

Restorative Deepfake Intervention Netherlands (REDEFINE): Deepfake survivor-perpetrator confrontation for young adults with sexual violence-related PTSD

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To evaluate the acceptability and effectiveness of a deepfake victim-perpetrator confrontation in young adults with sexual violence-related PTSD.

Ethical review	Approved WMO
Status	Pending
Health condition type	Anxiety disorders and symptoms
Study type	Interventional

Summary

ID

NL-OMON57249

Source

ToetsingOnline

Brief title

Restorative Deepfake Intervention Netherlands (REDEFINE)

Condition

- Anxiety disorders and symptoms

Synonym

posttraumatic stress disorder, PTSD

Research involving

Human

Sponsors and support

Primary sponsor: ARQ Centrum'45

Source(s) of monetary or material Support: Stichting Achmea Slachtoffer en Samenleving (SASS)

Intervention

Keyword: deepfake, posttraumatic stress disorder, sexual violence, treatment

Outcome measures

Primary outcome

Outcomes are analysed on an individual level and on a group level.

The outcomes that are analysed on an individual level are primary:

- one item from the Posttraumatic Cognitions Inventory (PTCI) that receives the highest rating at the beginning of the baseline phase
- one item from the Guilt and Shame Questionnaire (GSQ-8) that receive the highest rating at the beginning of the baseline phase
- one item from the Social Comparison Scale (SCS) that receives the lowest rating at the beginning of the baseline phase.

In case different items are rated similarly, the participant is asked to select the item that bothers them the most.

These items are subsequently assessed daily until 10 days after the intervention.

Secondary outcome

Outcome measures at group level are:

- level of posttraumatic cognitions (Posttraumatic Cognitions Inventory; PTCI)
- PTSD symptom severity (PTSD Symptom Checklist for DSM-5; PCL-5)

- level of feelings of guilt and shame (Guilt and Shame Questionnaire, GSQ-8)
- level of interpersonal motivation for revenge, avoidance and benevolence towards the perpetrator (Transgression-Related Interpersonal Motivation Scale; TRIM)
- level of comparison to the perpetrator (Social Comparison Scale; SCS)

These are assessed at the beginning and the end of the baseline phase, and one and three weeks after the intervention.

Study description

Background summary

Sexual violence is a common potentially traumatic experience that may have major psychosocial consequences. In 2020, 11% of the Dutch population indicated having been exposed to sexual violence in the previous year. Among the victims are a disproportionate number of young people: 47% of women and 13% of men aged between 18 to 24 have experienced some form of sexual violence.

Exposure to sexual violence is a strong risk factor for developing posttraumatic stress disorder (PTSD). The recommended treatment for PTSD consists of individual trauma-focused therapy, such as EMDR therapy or prolonged exposure. Treatment leads to a clinical improvement in around 54% of cases. However, even after effective treatment, 60% of patients continue to have residual complaints. Negative moral emotions (guilt, shame, anger) and negative posttraumatic cognitions about self and others are seen as negative predictors for a positive treatment response.

To reduce the negative moral emotions and negative cognitions of patients with PTSD after sexual violence, a victim-perpetrator confrontation may be helpful. For the victim, the aim of such a confrontation is to achieve psychosocial recovery by discussing the impact of the act, asking questions, and/or receiving an apology. Research shows that victim-perpetrator confrontations lead to, among other things, increased feelings of justice and empowerment; increased self-confidence and trust in others; reduced negative feelings of anger, fear and guilt; a reduction of negative cognitions about the world; reduced fear of revictimization; and reduced desire for revenge.

Victim-perpetrator confrontations also reduce the severity of the core symptoms of PTSD (reexperiencing, avoidance and excessive arousal) by up to 40%. Although real-life victim-perpetrator confrontations can help reduce PTSD symptoms in victims, it is not always possible to have an actual confrontation

with a perpetrator. Not all victims and perpetrators are willing or able to do this. In that case, technological innovation offers opportunities to conduct such a confrontation virtually.

In a deepfake victim-perpetrator confrontation, the victim has a Zoom call with their 'perpetrator'. A photo of the perpetrator is converted into a realistic, repeating 9-second GIF, and the perpetrator's words are spoken by a therapist who sits in another room behind the screen. The technology for this was developed and facilitated by the University of Amsterdam/3DUniversum via an online platform. This intervention is experimental, and scientific evidence currently consists of two promising case studies. In these case studies the intervention was assessed as realistic and positive. There was also an increase in positive emotions, dominance in relation to the perpetrator and self-forgiveness, as well as a decrease in negative emotions, self-blame and severity of PTSD symptoms.

