

# Towards a Comprehensive Simulator for Public Speaking Anxiety Treatment

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**Abstract:** Public speaking anxiety (PSA) is often cited as the most common social phobia among the general populace. In Diagnostic and Statistical Manual of Mental Disorders (DSM V) (American Psychiatric Association, 2013) anxiety disorders are categorized as a group of mental disorders which are characterized by anxiety and fear. Anxiety is the worry about the future, and fear is the reaction to current events. These current events can be listed as interacting with unknown individual or being in crowded places (Gorini and Riva, 2008). Although Cognitive Behavior Therapy (CBT) is a well-known treatment plan, modern technology enables us to overcome public speaking anxiety with virtual environments that closely represent real life scenarios in a controlled and inexpensive manner.

For treating anxiety disorders one of the most effective ways is to use exposure therapy. Exposure therapy can be performed by actual exposure, by visualization, by imagination and through virtual reality (Gorini and Riva, 2008). Using virtual reality in exposure therapy involves utilizing computer simulated environments and 3D graphical environments which users can interact within (Gorini and Riva, 2008). Training people who has public speaking anxiety with the help of virtual environments can allow them to practice, train more and reduce their anxiety. Even though there are a lot of studies addressing the treatment of social anxiety disorders with virtual reality environments, the literature does not target public speaking anxiety specifically (Vanni et al, 2013). There is a lack of investigations into virtual reality treatment of PSA. Further, there is a need for a comprehensive inclusion of physical and vocal cues into such treatment environments. Yet, the few studies that exist, prove the potential positive impact of virtual reality on treating PSA.

This paper presents a model prototype to reduce the public speaking anxiety by utilizing virtual environment training sessions. The model simulates an auditorium environment and simulates the heterogeneity of attention among the audience. Physical and vocal cues crucial to PSA are generated by the audience. Immersion is performed using a Google Cardboard VR 3D glasses and implemented using Unity3D. This simulation is then used to expose participants to the Anticipation, Performance and Recovery phases of speech (Cornwell et al, 2006). These include curtain opening/closing, delivery from the middle of the stage, being under spotlight and being exposed to the audiences' physical and vocal cues.

## References

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