

Anna Więcek-Durańska¹, Piotr Cześnik², Olga Pielacha², Maria Tomaszewska²,
Urszula Rucińska², Sylwia Wojciechowska², Olga Szczepankowska²

AGGRESSION REPLACEMENT TRAINING (ART) AND ITS EFFECTIVENESS IN THE PERSPECTIVE OF THE RETURN OF PERPETRATORS OF AGGRESSIVE CRIMES TO CRIME

¹ APS Maria Grzegorzewska University in Warsaw, Institute of Psychology

² APS Maria Grzegorzewska University in Warsaw, Forensic Psychology Science Club LexPsyche APS

**Aggression Replacement Training
recidivism
effectiveness of Corrective Interventions**

Summary

Objectives: The main research objective of the presented study was to show the effectiveness of corrective and educational interventions carried out in prisons for persons convicted of aggressive crimes.

Methods: Experimental study. Two research groups were randomly identified (experimental and control). Participants qualified for the experimental group participated in a correctional program for perpetrators of violent crimes. Study participants assigned to the control group did not participate in a similar program. In total, 142 people joined the Aggression Replacement Training (ART) in the experimental group and 156 in the control group. Before the start of the program and after its completion, the study participants completed a set of psychological questionnaires used to measure aggression, and information from penitentiary records was also analysed. Five years after leaving prison, further analyses of reoffending were conducted.

Results: Aggression Replacement Training seems to be an important and effective way of influencing perpetrators of aggressive crimes. In the study on the prison population, it obtained positive results in the short term perspective, i.e. in relation to the time during which the program was implemented and immediately after its completion.

Conclusions: 1. Convicts participating in the Aggression Replacement Training were observed to have a lower level of anger and a lower level of readiness for physical and verbal aggression. 2. Convicts also showed lower levels of hostility towards other people after training. 3. In addition, a change in functioning during imprisonment was observed among the convicts affected by the impact, which resulted in a decrease in the number of disciplinary penalties applied in the prison.

Introduction

Crime is a socially important phenomenon because it poses a threat to the legal order. Depending on the nature of the act, it violates the personal rights of the individual in the physical and/or mental sphere. Therefore, the question of social reaction and ways of

influencing is important and topical, not only in terms of repression or punishment of perpetrators, but also in preventing their relapse into crime, and thus – protection of potential victims against such acts.

The article presents the results of many years of research on the effectiveness of the corrective and educational program of Aggression Replacement Training (ART) and the relapse of convicts to crime. Attempts were made to present not only the factors influencing the effectiveness of the impact, but also various dimensions of effectiveness, both those related to the direct measure, which is crime in the conditions of recidivism, and the qualitative changes observed in convicts after undergoing training aimed at reducing aggression and anger.

Theoretical foundations of Aggression Replacement Training (ART)

The Aggression Replacement Training (ART) program is one of the first multimodal programs aimed at changing an individual's thinking, emotions and behavior [1]. It is an intervention program based on a cognitive-behavioral approach, aimed at reducing aggressive human behavior (and thus contributing to the reduction of relapse) developed for adolescents aged 10 to 17 by Goldstein, Glick and Gibbs at the Center for Research on Aggression at Syracuse University in the United States [2]. The program consists of three modules aimed at teaching social skills, controlling and reducing anger and aggression, as well as developing moral reasoning. The theoretical basis of the program is Bandura's social theory of learning [3]. The ART program consists of three integrated modules: social skills training, anger control training, and moral reasoning [1, 4].

The first module of Aggression Replacement Training — social skills training — is the behavioral component of the program. It primarily emphasizes learning new prosocial skills that show how to behave in a way other than aggressive. The training identifies the 50 most important prosocial skills crucial for achieving behavior change, as they can be an alternative to aggression and help prevent its occurrence [5]. These skills were divided into six groups according to the scope of their coverage and the level of advancement of the participants [6].

Table 1. Types of social skills

Skill group	Skill name	
Basic social skills	<ul style="list-style-type: none"> • Listening • Start a conversation • Hold a conversation • Asking questions 	<ul style="list-style-type: none"> • Saying thank you • Introducing yourself • Introducing another person • Giving compliments

table continued on the next page

Advanced social skills	<ul style="list-style-type: none"> • Asking for help • Joining • Providing guidance • Persuading others 	<ul style="list-style-type: none"> • Follow instructions • Apologizing
Emotional skills	<ul style="list-style-type: none"> • Getting to know your feelings • Expressing your feelings • Understanding someone's feelings • Dealing with someone's anger 	<ul style="list-style-type: none"> • Expressing sympathy (love) • Coping with fear • Rewarding yourself
Alternative skills to aggression	<ul style="list-style-type: none"> • Request for permission • Sharing • Helping others • Negotiate 	<ul style="list-style-type: none"> • Practicing self-control • Defending your rights • Responding to harassment • Avoiding trouble with other people
Stress control skills	<ul style="list-style-type: none"> • Complaining • Responding to a complaint • Behavior during a game • Overcoming embarrassment (shame) • Dealing with being left out • Preparing for a difficult conversation 	<ul style="list-style-type: none"> • Standing up for a colleague (friend) • Response to persuasion • Responding to failure • Dealing with conflicting messages • Dealing with accusations • Dealing with group pressure
Planning skills	<ul style="list-style-type: none"> • Deciding to do something • Finding the cause of the problem • Goal setting • Identify your options • Focus on the task at hand 	<ul style="list-style-type: none"> • Collection of information • Prioritize issues • Decision-making

