

# Aggression Replacement Training® Stands the Test of Time

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Developed by Arnold Goldstein, Aggression Replacement Training® (ART) is a leading psychoeducational approach for working with challenging youth. This article examines underlying evidence-based principles that contribute to success of the ART model.

**T**here have been longstanding debates in the scientific community regarding what qualifies as evidence for programs that work with challenging youth. There are also a variety of levels of evidence on a continuum from promising to proven. Aggression Replacement Training® has stood the test of time in terms of its scientific underpinning and effectiveness of outcomes.

ART is a psycho-educational approach to working with young people who experience difficulties with interpersonal relationships and prosocial behavior. Aggression Replacement Training originated as Skillstreaming (Goldstein & McGinnis, 1997) and developed into a three component model (Goldstein, Glick, & Gibbs, 1998). Goldstein recognized that the complex problems of youth would not yield to simplistic narrow approaches.



Instead, he formulated a three-part multi-modal approach to address problems in behavior, emotions, and thinking:

- *Skillstreaming* targets behavior.
- *Anger Control Training* focuses on emotions.
- *Moral Reasoning* is a cognitive intervention.

ART explicitly teaches an array of prosocial psychological skills to youth who have specific areas of need. Training is delivered in a series of structured learning groups where youth are:

1. Shown examples of expert use of the behaviors that constitute the skills in which they are deficient (i.e., modeling);
2. Given guided opportunities to practice and rehearse these competent behaviors (i.e., role-playing);
3. Provided with reinforcement, reinstruction, and performance feedback on how well they perform their role-playing enactments; and
4. Encouraged to engage in a series of activities designed to increase the chances that skills learned in the training setting will endure and transfer in home, school, home, community, and other real-world settings.

The ultimate question for any intervention that works is can it withstand the test of time. For more than 20 years, Aggression Replacement Training has been shown through a variety of rigorous studies as successful at producing positive behavior and reducing aggressive and delinquent behavior.

In 2001, although battling cancer, Arnold Goldstein addressed ART practitioners from all over the world at a conference in Malmo, Sweden. He was clear with his final charge to his followers: the strategies and techniques that were developed through Aggression Replacement Training were just the beginning of what could be effective for the diverse problems faced by today's youth. While intervention models are designed with the best intentions, they often have difficulty maintaining their fidelity and effectiveness. Thus, ART provides practitioners very specific methods and

a curriculum of behavioral modules grounded in sound theory and research.

## **Standards of Evidence**

No longer will programs be funded simply because they have anecdotal endorsements. Instead, there has been a focus on funding for schools and youth agencies based on the level of evidence for programs. There are varied definitions of what is evidence-based and the definitions include the following:

1. Effective—achieves positive outcomes in usual care settings.
2. Efficacious—achieves positive outcomes under controlled conditions.
3. Promising—some evidence of success and/or expert consensus. Reports of effectiveness are usually based on pre and post metrics.
4. Model approach—structured or prescribed efficacious or effective intervention. Two conditions typically are present for model programs and those are randomization of entry into the study and longitudinal effectiveness.
5. Proven—highest level of evidence-based interventions.

Aggression Replacement Training is currently a Model Program for the United States Office of Juvenile Justice and Delinquency Prevention and the United Kingdom Home Office. It is classed as a Promising Approach by the United States Department of Education. The following discussion highlights recent studies supporting the effectiveness of Aggression Replacement Training.

## **The Washington State Studies**

The first study, from the Washington State Institute for Public Policy (WSIPP; Barnoski, 2004) revealed that, compared with control groups, youths who participated in the Aggression Replacement Training program significantly acquired and transferred 4 of the 10 *Skillstreaming* skills: expressing a complaint, preparing for a stressful conversation, responding to anger, and dealing with group pressure. Similarly, significant Aggression Replacement Training-versus-control-group comparisons emerged for the number and intensity of in-facility

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acting out and for staff-rated impulsiveness. During the one-year follow-up, 54 youths were released from the facility. Of those released, 17 had received ART and 37 had not. In four of the six areas rated—namely *home and family*, *peer*, *legal*, and *overall* (but not *school* and *work*)—ART trained youths also rated significantly superior in community functioning.

A second study used a pseudo-random assignment waitlist procedure which placed 1,229 adjudicated youths in either a control (n=525) or a treatment group (n=704). Youths who met the selection criteria and had sufficient time on supervision to complete the program were assigned by court staff to the appropriate program. When the program reached capacity (all therapists had full caseloads or sessions were full), the remaining eligible youths were assigned by court staff to the control group and never participated in the program; instead, they received the usual juvenile court services. About 80 percent of participants were 15-year-old males and multivariate statistical techniques controlled for differences between the program and control groups on key characteristics (gender, age, and domain risk and protective factor scores).

