognitive and imaginative).

Table 5  Factorial analysis. Rotated saturation matrix of the joint sample (N = 327).

<table>
<thead>
<tr>
<th>Items</th>
<th>Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. As I listened, I imagined easily</td>
<td>0.739</td>
</tr>
<tr>
<td>2. As I listened I was aware of the reality happening around me</td>
<td>0.609</td>
</tr>
<tr>
<td>3. I could imagine myself in the scene of the story</td>
<td>0.805</td>
</tr>
<tr>
<td>4. I was mentally involved in the story as I listened</td>
<td></td>
</tr>
<tr>
<td>5. When I finished listening, it was easy to get the story out of my head</td>
<td>0.697</td>
</tr>
<tr>
<td>6. I wanted to know how the story ends</td>
<td></td>
</tr>
<tr>
<td>7. The story affected me emotionally</td>
<td>0.697</td>
</tr>
<tr>
<td>8. I found myself thinking of other ways to continue the story</td>
<td></td>
</tr>
<tr>
<td>9. My mind wandered as I listened to the story</td>
<td></td>
</tr>
<tr>
<td>10. The events in the story are relevant in my everyday life</td>
<td>0.527</td>
</tr>
<tr>
<td>11. The events in the story have changed my life</td>
<td>0.583</td>
</tr>
<tr>
<td>12. I listened to the story and had a very clear image of character 1</td>
<td>0.711</td>
</tr>
<tr>
<td>13. I listened to the story and had a very clear image of character 2</td>
<td>0.884</td>
</tr>
<tr>
<td>14. I listened to the story and had a very clear image of character 3</td>
<td>0.644</td>
</tr>
</tbody>
</table>

The above confirms the results reported by the scale’s authors, shows the appropriateness of this instrument for application to audio narratives and offers a new application of said contribution.

We then formed the three factors of transportation based on the sum of the items extracted for each factor. We found that they were significantly correlated with each other (p < 0.001) as follows: (1) cognitive with imaginative (r = 0.434) and affective-behavioural (r = 0.222) and (2) imaginative of the character with affective-behavioural (r = 0.176). We also obtained an overall transportation index formed by the sum of the partial values of each of the three factors.
Effect of listening condition and story. No statistical differences were obtained for any of the sub-factors or for the overall transportation index. Listening condition did not affect transportation in the reception of audio fiction.

We also observed the impact of the story for the aforementioned factors. An effect \( t = -2.39, df = 325, p = 0.053 \) was found for the affective-behavioural factor, whereby story s2 \( (M = 2.02, SD = 0.945, N = 162) \) obtained a higher average than s1 \( (M = 1.82, SD = 0.866, N = 165) \). The story therefore affects the participants’ affective-behavioural transportation.

3.5 Enjoyment

Having completed our work with scales created by other authors, we then worked with the variables for the evaluation of the story and the experience in order to determine whether the listening condition or story affects them. They were first observed individually.

Effect of listening condition and story. T-Student showed no statistical differences depending on the condition for the items I liked the story, I was satisfied by the story, I was entertained by the story and I enjoyed the story.

We explored the impact of the story for each of these variables. We found statistical differences in liking of the story depending on the narrative \( t = -3.129, df = 325, p = 0.002 \). Story s2 was liked significantly more \( (M = 5.38, SD = 1.196) \) than s1 \( (M = 4.92, SD = 1.487) \). Likewise, statistical differences were observed for enjoyment \( t = -3.417, df = 325, p < 0.001 \). Story s2 was enjoyed significantly more \( (M = 5.31, SD = 1.302) \) than s1 \( (M = 4.77, SD = 1.568) \). Statistical differences were also found for satisfaction \( t = -2.591, df = 325, p = 0.010 \). Story s2 was more satisfactory \( (M = 4.89, SD = 1.56) \) than s1 \( (M = 4.44, SD = 1.59) \). No statistical differences were found for entertainment depending on the story.

The aforesaid data generally confirms that the story is more influential on factors of satisfaction than the listening modality. The results also confirm what was reported by Soto-Sanfiel et al. (2009) in Spanish language contexts in the sense that each label refers to specific aspects of the entertainment experience.