Source: own study based on Glick and Gibbs [7] and Morawski [8]

Skill groups are arranged hierarchically from basic to more complex. Basic social skills are a certain basis, because mastering them allows one to develop the next more advanced skills [9]. It should be emphasized that when conducting training with adults, the first group is omitted and training starts from the second group.

The second group – advanced prosocial skills – requires more attention and commitment from the participant, as it involves training skills with the participation of another person or group of people, while the third concerns skills in which there is emotional involvement. The participant learns to recognize their feelings, express them, but — what is also important — learns to reward themselves in situations in which they deserve it in order to provide themselves with positive reinforcement and consolidate positive patterns

of their behavior. The fourth group consists of skills alternative to aggression. These are skills that, once mastered by the participant, are to serve as a resource as an alternative to aggressive behavior [10]. This issue is important because, as it is pointed out in the literature, people behave in an aggressive way because they do not have the knowledge and competence to behave in any other way to achieve the goal. Aggressive behavior can also be a mask that allows one to hide their true emotions related to being left out, reacting to failure, or coping with fear or anger of others [11]. The fifth group of skills is even more complex, as it requires the individual to interact with other people, as well as to be aware of the social environment and the environment in which the individual functions. The last group of the most complex and advanced skills includes those related to planning and, as Glick and Gibbs [7] emphasize, it reflects the decision-making process and requires training over a longer period of time, as well as the involvement of more complex cognitive processes.

Due to the limited time in which ART trainings take place, these are most often training sessions lasting 10 weeks. It is not possible to practice all 50 prosocial skills, so it is necessary to choose 10 of them [12, 13]. It is acceptable to choose specific skills by both participants and trainers. It is proposed that the participants of the training sessions should have an impact on the choice of skills, because they know best which of them cause them the most problems. To help trainees verify difficult social skills, it is suggested that participants complete the Social Skills Questionnaire. This tool was developed by the authors of the program precisely for the purpose of self-diagnosis of areas of social functioning in which deficits occur [14].

Skills are taught through the use and systematic application of four procedures: modeling, role-playing, feedback, and skill transfer [15]. The change of behavior in the desired direction takes place in a strictly programmed and unambiguous manner [8]. The first procedure used to achieve such a goal is modeling, i.e., showing by the trainer an exemplary way of behaving that makes up a given skill. Modeling of correct behavior enables participants to learn by observing the model, as well as by imitating the correct behavior of role-playing social behavior [12]. An important element of modeling is also the positive ending of each scene and strengthening the model by providing participants with positive verbal reinforcement [7]. That is why feedback for the trainees on the task performed – both from the coaches and from the group – is such an important element of this part of the training. Feedback refers to how well the participant performed a given skill and whether he or she applied the previously presented model skill steps [16]. Feedback should be positive as much as possible because, as Glick and Gibbs point out, it reinforces the willingness of group members to perform all the steps to master a skill in the best possible way. Feedback should be given immediately after the trainee has acted out the scene, because only then can it bring the intended effect in the form of positive reinforcement of the modeled prosocial skill [17].

In Aggression Replacement Training, an important element is transfer, i.e., the transfer of knowledge and skills acquired by the participant in training conditions to real life outside the training room. Therefore, ART trainers recommend doing homework after each session to apply a newly learned social skill in a location other than the training room. Each participant fills out a report from the work performed, in which they first describe what the steps of the trained skill are, with whom and where the skill will be tested and, after the skill has been tried, what happened when the learned skill was used, which elements of the skill were applied and how well the participant coped with the task. Typically, participants learn one social skill in one training session.

An important element of work related to the implementation of training in everyday life is the preparation of the environment in which the aggressive person is in terms of supporting and strengthening the skills developed during training sessions. In ideal conditions, it would be advisable for people from the immediate environment of the trainee to participate in similar training, e.g., parents, guardians, siblings, but also the staff of the institution where the participant is being held (e.g., a prison or a school, if we are talking about aggressive youth). Training other participants in social life creates a greater chance that the trainee will succeed.

Anger control training is a module that emphasizes the affective component of ART. This means that participants learn how to inhibit their anger in order to give themselves time to think and choose the right way to react. As it is emphasized in the literature, anger is a natural human emotion that accompanies every person at different stages of their life. In some situations, it can have a positive effect, e.g., through stimulation it can have a positive effect on motivational processes and mobilize to act.

