Self-Attachment Technique: a short introduction by Abbas Edalat

The self-attachment technique (SAT) for mental health is a self-administrable action programme, informed by attachment theory, that an individual can practice 30 minutes daily on their own for eight weeks using their childhood photos or a VR environment or a chatbot that we have developed.

In SAT, the individual's mindset and behaviour are considered as the interaction of two actors, the childhood self and the adult self: The childhood self, mentally represented by the individual's childhood photos or a VR avatar created from such a photo, is conceived as the emotional self which is usually dominant when the individual is under stress. The adult self is conceived as the rational self which is usually dominant in the absence of stress.

The adult self establishes first a compassionate connection with their childhood self, using their favourite childhood photos or VR avatar. Then, by reciting their favourite love and jolly song while looking at their favourite childhood photo/avatar and focusing on what they may like about their childhood, the adult self creates a passionate, imaginative bond with that child.

A vow is then made by the adult self to look after the child whenever the child is in distress. This means that whenever the individual is overwhelmed or affected by negative emotions, the adult externalises these negative emotions to the child and takes up the challenge of comforting the distressed child. In practice, the adult plays this comforting role by emulating the actions of a 'good enough' primary caregiver when their child is distressed.

The adult role playing consists of externalising one's negative emotions to one's childhood photo or avatar, imaginatively embracing the child, loudly reassuring them, and giving oneself a head or neck self-massage (a close counterpart for cuddling a real child in distress).

There are also other self-administrable protocols in SAT that mimic the actions of a primary caregiver, based on singing, dancing, playing, laughing and developing an attachment to nature to maximize positive affects. After a few weeks, the SAT protocols can be practiced by the individual on their own using mental imagery without requiring their childhood photos or the VR avatar. A pilot study to evaluate the efficacy of SAT to treat chronic depression and/or anxiety in Iranian women using childhood photos has obtained a huge effect size. The post-test result of a recent VR-based group study in the non-clinical population in Europe, US and Canada has had a large effect size.

We have developed two VR platforms and a chatbot for SAT. The low-end VR implementation is downloaded as an app on a mobile phone. Via a low-cost Google cardboard, the user accesses a VR environment in which their child avatar can be animated in the six basic emotions. As an automated feature, if the user stares at the child avatar in a negative emotion, the emotion soon turns to neutral, then to happy and finally the avatar starts dancing with the user's favourite song.

The high-end Oculus implementation features a virtual assistant and a customised child avatar. The virtual assistant interacts with the user and based on an emotion recognition algorithm suggests appropriate SAT protocols to the user.

The chatbot (to date in English, Mandarin, Russian and Cantonese) teaches SAT to the user, answers questions by the user based on a corpus dataset about SAT and coaches the user in practicing the SAT protocols. It is a rule-based framework that is augmented with an AI-platform for engaging with the user in an empathetic, safe, fluent and non-repetitive way. The AI agent suggests SAT protocols in different contexts that are informed by the user's current emotion and their past interactions with the protocols. The chatbot is currently text based but will soon be available by voice as well.