To further the predictive value of the four large variables defining engagement in satisfaction with the experience, said variables were explored as a whole. A factorial analysis of the four items was conducted, with varimax rotation and extraction of main components. Coherent with Soto-Sanfiel et al. (2009), the analysis confirmed the existence of a single agglutinating factor that explains 76.02% of variance. Bartlett’s Sphericity Test \( (804.859) \) and KMO \( (=0.812) \) were significant \( (p < 0.001) \). A new variable was formed called enjoyment of and satisfaction with the story, the result of the sum of the partial indexes of each item, and which was used for the multiple regressions tests shown hereinafter.

Correlations between theoretical factors of engagement. Bivariate correlations were made between all the factors identified in all the analysed overall scales and sub-scales (identification, realism, enjoyment of and satisfaction with the story, spatial presence and transportation). It was found that they were all mainly positively correlated, except in the following cases:
Reflexive realism did not statistically correlate with cognitive-emotional identification, cognitive-emotional transport, attention, spatial situation or persistence of disbelief.

Narrative realism did not correlate with spatial situation. In fact, total realism did not correlate with spatial situation.

Persistence of disbelief did not correlate with any factors.

Spatial-visual imagination did not correlate with narrative realism, reflexive realism, overall realism, persistence of disbelief or overall satisfaction.

Prediction of enjoyment. We observed the extent to which the variables observed in the study explain enjoyment of and satisfaction with the story. A linear regression was made using the overall indicators for each variable. A model was obtained that significantly explained 39.3% of the variance in that factor ($F[4, 322] = 52.19, p < 0.001, R = 0.627, R^2 = 0.393$). It was specifically observed that identification with characters ($\beta = 0.38, p < 0.001$), spatial presence ($\beta = 0.19, p = 0.003$) and realism ($\beta = 0.18, p < 0.001$) generally predict satisfaction. Transportation did not act significantly.

All the sub-factors forming part of said variables were observed in greater depth. A significant model was obtained that explained 51% of variance in enjoyment of and satisfaction with the story ($F[15, 311] = 21.55, p < 0.001, R = 0.714, R^2 = 0.510$). Specifically, narrative realism ($\beta = 0.137, p = 0.002$), empathetic-absorbent-behavioural identification ($\beta = 0.28, p < 0.001$), attention ($\beta = 0.17, p < 0.001$), high cognitive involvement ($\beta = 0.12, p = 0.025$) and specific terrain of interest ($\beta = 0.23, p < 0.001$) statistically predicted enjoyment of and satisfaction with the story.

Prediction of desire to listen to these stories. We observed which factors predict the desire to listen to other stories like these. A model was obtained that significantly explained 49.8% ($R = 0.705, R^2 = 0.498$) of the variance of this variable ($F[16, 310] = 19.18, p < 0.001$) at 49.8% ($R = 0.705, R^2 = 0.498$). The model was formed by high cognitive involvement ($\beta = 2.35, p < 0.019$), specific terrain of interest ($\beta = 0.135, p = 0.016$) and enjoyment of and satisfaction with the story ($\beta = 0.499, p < 0.001$).

We also explored the factors predicting that to enjoy the story I must pay full attention. A model was obtained that significantly explained the variance ($F[16, 310] = 2.02, p = 0.012$) at 9.5% ($R = 0.308, R^2 = 0.095$). The model was formed by overall satisfaction ($\beta = 0.192, p = 0.013$) and narrative realism ($\beta = 0.143, p < 0.021$).

Finally, we explored the extent to which the aforementioned factors explained listening to these stories during everyday journeys. Although the model was significant, it only explained 2.5% of variance ($F[16, 310] = 6.65, p > 0.001, R = 0.506, R^2 = 0.256$), with only empathetic-absorbent-behavioural identification ($\beta = 0.186, p > 0.034$) and enjoyment of and satisfaction with the story ($\beta = 0.339, p < 0.001$) correlating statistically.

4 Discussion

The main contribution of this study is observing for the first time the reception of audio fiction in light of the factors that psychologically explain media entertainment. Specifically, it explores engagement in audio narratives and its relation with enjoyment
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on the basis of the elements that, according to Busselle and Bilandzic (2009), it is theoretically composed of: identification with characters, perceived realism, presence and transportation. It also validates, in an audio-radiophonic context, the measurement of factors that were originally formulated for audiovisual products and provides indications of the weight of each of these factors in predicting enjoyment. This is no trivial matter given that, even in audiovisual fictions, there is an absence of research observing, in a single study, all of these elements. Finally, it provides much-needed information about the effect of mobility on listening in terms of engagement and enjoyment, which we believe is relevant for both researchers of different disciplines and professionals in the radio and audiovisual industries.

