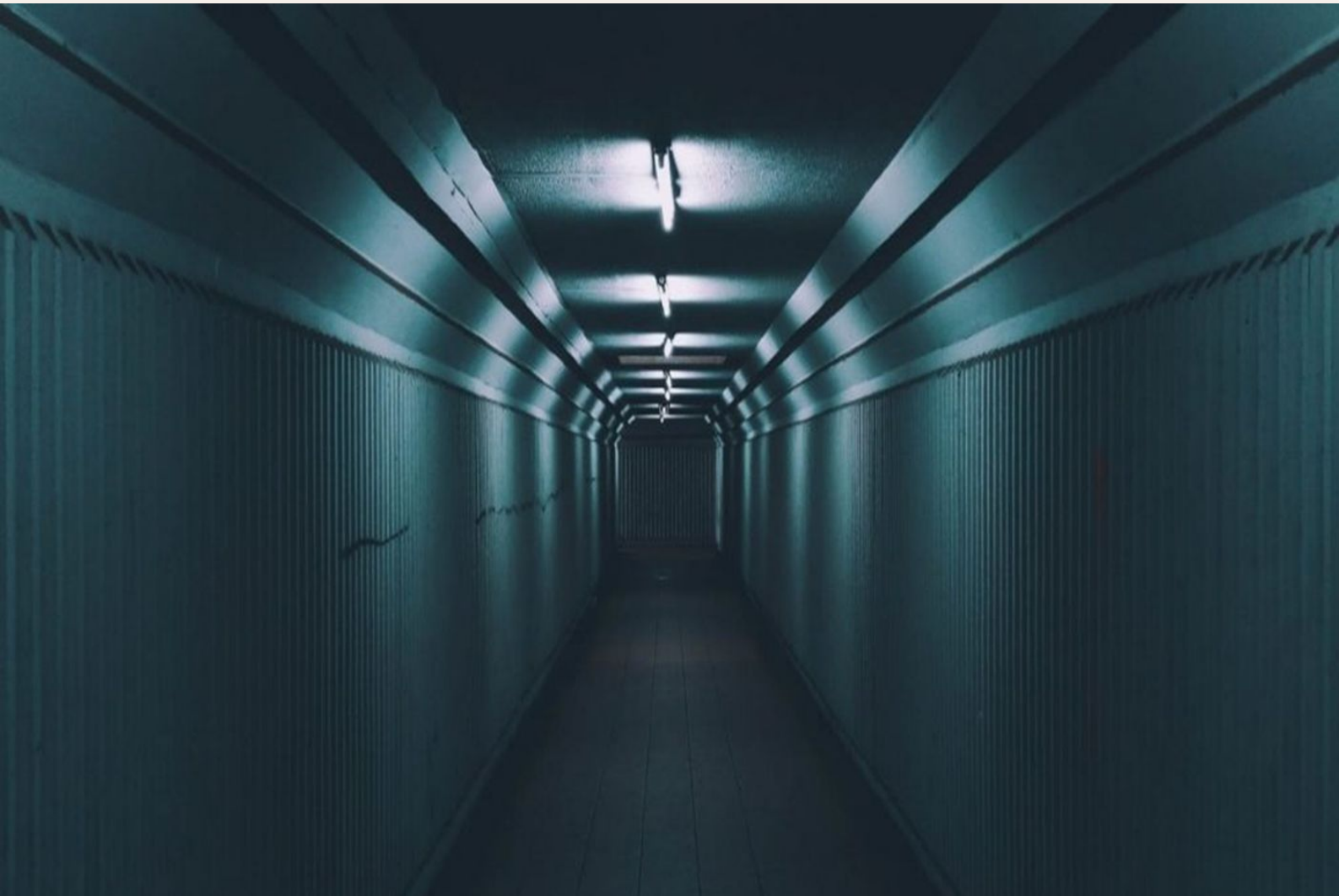


# Amelia by XRHealth Clinical Case

Agoraphobia



Health care professional with expertise in VR:  
M<sup>a</sup> Dolors Mas

# Patient

## Cristina, 21 years old. Studying and working.

In a relationship for the past couple of years.

A dysfunctional family that she replaces with her numerous friendships.