The key point, however, is that in some cases, the anger felt can lead to aggression, both direct and indirect. That is why the primary goal of this part of the training is to teach participants how to inhibit anger, as well as recognize signals (both internal and external) that cause negative emotions. This part of the training is based on the participants' experiences relating to situations in their lives in which they were angry or even behaved in an aggressive way. They learn to identify and recognize signals from the external environment (external triggers) and from their own judgments and opinions (internal triggers) that cause or signal their aggressive reactions. External triggers are events, things, or situations in which people feel some discomfort, react with anger, or feel severe stress. These reactions can be both verbal (e.g., calling another person names, gossiping or spreading false information about them) and non-verbal (e.g., pushing, kicking, slapping). Internal triggers, on the other hand, are the "inner speech" of a person – it is extremely important because it can strengthen or suppress the anger that arises. Internal triggers in combination with external triggers can lead to an increase in the level of arousal and aggressive behavior. Therefore, an important aspect of the module is to identify the physical signals coming from the body (feeling hot, dry throat, rapid

breathing, etc.) that allow the person to realize that the next reaction that will occur will be anger and aggressive behavior.

To teach participants effective anger control, coaches use a combination of modeling, role-playing, and feedback. Participants learn to use the so-called anger reducers, i.e., techniques aimed at reducing emotional tension and anger. This can be, for example, deep counting, breathing, imagining a calm, pleasant place, listening to relaxing music or analyzing the consequences of a given behavior. As it is emphasized in the literature, initially it is suggested to use basic methods of anger control, but with the passage of time and the acquisition of competences, more complex techniques tailored to the individual needs of the participant are introduced. An important aspect of the anger control module is to teach participants to use prompts to help relieve the growing tension. Prompts are an internal speech which, thanks to self-instructions such as: “just take it easy”, “don’t be nervous”, “you can cope”, allows the person to gain a sense of control over the situation and slow down aggressive behavior in time. During the session, the trainees are taught to assess the consequences of a given behavior. This is especially important when working with a group of young people or impulsive adults. As it is pointed out in the literature, such people are often unaware of the benefits they can gain from anger control and what losses they suffer by not controlling it. The role of the trainer is therefore to show the participants such benefits, and preferably to bring about a situation in which the participant himself will notice them [8].

Also an important aspect that trainers pay attention to is the participant’s self-assessment and teaching them to reward themselves for effective or correct behavior in a situation where anger usually exploded. Rewarding yourself can be self-rewarding thoughts, e.g., “I did it well” or “I’m proud of myself”, or certain activities, e.g., going to the cinema, buying a small thing or boasting about achievements in this field.

Moral inference is the third module of ART. The first two modules allow participants to learn how to behave in situations that usually cause them aggression and how to react and constructively cope with difficult situations. The third one, according to the authors of the program, helps to raise participants’ knowledge and awareness of fairness and social justice [7]. By discussing topics that are difficult from the moral point of view, people taking part in the training learn a different view of the world, they also get to know the perspective of another person, their point of reference and understanding of the same situation. In the authors’ opinion, this allows participants to increase their level of honesty in the long run and to be more considerate of the rights and needs of other people [18].

It should be emphasized that in the Polish adaptation of the moral reasoning module, participants work on moral dilemmas based on Kolberg’s theory of moral development supplemented by the zero level by Damon. In the American version, however, there has been a change. Goldstein and Gibbs modified ART techniques by working on social dilemmas. The basic difference between a social dilemma and a moral dilemma is that a social

dilemma arises in a situation whose solution results in benefits individually but is socially bad versus is socially good but causes losses individually. Moral dilemmas, on the other hand, arise in situations in which each solution causes a loss for the person making the choice. In social decision-making sessions, the primary goal is to get the participant to adopt the other person's perspective in a given situation, while in moral reasoning sessions, the goal is to teach the steps of making a decision and to live it, which means that the participant must feel the consequences of the choice. The main difference is also that in social decision-making sessions there is an element of evaluation on the part of the trainer and other participants. In sessions of moral reasoning, external evaluation is even not allowed [18].

The moral reasoning module begins with an exercise on discovering the values of the participant. It aims to make trainees aware of what is important to them in life, what are the main values they follow, especially when making difficult decisions. The group then discusses moral dilemmas. Most often, during training, the dilemmas proposed by the authors are used, but it is possible to include the situations proposed by oneself. When discussing the moral dilemma, it is important for the participants to move within the five steps proposed by the authors of the Polish adaptation, called ANIMA for short (A – alternatives, N – consequences, I – stakeholders, M – motives, A – affects). As the authors emphasize, the procedure of the moral reasoning session is more flexible than the previous modules, as it allows for any sequence of steps. However, it is important that all of them are applied by the participant. It is also important that when considering a given moral dilemma, the participants pay attention to other options for solving a given situation, to the consequences of each of the options chosen by the participant, and to who else is involved in a given situation, what are their motives for choosing a given solution to the situation, what are their motivations and how they will feel about the decision they have made [19].