This study finds that, apart from small nuances, the scales for identification with the characters (Cohen, 2001), perceived realism (Green, 2004), spatial presence (Vorderer et al., 2004) and transportation (Green and Brock, 2000), formulated for English audiovisual productions, can be applied to audio fiction and the Spanish language. The factorial and reliability analyses have shown that they are generally solid and trustworthy instruments for measuring constructs in both situations.

In the identification scale, this study finds similar reliability to that of the first validation of the original scale by Chory-Assad and Cicchirillo (2005) ($\alpha = 0.80$ for the 10 items). It also finds evidence that in identification there are two factors that act in correlated but independent fashion. Following the validation by Soto-Sanfiel et al. (2010) of the EDI Scale (Igartua and Páez, 1998), it can be concluded in this respect that affective-empathetic components carry more weight than the cognitive-rational. Also, the former are directly related with behaviour, while the latter are motivational. Likewise, the results suggest that affective aspects guide absorption, and its consequences on behaviour, while rational, assimilation or distanced comprehension of character aspects act as motivators of identification.

In relation to perceived realism, this study finds that Green et al.’s (2004) scale is less reliable for audio fiction. In fact, for it to work reliably in the context of this research, we had to remove some of its items. However, this suppression revealed something interesting: that the genre of the product affects the generic instrument for measuring perceived realism. The scale is sensitive to unrealistic genres of audio fiction, such as horror (in this case), and probably mysteries and science fiction too.

This study also finds that the perceived realism of audio fiction is generally formed by two types of factor: one narrative and the other reflexive. The former is related with the evaluation of the representation of the story and its components; the latter with a moral reflexion on reality based on the story. The significant positive correlation of both, though low, confirms these results, but adds that the genre of the product could compromise the relation between both components.

As for spatial presence, the results of this study agree with those reported by the authors of the scale (Vorderer et al., 2004). The differences between both studies are minor: in this one, the eight items measuring the two dimensions of spatial presence in Vorderer et al. (2004) divided into the two sub-scales self-location (four) and possible actions (four), all appear together in a factor we call spatial presence. This result makes sense given the experimental conditions of our study: the participants listened in the open air with no restrictions on movement in space (although those in the stationary condition were asked to remain seated). But it suggests something else, in light of the contributions regarding acoustic aesthetics (Truax, 2001), during non-captive audio consumption, and in which movement is possible, in the definition of the psychological state of spatial
presence there could be interaction between the localisation and perception of actions possible in the real world, and those of the story’s imaginary world. The sensation of being situated in the mediated space (Lombard and Ditton, 1997) and in the real physical space in which the mediation occurs may interact. So, although presence is a psychological state in which the qualities of the media are more determinant than the inherent properties of the experience (Sacau et al., 2008), this would also have an effect. Future studies could explore this in greater detail.

But this study also finds that the items forming the factor suspension of disbelief appear separated into two sub-scales that we call persistence of disbelief and suspension of disbelief. This result is interpreted as an effect of the horror genre of the audio pieces used. However, it also reports that, in the reception of these narratives, some participants could undergo analytical (Vorderer, 1993), critically analytically distanced (Cupchik, 2002, 2011) or external (Oatley, 1994, 1999) processes, in search of errors or inconsistencies that could impede suspension of disbelief. Such a process would therefore be a defence mechanism against the horror that the stories could produce. This result also suggests that, for effective suspension of disbelief, the process should be more implicated (Vorderer, 1993), internal (Oatley, 1994, 1999) or involved (Cupchik, 2002, 2011). Other studies could observe spatial presence in horror or mystery genres.

For the Transportation scale, this study obtains acceptable reliability similar to that proposed by Green and Brock (2000). So the instrument is reliable for audio narratives. However, although the factorial analyses give similar results to those of the scale’s authors, in this study the items associated with the affective and behavioural experience are associated to the same factor, called affective-behavioural. Also, in this case, we believe that the differences from the original scale are attributable to the genre of the radiophonic product. It is reasonable to believe that the emotions associated to experiencing horror could affect the participants’ behaviour during and after listening. Finally, this result complements our knowledge of the scale by adding that the genre can affect the organisation of the dimensions of transportation.

In relation with the other objective of this study, the effect of the listening condition, we found that compared with being stationary, a mobile user has less overall identification with characters (and less cognitive-motivational identification, specifically). Moving while listening in an open environment can make the listener less able to understand the events of the story as the character does and also less able to comprehend the character or the reasons for his or her actions. We know of no other studies that have explored identification as a consequence of the conditions under which narratives are received, so this study is original in terms of the concept in general and for reporting on the peculiarities of the reception of audio fiction while moving.