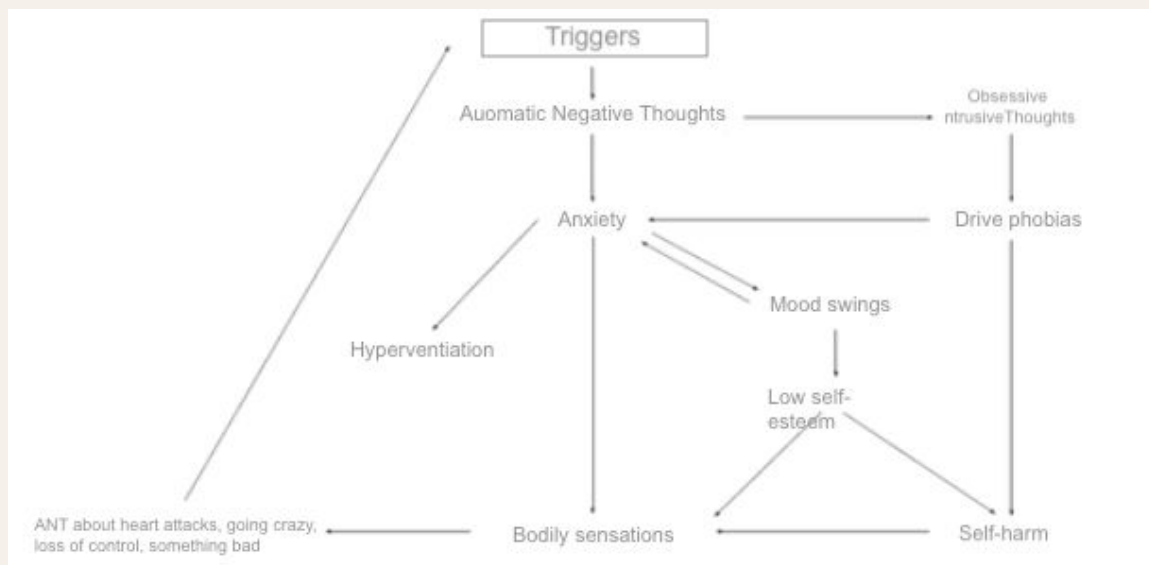
## Reference diagnosis

Previously diagnosed with agoraphobia and BPD. An antidepressant was recommended as the best treatment option, but she abandoned it, does not want to take medication and currently remains without taking anything.

**Psychological background:** body dysmorphic disorder, self-injury, amaxophobia, acrophobia, phonophobia and brontophobia (astraphobia).

**Physical history:** clinical hyperthyroidism of one year of evolution, without medication.

**Resistance to emphasize:** idealization of agoraphobia as "something good".



# Evaluation

## Symptoms present at the beginning:

- Cognitive: fear of leaving home, anxiety, avoidance, depersonalization, fear of losing control, heart attack, hypersomnia.
- Emotional: self-harm, apathy, anhedonia, dysphoria, emotional coldness.
- Physiological: paresthesia, dizziness, tingling, weakness, dyspnea, heavy arms and legs, sweating, hot flushes.

## The elements used to evaluate the patient were:

**Interview:** Structured interview of anxiety disorders according to DSM-V → ADIS-IV-L.

**Scales:** Interference scale.

**Tests:** Mobility for agoraphobia and personality assessment (PAI, others could have been chosen such as 16PF).

**Questionnaires:** Body sensations, cognitions, panic attacks, objective behaviors, panic and agoraphobia (PAS).

# Objectives

## Objectives to be achieved.

- Good therapeutic alliance as well as adherence to treatment (eliminate resistance and prevent abandonment).
- Eliminate the idealization of agoraphobia as a good thing.
- Psychoeducation of the patient, but especially in the closest relatives.
- Cognitive restructuring of negative thoughts and work with cognitive distortions → Work on adaptive thought techniques.
- VR to help reduce anxiogenic responses, slowly increasing environments and exposure time (from lower to higher anxiety).
- Exposure to daily living activities that produce pleasure, motivation, satisfaction and relaxation. → To motivate her so she wants to do things.
- Gradual self-exposure (from lower to higher) with a reliable healthcare professional..
- Identify and gradually remove safety signs or defensive behaviors.