Method

The main research objective of the presented study was to show the effectiveness of corrective and educational interventions for people convicted of aggressive crimes carried out in prisons. Effectiveness was measured, among other things, by the aspect of relapse, in this case re-conviction and serving a sentence of absolute imprisonment. Both the nature of the act for which the examined person was convicted and the time that had elapsed since leaving the prison and re-entering it were taken into account.

In 2014, on the basis of a list prepared by the Central Board of the Prison Service, convicts from Article 156 § 1–3 of the Penal Code, Article 157 § 1 – 5 of the Penal Code, Article 158 § 1 – 3 of the Penal Code, Article 159 of the Penal Code, Article 280 § 1 – 2 of the Penal Code, Article 281 of the Penal Code and Article 282 of the Penal Code were randomly selected in selected prisons. Two research groups (experimental and control)

were randomly distinguished. Participants qualified to the experimental group participated in a corrective and educational program designed for perpetrators of aggressive crimes. Study participants assigned to the control group did not participate in a similar program. In total, 142 people joined the Aggression Replacement Training program in the experimental group and 156 in the control group.

Before and after the program, the participants completed a set of psychological questionnaires used to measure aggression. These were: the Buss-Perry Aggression Questionnaire Scale (BPAQ) — version AQBP'07 (Buss-Perry Aggression Questionnaire — 1992) — translated and adapted by Lucyna Kirwill with Buss's consent, and the Polish adaptation of the STAXI-2 Self-Assessment Questionnaire for the study of the state of the expression trait and anger control [20]. The tools used in the study achieved satisfactory reliability: α Cronbach's calculated for the entire group ranged from 0.74 to 0.95 for STAXI-2 and α Cronbach's 0.89 for the Buss-Perry Aggression Questionnaire. As part of the research, the products of action created during the programs were collected and analyzed; these were, among other things, anger indexes and social skills questionnaires. Information from the penitentiary files of the participants from their stay in the facility was also analyzed.

Five years after the last participant of the study left prison, further analyses were carried out. On the basis of the information contained in the penitentiary files and the analysis of data on stays in prisons, the rate of return to prison was calculated. The starting point for the project was the hypothesis that people who participated in the corrective and educational program for perpetrators of aggressive crimes after leaving prison will be less likely to commit crimes related to aggression and violence, and thus will be less likely to be sent back to penitentiary facilities.

Characteristics of the respondents

In order to understand the potential differences between the groups, in-depth analyses were carried out. The groups did not differ in marital status. More than half of the study participants were unmarried at the time of serving their sentence (in the control group — 60.2%, in the experimental group — 57.9%), every fourth respondent lived in cohabitation (control group — 28.5%, experimental group — 28.1%). Married were 6.5% and 7% in the control and experimental groups, respectively, and divorced — 5% and 7%.

Chi-square analysis showed a significant difference between the control and experimental groups in the level of education of the convicts ($\chi^2 = 17.47$; $p = 0.04$; $V = 0.27$). The respondents in both groups most often had primary education, but more often in the experimental group (55.3%) than in the control group (47.2%). Next in frequency was basic vocational education: it was also attended by more people from the experimental group (36.8%) than from the control group (30.1%). The fewest subjects in both groups had incomplete primary education (16% in the control group; 0.9% in the experimental group)

and higher education (0.9% in the experimental group, no people in the control group). The control group included people who had acquired essentially vocational education during their stay in prison (24%) and one person who had obtained secondary technical education.

In both groups, a significant proportion of the respondents (over 80%) were physically and mentally healthy (control — 83.7%; experimental — 83.3%). Chronically ill patients constituted 8.9% of the subjects in the control group, and 6.1% in the experimental group. There was one person with physical disabilities in both groups. People with mental disorders accounted for 33% of the control group and 18% of the experimental group. People with mild intellectual disability constituted 0.8% of the control group, while in the experimental group — 3.5%. One person in the experimental group had a diagnosed mental disorder and was also chronically physically ill.

Every fourth participant in the study (control – 26.8%, experimental – 25.4%) was referred in prison for treatment related to addiction to substances such as alcohol, drugs or other psychotropic substances.

Results

Evaluation of therapeutic programs or interventions creates many difficulties, because capturing certain changes and linking them to the ongoing impact is extremely complicated and time-consuming. In order to evaluate the Aggression Replacement Training (ART), a number of indicators have been developed. It should be emphasized that there is no single objective tool that would measure whether a given corrective or therapeutic program is effective. It should also be noted that human functioning is multidimensional — it includes both his external environment (family, school, work, etc.) and internal environment (thought processes, perception, motivation or beliefs). That why we wanted to answer such fundamental questions as:

- Does the scheme work and if so, to what extent?
- Does it act to the same extent towards all participants?
- If it does not work, why is it so?