Regarding perceived realism and its components, this study also finds that mobility only affects narrative realism and causes it to be lower: dialogues are considered less credible, there is less perception of characters being similar to known people and the likelihood of the story happening is real life is lower. Mobility, however, does not influence reflexive realism. This suggests that conclusions or reflections regarding audio fiction are produced through more global and generic, and less specific, processes than those derived from realistically detailed aesthetic judgement of the fiction. Also, listening while moving, despite affecting the magnitudes of narrative realism, has no effect on reflections regarding the reality of the story under the terms expressed by the scale; which is obtained via other elements. Future studies could observe which elements of an audio
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product could help generate more or less narrative realism and their relation with the listening condition.

But in addition to the above, this study is line with the suggestions by Busselle and Bilandzic (2008) regarding the relation between perceived realism and engagement. The data from this study, which tested two horror stories containing elements of supernatural fantasy, corroborates that the perception of realism is produced by the plausibility of the story and the possibility of it being authentic. As Ribbens and Malliet (2010) would say, it is related with the hypothetical meaning of reality, which does not have to be real, but should be authentic, possible and convincing.

For another factor to be explored, spatial presence, an effect was observed of mobility on attention, spatial situation and high cognitive involvement. Mobility caused attention to the audio product to be lower: listeners pay less attention to the story, concentrate on it less and it captures fewer of their feelings. Also, spatial situation (the capacity to imagine the layout, the precise the spatial environment, the calculation of time and the specific mental image of the spaces presented in the story) is lower when the user moves in an open space while listening. Likewise, due to movement, there is less imagination of things related with the story, relation between things in the story itself, activation of thought and perception of the usefulness of the story. All this data, of which we know of no previous equivalents, contribute to the study of the formation of mental images, especially those produced by radiophonic products (Rodero, 2012) and their relation with behaviour. Likewise, it is of interest to several disciplines. Given that we only examined the effect of behaviour on psychological responses to narratives, a reverse study could be made of the effect of psychological responses on specific aspects of behaviour.

Similarly, this study finds no relation between listening condition and transportation to the narrative world, suggesting that this process is generally independent of the listening modality and, judging by the above results, could be produced by more global and/or generic aspects.

With respect to enjoyment of the narrative and satisfaction with consumption of the story, this study finds that mobility has no effect on these magnitudes and that the audio fiction in this study is enjoyed and satisfies regardless of whether it is heard while stationary or moving. This data aids our understanding of enjoyment, which has been considered an essential aspect of experiencing audiovisual entertainment (Vorderer et al., 2004), and specifically of audio products.

This study also finds a positive correlation for most of the abovementioned factors when examined as a whole, except for realism and its dimensions. In this study, as opposed to the theory (Busselle and Bilandzic, 2009), reflexive realism is not correlated with cognitive-emotional identification, cognitive-emotional transport, attention, spatial situation or persistence of disbelief. This is undoubtedly because of the horror genre of this study’s audio products. In whatever case, this also tells us that above these factors of an intellectual, detached and cognitive nature is the attribution of reflexive realism. Because narrative realism does not correlate with spatial situation, we know that both operate independently, at least with this type of audio product. Future studies could examine the relation between these factors using other genres of audio and audiovisual fiction.
Finally, one of the major contributions of this study is that, having observed for the first time as a whole the factors that theoretically most define engagement (Busselle and Bilandzic, 2009), it furthers our determination of the weight of each regarding enjoyment, whereby the first explanatory model of enjoyment is obtained that includes all of these variables. Although the model is of no major weight when considering the global variables, it does reveal that identification with characters, spatial presence and perceived realism do indeed affect enjoyment and satisfaction; unlike transport, which is left out of the equation. Apart from these variables, there are other factors of weight regarding enjoyment of and satisfaction with an audio story and which narrative research could observe. This result also tells us that, at least for audio products, transportation is no guarantee of enjoyment in general, as had been predicted in the literature (Busselle and Bilandzic, 2009; Green et al., 2004).

For more in-depth comprehension of enjoyment and satisfaction, the model was recalculated by also introducing all the dimensions of each of these factors. This prediction offers a more conclusive and clarifying model of enjoyment: narrative realism, empathetic-absorbent-behavioural identification, attention, high cognitive involvement and the specific terrain of interest are the elements that significantly predict enjoyment of and satisfaction with the story. These results contribute to the study of engagement, the enjoyment of narratives and the processes determining the same. Specifically, they question the status of narrative transport in modelling enjoyment.

