

Use of augmented reality in the treatment of specific phobias: a literature review

Autora: Isabel Maria Rocher Grau
Tutora: Cristina Botella Arbona
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Introduction:

Being afraid of something is a fairly common occurrence, but when this produces a lot of interference it can become very disabling and prevents or greatly hinders your life, in this case the user is considered to suffer from a phobia. This disorder has been widely studied and there is a very effective treatment for it, exposure. But this type of work is very aversive, since the user has to approach his phobic stimulus. Being a very problematic disorder it would be interesting to find a less aversive treatment.

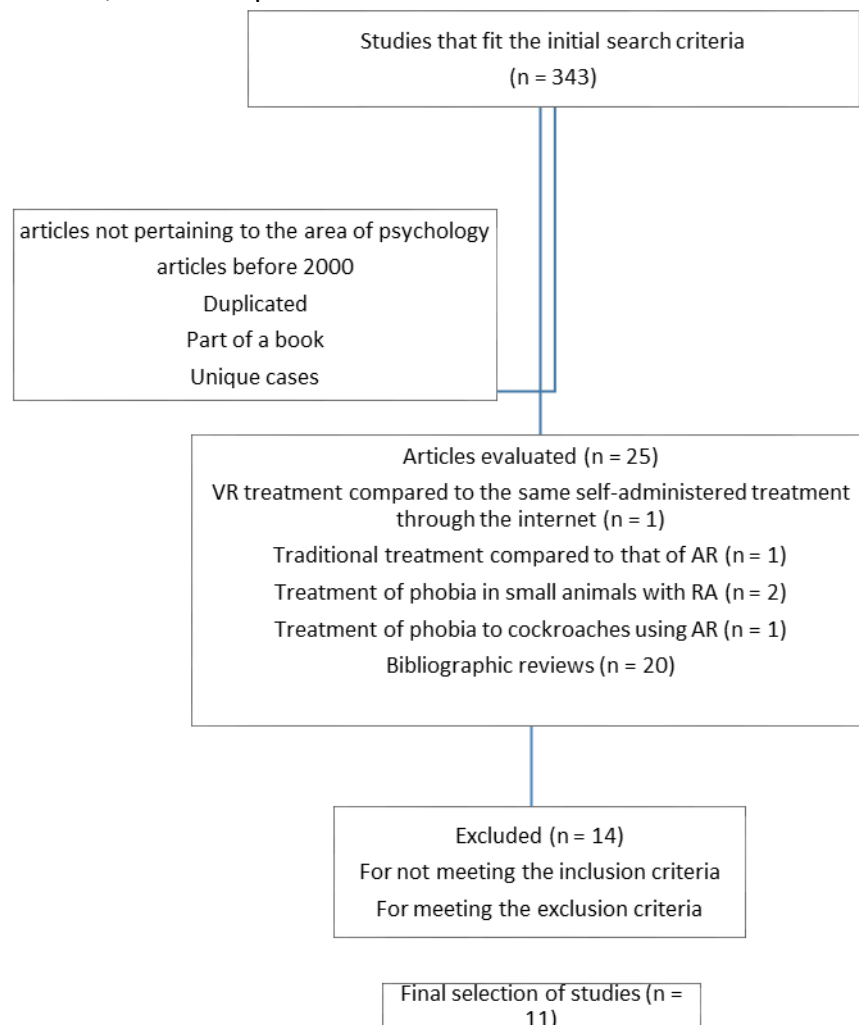
To solve this problem has tried to use augmented reality, that is characterized by:

- combines real and virtual objects in a real environment
- has a real-time interactive component
- align virtual objects with those of the real world

Objective: evaluate if the augmented reality can produce a better treatment for the specific phobia than the usual treatment, the live exposure.

Methodology

The databases were used for the search: APA Psycnet, PubPsych and mainly Google scholar. In principle, they were selected as keywords: phobias (fobias), virtual reality and / or augmented (realidad virtual y/o aumentada) and that were published at a later than 2000. Then the chapters of books were filtered, those that did not provide data new, single-case articles ... and finally five bibliographic reviews, five empirical studies and a doctoral thesis were chosen.



Results

The articles consulted demonstrated the efficacy of augmented reality as an exposure technique, since it did not only increase anxiety in all cases, but it also decreased it due to prolonged exposure. Therefore, it can be useful for some irrational fears for the traditional presentation, with clear limitations. In all cases, the treatment significantly reduced the fear of the participants when facing their target animal. In all treatments, there was less avoidance of the animals by the participants, this information is corroborated throughout the articles: Bretón-López, J. et al., (2010), Botella C., et al. (2009), Wrzesien, M., et al. (2011a), M. C. Juan, M. Alcaniz (2005) and Botella, C., et al. (2016).

The article of Wrzesien, M. et al. (2011a) also adds that the time required to observe this anxiety reduction varied depending on the initial levels of fear and the severity of the phobia. All the studies suggest that the traditional treatment and the treatment using AR were useful for the phobia treatment.

Conclusion

Promising results have come out but the n of the investigations are still small, it is expected that a larger population will also reproduce. But for the evaluated studies, some things are clear. As once the intervention is initiated, it is less aversive to expose a virtual animal than to a real animal and the pace of exposure therapy to the patient can be better adjusted. And that what was believed a possible limitation, which was that for users it was difficult to use these technologies. However, it has been proven that patients do not need prior experience with technology to benefit from exposure treatment with new technologies, It was extracted from the article Botella C., et al. (2009).

Finally, it should be noted that compared to virtual reality, an advantage of this technology over virtual reality is that AR can be more immersive; and everything the user sees is from the real world, except for the feared stimuli.

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