In order to be able to answer these and many other questions, individual parts of the Aggression Replacement Training were analyzed, which are responsible for changes in separate levels of human functioning. It was decided that in order for the entire program to function properly, there must be a change within its components. On this basis, indicators were developed for individual modules that are integral components of the program. Indicators were also developed to measure the overall functioning of the training.

Social skills training is the first module of the Aggression Replacement Training. Participants learn and train skills that will allow them to replace their previous aggressive behaviors. Due to the fact that all participants of the program were in prison in

connection with aggressive crimes committed, it can be assumed that all of them showed deficits in terms of control and expression of emotions.

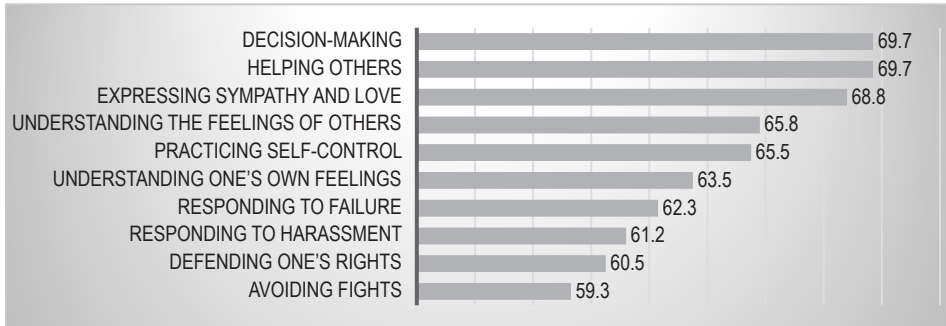


Figure 1. Prosocial skills frequently used or always used

The first evaluation indicator was social skills. The prosocial skills module is the basis for further work of the trainees and trainers. Therefore, it is important for participants to acquire certain skills that will allow them to eliminate aggressive behavior in a practical way and replace it with desirable (social) behaviors. Therefore, at the beginning of the first module, participants filled in a social skills questionnaire to find out which skills they used most often and which least often.

The vast majority of participants in the program indicated the ability to make decisions, help others, and express sympathy and love as the most frequently used skills – almost 70%. Also important in the study group were the ability to understand both one's own and someone else's feelings, practice self-control and react to failure. The choice of the ability to avoid fights, defend one's rights or react to harassment remained at a similar level (within 60%).

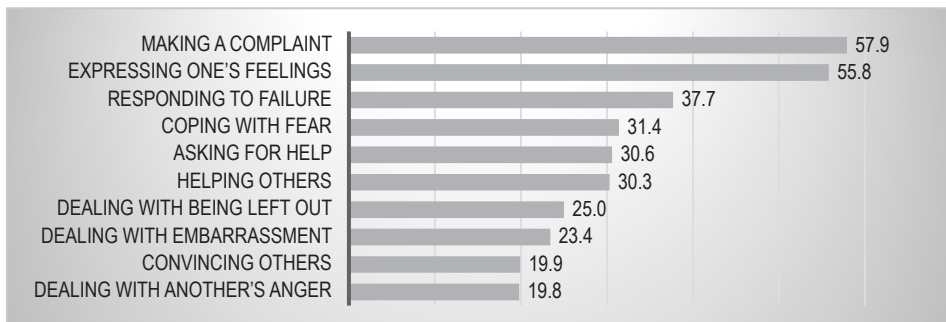


Figure 2. Prosocial skills never used or rarely used

In the ART experimental group, participants also completed anger indexes at the beginning of the program and after its end. It was observed that there is a statistically significant relationship between the level of anger before training and the level of anger after training. A correlation coefficient was also calculated regarding the change in anger level after the end of the program. In this case, Pearson’s correlation was $r = 0.556$; $p < 0.001$, which suggests that there is a negative relationship between the anger index and the change that occurred within anger during training. People who scored higher in the anger scale (IZ) in the pretest were characterized by a lower rate of change in anger after training. This is a strong correlation.

On the basis of the analysis of the collected test material (Staxi-2 and the Buss-Perry Aggression Questionnaire), it was found that there are some differences at the level of average scores in individual dimensions of the aggression structure. Results of analyses for physical aggression $t(134) = 1.258$; $p = 0.211$; verbal aggression $t(134) = 0.995$; $p = 0.322$; anger $t(134) = 0.722$; $p = 0.472$; hostility $t(134) = 1.590$; $p = 0.114$. Although these differences turned out to be insignificant, statistically they are worth signaling. It turned out that people subjected to the ART Aggression Replacement Training scored lower on average on the scales of physical aggression, verbal aggression and hostility. Therefore, it can be assumed that this result indicates the operation of the program, because the participants, thanks to the acquired social skills and techniques of regulation and control of aggression, were able to control aggressive behavior. The only thing that is puzzling is the result obtained in relation to the anger scale, which indicates that it is higher after training. This can be explained by deepening the processes of self-awareness, expanding knowledge about the situation in which the convict finds himself and assuming at least partial responsibility for it.