This study also finds that the desire to hear other similar audio stories is explained by high cognitive involvement, the specific terrain of interest and enjoyment. This is interesting not only in terms of the reception but also the creation and programming, of such products on the radio, because it reports the conditions that these products should satisfy in order to generate the need for continued consumption. It also shows the weight of the personality or individual in the equation of consumption and finds that the enjoyment produced by attention to the story is essentially linked to narrative realism. Finally, it also guarantees that the desire to listen to these stories during everyday journeys can only really be tangentially explained by empathetic-absorbent-behavioural identification, enjoyment and satisfaction with the story. There are other elements not contemplated here that may also explain the use of these stories on everyday urban journeys. Future studies, of a fundamentally qualitative-emergent nature, and in terms of uses and gratifications, could further the identification of said elements.

Moreover, this study shows the importance of the audio story itself in the enjoyment of the experience and for all of the related variables. According to the results, the magnitudes and dimensions of practically all the factors are affected by the specific story, which is proven to be more influential on the reception of audio fiction than whether it is heard while stationary or moving.

One of the most surprising results is that narrative transport should be little affected by the listening condition and should have so little bearing on enjoyment. As has been stated, transport has been considered relevant for engagement in Busselle and Bilandzic (2008) and enjoyment of narratives (Green et al., 2004). Our result contradicts the literature’s claim that both transport and flow (Csikszentmihalyi, 1990) refer to the complete absorption of a person’s attention in an activity and cause receivers to feel part of the actions that they are being told about and separated from what they are doing. In this study, listening to audio stories on earphones produces transportation regardless of the listener’s behaviour (stationary or moving). Or, at least, individuals say they are transported into the reality of the story regardless of their actions (e.g., walking).
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This could be explained by the genre of the stories (horror), which would provoke different types of processing (cognitive or affective) than other genres. Genre, in short, would affect transportation and flow. Besides, these results also suggest the existence of different processing routes depending on the nature of the story. Transport and flow, thus, would not be static, prototypical or fixed types of processing but organised or directed by the content. In any case, these results challenge the general definition of narrative transport and flow and the traditional methods for measuring this factor. Future studies could use qualitative-emergent techniques to examine transport and its relation with engagement and enjoyment.

But these results also challenge claims that, for there to be engagement, there must be a loss awareness of oneself and one’s surroundings in order to enter the world of the story (Busselle and Bilandzic, 2008), a process of psychological relocation that separates the narrative experience. Our results suggest that, in experiencing a narration, there is no need for the receiver to totally change from one world to another, as sustained by Deictic Shift Theory (Duchan et al., 1995), but that both worlds can be experienced simultaneously (perhaps to different degrees than in captive listening, but not in an ‘all or nothing’ process). So, urban listening does not require receivers to totally change their time and localisation in accordance with the narrative’s proposals (Galbraith, 1995; Segal, 1995).

This study is offered as an exploration of the increasingly more frequent practice of private urban listening. In this regard, its contributions show that the use of mobile audio technologies affects awareness of the sound: there is less attention, high cognitive involvement or spatial situation when the listener moves around an open environment. It also adds specific information to Blesser and Slater (2007) with respect to how the use of earphones reveals the boundaries between public and private listening spaces. Particularly, it finds empirical data supporting the idea of interaction between different spaces while listening on the move (a listener to audio narratives’ movement around cities affects the components of psychological perception of space, identification with characters and narrative realism). It also shows, as a whole, that mobile listening in urban environments affects the fundamentally cognitive and intellectual aspects of the listener’s psychological relation with the narrative; but not with the most affective or emotive factors of that listening, which are produced equally whether the listener is stationary or moving. Future studies should examine the effect of listening to these productions in disconnection from the socially determined reality.

Finally, the results of this study can be added to those that, originating from psycho-acoustics and fundamentally Truax (2001), consider listening to be a complex activity that involves conscious multilevel attention, higher cognitive functions and backgrounding (holistic listening based on Gestalt pattern recognition). Our results support opinions regarding the existence of two types of listening: one omnidirectional, semi-distracted (adaptive) and interactive that could be focussed on the adaptive treatment of audio information, and the other more analytical, attentive to detail, expert and analysis-centred (Droumeva, 2005). The reception of audio products and its psychological affects could be situated between both.
References


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