Given the experimental nature of the intervention, it is necessary to further examine acceptability and effectiveness. When shown to be acceptable and effective, the intervention may then be implemented in the treatment of patients with PTSD related to sexual violence.

Study objective

To evaluate the acceptability and effectiveness of a deepfake victim-perpetrator confrontation in young adults with sexual violence-related PTSD.

Study design

The study concerns a non-concurrent multiple baseline single case experimental design (SCED); with randomization of baseline phase (10, 15 or 20 days), 21-31 daily measures (depending on length of baseline phase) as well as four main assessments, and 10 participants.

Intervention

The intervention concerns a deepfake victim-perpetrator confrontation. During this intervention, a frontal photo of the perpetrator is temporarily uploaded in a secure online program developed and facilitated by 3DUniversum. There it is converted into a 9-second GIF (a repeating, lightly moving film) with a benevolent expression.

Subsequently, the victim can engage, from behind a computer screen, in a conversation with the 'perpetrator', in other words: with a therapist who is in another room behind another computer screen. In this conversation, the words of the 'perpetrator' appear to be spoken by the person portrayed in the GIF but the voice of the therapist remains unchanged.

During the victim-perpetrator confrontation, the victim confronts the 'perpetrator' with his/her memory of the event and the impact of the event, and

asks questions. The desired content and outcome of the deepfake confrontation is discussed with the victim during a preparatory session, in which the victim also provides additional information about the event and the perpetrator. This ensures an optimal match between the content of the deepfake confrontation and the aim and experience of the victim.

The deepfake 'perpetrator' may then respond to the victim in a way that is both truthful and helpful (i.e. most likely to meet the objective of the victim).

Depending on the objective of the victim, remarks may be made such as: 'I hear what you're saying', 'I didn't realize that before', 'that must have been hard', 'it wasn't your fault', and so on. These remarks take into account the potential stance of the real perpetrator, meaning that, for example, the deepfake 'perpetrator' would not apologize when the actual perpetrator would not be inclined to apologize. Questions of the victim may be answered based on the information provided in the preparatory session and based on general information on sexual violence.

The victim is supported by a second therapist who is present in the same room.

The intervention was developed during a first pilot phase and subsequently developed in a second round in collaboration with experts and experience experts (patient representatives).

Study burden and risks

Participation takes a maximum of 585 minutes (9:45 hours), including the inclusion meeting, preparatory session, deepfake session, four main assessments, and 21-31 daily assessments.

Participation in the study may be emotionally challenging, because of the assessments as well as the intervention itself. However, during a pilot phase the intervention was evaluated as positive. In addition, there was an increase in positive emotions, dominance in relation to the perpetrator, and self-forgiveness, as well as a decrease in negative emotions, selfblame and PTSD symptom severity.

Contacts

Public

ARQ Centrum'45

Kasteellaan 1
Oegstgeest 2342 EG
NL

Scientific

ARQ Centrum'45

Kasteellaan 1
Oegstgeest 2342 EG
NL

Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age

Adults (18-64 years)

Inclusion criteria

- (1) 18-27 years old
- (2) (partial) PTSD diagnosis after exposure to sexual violence
- (3) having had at least 8 sessions of trauma-focused treatment
- (4) scoring at least 2 on 'cued psychological distress' (criterion B4), 'exaggerated negative beliefs or expectations*' (criterion D2), *distorted cognitions leading to blame* (criterion D3) and/or *persistent negative emotional state* (specifically guilt, shame or anger) (criterion D4) as assessed with the Clinician-Administered PTSD Scale for DSM-5 (CAPS-5)
- (5) in possession of a frontal photo of the perpetrator

Exclusion criteria

- (1) visual and/or auditory impairment that prevents the participant from seeing the deepfake image and/or hearing the deepfake perpetrator.
- (2) inability to fully comprehend that the image of the perpetrator is deepfaked and that the confrontation takes place with a therapist rather than the actual perpetrator.

Study design

Design

Study phase:	2
Study type:	Interventional
Intervention model:	Other
Allocation:	Randomized controlled trial
Masking:	Open (masking not used)
Control:	Active
Primary purpose:	Treatment

Recruitment

NL	
Recruitment status:	Pending
Start date (anticipated):	01-01-2025
Enrollment:	10
Type:	Anticipated

Medical products/devices used

Generic name:	DeepTherapy
Registration:	No

Ethics review

Approved WMO	
Date:	06-01-2025
Application type:	First submission
Review commission:	METC Amsterdam UMC

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register	ID
CCMO	NL86635.018.24