Table 2. Descriptive statistics of the Buss and Perry Aggression Questionnaire

	Physical aggression		Verbal aggression		Anger		Hostility	
	pretest	posttest	pretest	posttest	pretest	posttest	pretest	posttest
Average	2158	2098	1429	1388	1545	1583	2101	1996
Median	21	19	15	14	14	15	20	19
Standard deviation	721	722	392	361	572	561	643	602

Results obtained using the STAXI-2 questionnaire, used to measure anger as a state and anger as a trait, as well as indicators of its expression and control, also indicate some differences. It is worth distinguishing between anger as a temporary and transient emotional state and anger understood as a persistent, permanent personality trait expressed by readiness to react with anger and aggression in certain situations [20]. Anger as a state is a categorical concept — it can be measured on various scales. It is a complex experience,

the dominant feature of which is the emotional state. Anger understood as a trait, on the other hand, concerns a certain dimension of personality [21].

The results obtained using the STAXI-2 questionnaire indicate that people subjected to Aggression Replacement Training scored lower after the training on both the scale of anger as a state and anger as a trait. Particular attention should be paid to the scale of anger expression and control. The results obtained show that people who have undergone training are able to control their aggressive behaviors more – both directed outwards towards other people (or objects) and those directed inwards based on the internal experience of anger.

Not all of the results obtained regarding the subscales turned out to be statistically significant. Significant differences were observed in the convicts participating in the corrective and educational program aimed at controlling aggression and anger in terms of the overall anger expression index $t(132) = 2.741; p = 0.007$; Cohen's $d = 0.238$. Before the program, the level of anger expression was $M = 33.8$, and after the program, $M = 30.28$. In this case, we can talk about the average size of the effect. Analyses of changes in anger levels were not statistically significant (anger as a state $t(134) = 1.452; p = 0.149$; anger as a trait $t(134) = 1.190; p = 0.236$).

The descriptive statistics of the individual scales and subscales of the STAXI-2 questionnaire are presented below.

Table 3. Descriptive statistics of Staxi-2

	Mean		Median		Standard deviation	
	pretest	posttest	pretest	posttest	pretest	posttest
Scale – anger as a state	2023	1933	18	16	613	586
Feeling angry	708	667	6	5	229	223
Willingness to express anger verbally	715	671	5	5	293	239
Willingness to express anger physically	600	594	5	5	182	176
Scale – anger as a trait	1911	1856	18	18	559	579
Anger as a temperamental trait	718	690	7	7	233	241
Anger as a way of reacting	871	844	8	8	274	272
Scale – anger expression and control						
Outward anger	1718	1662	16	16	478	481
Inward anger	1728	1677	17	16	439	408
Control of external expression of anger	2445	2529	25	25	543	522
Control of internal expression of anger	2420	2581	25	26	561	496
General anger expression index	3380	3028	33	29	1459	1369

Another important indicator of the effectiveness of ART is the way the convicts behave and function immediately after the interaction. It indicates short-term efficiency. Of the 142 convicts in the experimental group, 41 had no disciplinary record during their time in prison, which is about 30%. On the other hand, the vast majority – 101 people (71%) received such fines. Of the 101 people who had a disciplinary record before joining the program, 89% were not punished afterwards. After the program, there was a clear change in the number and types of acts for which the inmates were punished with disciplinary action. Almost half (48.5%) did not receive disciplinary penalties, and almost 1/3 were punished only once — which is a total of 3/4 of the analyzed community.

The acts for which the convicts were punished included, among others, the use of physical or verbal aggression (mainly between fellow inmates), indirect aggression, such as destruction of property, and other prohibited behaviors (e.g., contact with other inmates, use or possession of psychoactive substances). It is worth noting that there has been a change in the type of acts for which the convicts were punished. Before the program, most of the acts (66%) were direct aggression, 3.3% indirect aggression, and 30.7% did not fall on aggression. On the other hand, after the program, the proportion of acts defined as direct aggression decreased significantly (to 45%), indirect aggression increased slightly (5.8%), and other acts without an element of aggression increased (49.2%). The literature emphasizes the positive importance of limiting the most dangerous form of aggression, which is physical aggression, in people undergoing psychocorrection programs.

Detailed statistical analyses were carried out to confirm the results obtained. The Wilcoxon nonparametric test was used for the calculations due to the fact that the distribution of the response was not parametric. Analyses with this test confirmed that there are significant differences between the number of post-training penalties and the number of pre-training penalties ($Z = 6.28$; $p < 0.001$; $r = 0.44$). After completing the ART training, the number of penalties was lower in 78 people, increased in 16, and remained unchanged in 7. This means that aggression replacement training probably reduces the number of aggressive behaviors. The strength of the effect of the training on the number of aggressive behaviors was moderate.