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Recidivism was measured by using conviction rates for subsequent juvenile or adult offenses at follow-up after 18 months. The results varied depending on whether or not Aggression Replacement Training was delivered competently. For five courts rated as *not competent*, the 18-month felony recidivism rate of ART versus the control group was not statistically significant: 27 percent and 25 percent respectively. However, for the 21 courts rated as either *competent* or *highly competent*, the 18-month felony recidivism rate was 19 percent (a statistically significant 24 percent reduction in felony recidivism compared with the control group). Further, the cost-benefit analysis demonstrates that when Aggression Replacement Training is delivered by competent courts, it generates \$11.66 in benefits (avoided crime costs) for each \$1.00 spent on the program. Averaging costs for all youths receiving Aggression Replacement Training, regardless of court competence, results in a net savings of \$6.71 per \$1.00 of expenditures.

### ***California Institute of Mental Health Studies***

The California Institute for Mental Health sponsored Aggression Replacement Training for 25 counties and 30 private providers who have participated in expert clinical training and have been successful implementing Aggression Replacement Training in a variety of settings. These interventions involved 3,482 youth served in through county and private agencies in a variety of settings ranging from outpatient diversion/prevention to residential facilities (Mitchell, 2009). Social skills were assessed using *The Skillstreaming Structured Learning Checklist* in treatment facilities, camps, and ranches using this curriculum. Ratings by youth, parents, and teachers showed significant gains in the targeted skills (11% to 40% increase). Anger Control Training groups were evaluated with *The Aggression Questionnaire* (Buss, 2000), showing significant decreases (7% to 11% reductions in aggression). The Moral Reasoning outcomes utilizing the *How I Think Questionnaire* (Gibbs, Barriga, & Potter, 2001) showed gains ranging from 7% to 12%.

### ***Perseus House, Inc., Studies***

In the third evaluation, the non-profit Perseus House, Inc., located in Erie, Pennsylvania, compared residential and community-based programs. The post-release community-based study results indicated that each group increased significantly in their overall interpersonal skill competence, decreased in aggression scores, and improved in thinking errors. See Tables 1 and 2.

In addition, re-arrest rates were tracked at 3, 6, 9, and 12 months post discharge. The groups that received the Aggression Replacement Training program recidivated 18% on the community-based program (n=599) and 19% in the residential group (n=300).

In sum, multiple studies indicate that Aggression Replacement Training can be an effective intervention for incarcerated juvenile delinquents. It enhanced prosocial skill competency and overt prosocial behavior, reduced ratings of impulsiveness, and decreased acting-out behaviors while enhancing levels of moral reasoning.

### ***Why ART Has Stood the Test of Time***

Arnold Goldstein (1999) described how various theoretical perspectives have influenced design and refinement of Aggression Replacement Training. However, social learning theory was the key

**TABLE 1**

***Perseus Collaborative Intensive Community Treatment Program (N=599)***

|                                  | <b>Prescores</b> | <b>Postscores</b> |
|----------------------------------|------------------|-------------------|
| Global Assessment of Functioning | 56.5             | 61.9              |
| Skillstreaming Youth             | 169.2            | 182.2             |
| Skillstreaming Trainer           | 143.0            | 161.3             |
| Skillstreaming Parent            | 156.9            | 171.6             |
| Aggression Questionnaire         | 56.0             | 52.8              |
| How I Think                      | 72.6             | 65.5              |
| Grade Point Average              | 2.4              | 2.8               |

**TABLE 2**

***The Perseus House Residential Program (N=300)***

|                                  | <b>Prescores</b> | <b>Postscores</b> |
|----------------------------------|------------------|-------------------|
| Global Assessment of Functioning | 46.4             | 52.0              |
| Skillstreaming Youth             | 169.7            | 187.8             |
| Skillstreaming Trainer           | 136.6            | 166.8             |
| Skillstreaming Parents           | 145.6            | 171.5             |
| Aggression Questionnaire         | 54.1             | 51.2              |
| How I Think                      | 69.1             | 60.1              |
| Grade Point Average              | 2.0              | 2.8               |

influence on his thinking. Simply, social learning theory seeks to understand the complex interactions between an individual's thoughts, emotions, and actions within a given social context (Bandura, 1986, 1997). Social learning theory is aligned with cognitive-behavioral methods. Furthermore, Goldstein took an ecological view, describing aggression as a person-environment duet. "Macrolevel" aggression is displayed at the national or regional level, "mesolevel" violence occurs at the neighborhood level, and "microlevel" aggression is found in settings, such as home, school, peer groups, and the street (Hollin, 1990).

Both theory and practice underpinnings of Aggression Replacement Training are sound and meet a variety of criteria for evidence-based practice. A large body of research shows that the three major areas of *Skillstreaming*, *Anger Control Training*, and *Moral Reasoning* address key dimensions in helping young people acquire pro-social behavior, thinking, and values. These approaches have withstood the test of time.

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