## More distant goals

- Self-exposure without a healthcare professional.
- Distinction between normal anxiety and pathological anxiety, setback and relapse.

# Development

## Distribution of sessions:

- First session: Work with an anxiety diary and a panic disorder self-report.
- In the following sessions: practice activation control techniques (diaphragmatic breathing and Jacobson), first in imagination, then with VR to strengthen the technique.
- From the sixth session: we worked with the hierarchy of negative anxious thoughts with CR, cognitive distortions and stop thoughts. → Homework is sent: continue practicing relaxation techniques and continue with the anxiety diary and panic disorder self-registration.
- From the eighth session: we begin to use VR in a more contextualized way to specific situations. In the beginning, according to the hierarchies lower levels of anxiety were established: the square with few people, as well as the acrophobia scenario with the farthest distance, and also diaphragmatic breathing "under the sea".
- From the thirteenth session onwards: VR continued to be used this time with increased levels of anxiety: the square - increasing the number of people and working on anxiety, thoughts, etc. Agoraphobia with a stop in the hall (a lot of anxiety in the long halls), mindfulness with body scan.

# Development

## Distribution of sessions:

- In the last sessions, very anxiogenic environments were used, such as the square with many people, the subway (many people), the airplane (rain, storm prediction, window), glass elevator (looking at the horizon on the top floor), etc.
  - Her partner was a co-therapist: helping in in vivo exposure, in the end she did them by herself.



# Results

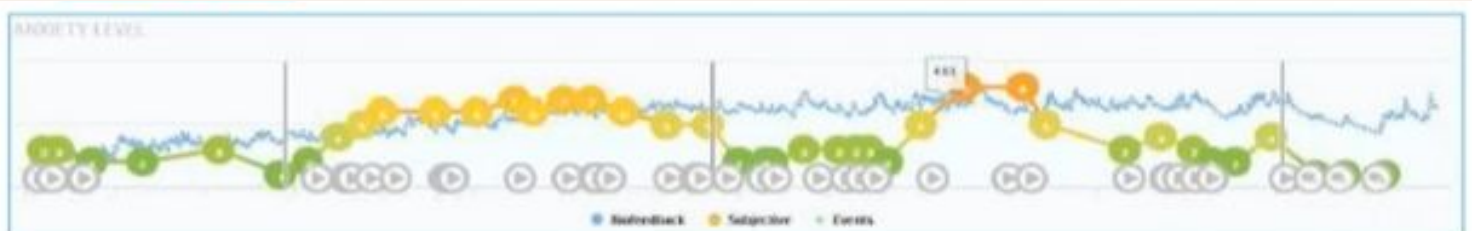
Electrodermal response sensor was used during VR therapies. This facilitated a comparison, as a guideline, of what the stress situation was from a subjective point of view compared to the biological response.

A significant difference between the subjective and biological stress response can be observed between the year 2016 and 2017. During December 2016 it's possible to observe a desajustment between the perceived stress and the biological stress, while in 2017 it's possible to observe how the biological response in some moments exceeds the patient's feeling of stress. Thus demonstrating a balance established by the patient between biological response and stress perception.

## 7th of December 2016



## 1st of June 2017



Square

Acrophobia

Claustrophobia

*(peak half-way through the corridor)*

# Results

## Square

She regularly has to cross a square to go see a friend. Before she used to go around it, just to not pass through it. Now she crosses through it.

## Subway

At present, she can take it, alone or accompanied

## Glass Elevator

It reminds you of a similar elevator that exists in one of the subway lines you have to take to go home if you go to Barcelona, so, although she is gradually getting used to it, this is one of the environments that is still difficult for us.

## Airplane

She's already made several short trips, without problem.

## Room

By narrowing it, it is a similar sensation she has when she is in her classroom. Last year, she did badly. This year, she has signed up for subjects from both courses and is having no problems spending time studying in a classroom by herself.

## Beach

The patient experienced a lot of anxiety in this environment because of the arrival of automatic negative thoughts that generated the loop that we have seen. She is still unable to go.

## Under the sea

We observed that leaving this environment for the end, in all cases, increased anxiety. It was replaced by various types of mindfulness.





**amelia**  
by XRHealth