Table 4. **Descriptive statistics of disciplinary penalties applied to convicts**

N = 101	Total number of penalties	Number of penalties before the program	Number of penalties after the program
Mean	483	369	114
Median	300	200	100
Standard deviation	5089	4424	192

In order to comprehensively measure the effectiveness of the interactions, three indicators representing the degree of mastery of the material from each module were

distinguished. On this basis, one indicator was built, which is a (tested) measure of the program's effectiveness. It included: a positive change in the frequency of social skill use (at least half of the skills), the end of anger control with the use of a social skill, and the ability to apply ANIMA steps. For each indicator, the participants could score one point, which meant that the possible range of answers ranged from 0 to 3 points.

On the basis of such an indicator, data were obtained that allowed to distinguish four groups according to the degree of mastery or assimilation of the material presented during the Aggression Replacement Training.

People who did not receive a single point assimilated the information provided to them to a very poor extent. They completed the training, but showed no or very little progress in their work and tests. There was no change in the frequency of social skill use, anger control training did not result in the use of social skills, and there was no basis for concluding that they had mastered the steps of moral reasoning.

The largest group (covering almost half of the cases) consisted of those who completed the training, but most often did not fully master social skills and constructive replacement of aggression by using one of the learned prosocial skills. A significant percentage were also those participants (almost 1/3) who mastered two of the three training modules quite well. Therefore, these are people in whom a positive process of change can be observed, but, what should be emphasized, they require further work, support and maintenance of training.

The fourth group — the smallest — were people who were able to use prosocial skills in everyday life, knew and were able to use techniques for reacting to anger and replacing it with other constructive methods. They were also able to consider problem situations at various levels of moral reasoning using the steps provided by the training. It can be assumed that these people will be better able to cope with difficult situations in everyday life, including freedom after leaving prison. The figure below presents a detailed distribution of responses.

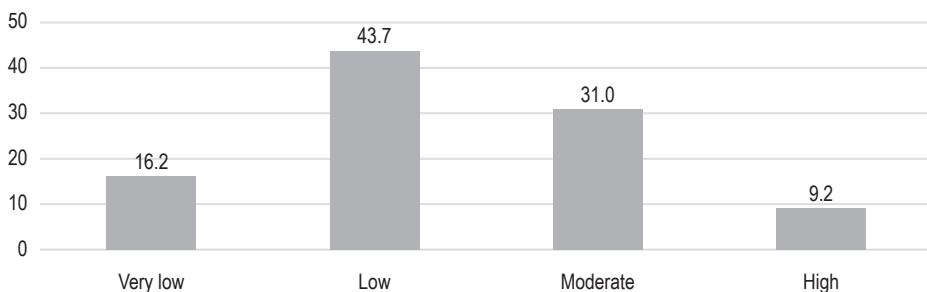


Figure 3. Overall program effectiveness indicator (percentage)

As mentioned earlier, the analysis of the obtained distributions of the program effectiveness index in the form of disciplinary penalties applied to inmates in a penitentiary facility indicates that disciplinary penalties were applied less frequently to people who had completed the Aggression Replacement Training. The analysis carried out with the Student's *t*-test for independent samples showed statistically significant differences between the groups in the number of awards won ($t(197.18) = -4.415; p < 0.001$). The group undergoing the therapeutic intervention received more rewards ($M = 19.82; SD = 19.01$) compared to the control group ($M = 10.53; SD = 12.91$).

In addition, it turned out that disciplinary penalties were applied twice as often to people who had a very poor level of mastery of the training material as to people who were characterized by a high rate.

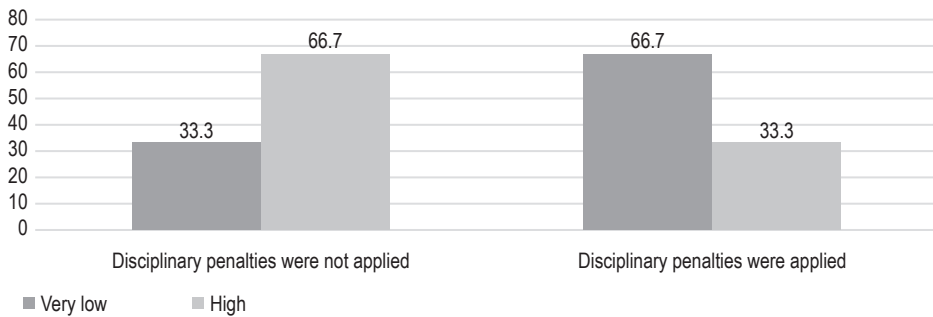


Figure 4. Correlation of the program effectiveness index with disciplinary penalties in the prison

In order to check the effectiveness of the Aggression Replacement Training, the attitude of the inmate to the crime committed over the entire period of stay in the prison was also taken into account. The analysis showed statistically significant differences ($\chi^2(3) = 29.58; p < 0.001; \phi = 0.353$). A constant critical attitude to the crime committed was more often observed in the convicts from the experimental group (57.9%) than in the control group (29.3%). Paradoxically, however, the change from an uncritical to a critical attitude was observed more often in the control group (37.4%) than in the experimental group (18.4%).

