





# Aggression replacement training (ART) for reducing anti-social behaviour

A teaching programme that aims to improve the social skills of offenders who display anti-social and destructive behaviours.

First published

7 May 2019

Effect scale	Quality of evidence				
	Effect Impact on crime	Mechanism How it works	Moderator Where it works	Implementation How to do it	Economic cost What it costs
 Mixed findings	 Moderate	 Moderate	 Low	No information	No information

## Focus of the intervention

Aggression replacement training (ART) is a social skills training programme that aims to replace anti-social behaviours with desirable pro-social behaviours.

It consists of three main teaching components, namely the development of:

- pro-social behaviours (behavioural component)
- anger control (affective component)
- moral reasoning (cognitive component)

This narrative is based on one systematic review covering 16 studies, which focuses on the effect of ART on reoffending for all crime types (measured by official statistics for either re-arrest or reconviction). Other outcome measures included anger control, social skills and moral reasoning. The majority of primary studies (11 of 16) were based on evidence from the USA, with the

remaining single studies conducted in the UK, Australia, Norway, Russia and Sweden.

This narrative focuses on the six studies that reported re-offending outcomes (four from the USA, one from Sweden and one from the UK).

## Effect – how effective is it?

Overall, evidence suggests that ART has no impact on crime (but some studies suggest either an increase or a decrease).

The review did not conduct a meta-analysis and no overall summary effect was reported.

Six studies reported on the impact of ART on a measure of recidivism as an outcome measure. Of these, two studies reported a statistically significant reduction in rearrests in the ART group compared to the control.

Three studies investigated the effect of ART on reconviction rates. One study found no statistically significant difference between intervention and control groups, one found a statistically significant reduction in reconviction in the ART group compared to the control and the third study found the opposite – a statistically significant increase in the rate of reconviction in the ART group. Subgroup analyses conducted across these three studies found that individuals who failed to complete ART were more likely to be reconvicted than participants who completed the full programme or participants in the control group.

The remaining study investigated the effect of ART on charging rates and found no statistically significant difference between ART participants in comparison to the control group participants.

## How strong is the evidence?

Although the review was systematic, some forms of bias that could influence the study conclusions remain.

The evidence is taken from a systematic review covering 16 studies that demonstrated a high-quality design in terms of having a transparent and well-designed search strategy, and using multiple coders to ensure the accuracy of information collected.

The six primary studies that reported a crime outcome had different research designs and were judged to be potentially subject to selection bias, as well as other forms of bias not defined by the review authors. Given the diversity of the primary studies in terms of study design, risk of bias and reported outcomes, the review authors reported the results narratively by outcome as opposed to conducting a meta-analysis.

The review authors also noted that nearly half (7 out of 16) of the primary studies were conducted by researchers who could be considered as having vested interests in ART.

## **Mechanism – how does it work?**

The review suggested a number of mechanisms by which ART might have an effect on crime.

According to the developers of ART, aggression has a behavioural component, an affective component and a values component.

ART aims to address the behavioural element of aggressive behaviour through the use of social skills training for teaching prosocial behaviour to participants who lack these competencies. The teaching of these skills aims to replace out-of-control destructive behaviours with constructive prosocial behaviours.

The anger control training (affective) component is designed to reduce the frequency of anger arousal in those who are chronically aggressive, and to provide better means of self-control when angry.

The purpose of moral reasoning (cognitive) training is to enable the individual to make more mature decisions in social situations.

The review included 12 studies that assessed one or more of the following factors – anger control, moral reasoning and social skills – between the treatment and control groups. These factors have been identified as key indicators of the success of ART.

## **Moderators – in which contexts does it work best?**

Three of the six studies that reported crime outcomes carried out moderator analysis. Two studies analysed comparative reconviction between individuals assigned to receive ART who did or did not complete the training. Of these, one study reported no significant difference in reconviction rates between the two subgroups, but noted that non-completers were more likely to be reconvicted. The second study also reported that programme non-completers were more likely to be reconvicted than both those completing the training and also those in the control group. However, no statistical analysis was carried out.

In addition, two studies examined the difference in violent offences between participants of ART compared to the control group. One study reported no significant difference in reoffending rates, and the other reported an increased risk of reconviction for violent offences for those assigned to the ART intervention, regardless of whether the individual completed the ART training programme or not.

## **Implementation – what can be said about implementing this initiative?**

The review gave no account of how ART was implemented, nor any implementation challenges encountered by the individual studies.

## **Economic considerations – how much might it cost?**

The review did not mention the costs or benefits of ART and no formal economic analysis was provided.

## **General considerations**

- The majority of the evidence on ART is based in the USA, so caution should be taken when applying it to other geographical contexts.
- The review authors could not identify the design for three studies and there was insufficient homogeneity between studies to allow meta-analysis to take place. Care must therefore be taken if attempting to generalise from the results presented.
- Seven primary studies included in the review were produced by researchers who could be considered to have vested interests in the findings.

## Summary

Overall, evidence suggests that ART has no overall impact on crime, but some studies suggest either an increase or a decrease.

Of the six studies that reported a crime outcome, only two reported a significant reduction in rearrest in the ART group in comparison to the control group. The other four studies reported no effect of ART on reoffending, with one study reporting a significantly increased risk of reconviction in the ART group.

Subgroup analyses reported that individuals who failed to complete ART were more likely to be reconvicted than participants who completed the full programme or participants in the control group. However, the review found some evidence that ART may be beneficial in reducing aggression and enhancing social skills.

## Reviews

### Review one

#### Reference

- Brannstrom, L., Kaunitz, C., Andershed, A-K., South, S. & Smedslund, G. (2016). [Aggression replacement training \(ART\) for reducing antisocial behaviour in adolescents and adults: A systematic review](#). Aggression and Violent Behaviour 27, 30-41

## Summary prepared by

This narrative was prepared by the College of Policing and was co-funded by the College of Policing and the Economic and Social Research Council (ESRC). ESRC grant title: 'University Consortium for Evidence-Based Crime Reduction'. Grant reference: ES/L007223/1.

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