In the long term, a promising result has also been observed in the form of relapse. It turned out that we can talk about the result within the limit of a statistical trend in relation to the relationship between participation in a correctional and educational program and relapse to crime. People who participated in the ART Aggression Replacement Training were less likely to return to prison over a five-year period. It should be emphasized, however, that this result is statistically insignificant within the limits of the statistical trend, requiring further detailed analyses and comparisons.

Conclusions

ART Aggression Replacement Training seems to be an important and effective way of influencing the perpetrators of aggressive crimes. In a study on the prison population, it obtained positive results in the short term, i.e., in relation to the time in which the program was implemented and just after its completion. As already mentioned, convicts participating in the ART Training after completing it were much less likely to be punished with disciplinary penalties in a penitentiary facility. A fundamental change in the type and expression of their aggressive behavior was also observed. Before the program, convicts were more often punished for behaviors that were most often direct physical aggression directed at fellow inmates or prison staff, while after the program, the number of such behaviors decreased significantly. After the Aggression Replacement Training, behaviors that are a manifestation of indirect aggression, such as verbal aggression, dominated.

Also in the long term, there are some differences in reoffending, but this aspect requires further research and meta-analyses.

The most important conclusions to highlight are:

1. Convicts undergoing the ART Aggression Replacement Training after the impact had a lower level of anger and a lower readiness for physical aggressive behavior and verbal aggression.
2. After training, the convicts also showed a lower level of hostility towards other people.
3. In addition, a change in functioning during the imprisonment sentence was observed in the convicts affected, which resulted in a decrease in the number of disciplinary penalties applied in the prison.
4. The experimental group was much more likely to receive a positive final criminological prognosis, and the inmates were observed to have competences that allowed them to readjust to society without returning to the crime committed in the future.

References

1. Morawska EJ, Morawski JZ. Psychoterapia wykluczonych społecznie. Źródła treningu zastępowania agresji (ART). *Przegląd Więziennictwa Polskiego* 2016; (91): 91–116.
2. Goldstein AP, Glick B, Gibbs JC, Bartz E. ART: program zastępowania agresji. Warszawa: Instytut Amity; 2004.
3. Fronczak A. Agresja dzieci w świetle teorii społeczno-poznawczej. *Resocjalizacja Polska* 2017; 13(1): 73–85.
4. Czarna-Działuk B, Drapała K, Ostaszewski P, Więcek-Durańska A, Wójcik D. W poszukiwaniu skutecznych reakcji na przestępczość. Programy korekcyjno-edukacyjne. Wydawnictwo Naukowe Scholar; 2017. DOI: 10.7366/9788373838901.

5. Pawliczuk W, Łobodda K, Nowińska A. Trening Zastępowania Agresji: opis metody, jej skuteczność oraz zastosowanie w praktyce oddziału psychiatrii dzieci i młodzieży. *Psychiatria i Psychologia Kliniczna* 2015; 1(15): 33–37.
6. Tajak-Bobek A. O potrzebie trenowania umiejętności prospołecznych sposobów radzenia sobie z agresją oraz wnioskowania moralnego. Trening zastępowania agresji w odpowiedzi na narrację osadzonych za przestępstwa przeciwko rodzinie i opiece. *Edukacja Ustawiczna Dorosłych* 2020; 111(4): 99–113.
7. Glick B, Gibbs JC. *Aggression replacement training: A comprehensive intervention for aggressive youth*. Research Press; 2010.
8. Morawski J. *Trening Zastępowania Agresji (ART®) w zakładach karnych*. Podręcznik. Warszawa; Sowa; 2007
9. Morawski J. Trening zastępowania agresji. *Problemy Alkoholizmu* 2001; (4): 21–25.
10. Morawska E, Morawski J. *Trening Zastępowania Agresji w szkołach i placówkach systemu oświaty*. Warszawa: Instytut Amity; 2004. pp. 1–26.
11. Majcherczyk A. Organizacja i wyniki wdrożenia Treningu Zastępowania Agresji (ART) do praktyki penitencjarnej polskiego więziennictwa. *Przegląd Więziennictwa Polskiego* 2008; (60): 139–167.
12. Potempska E, Kołodziejczyk A. *Trening Zastępowania Agresji. Część I. Remedium* 2001; (12): 6–7.
13. Goldstein AP, Nensén R, Daleflod B, Kalt M, eds. *Nowe perspektywy Treningu Zastępowania Agresji: praktyka, badania naukowe i wdrożenia*. Warszawa: Instytut Amity; 2015.
14. Morawski J. Ewaluacja Treningu Zastępowania Agresji (ART). *Problemy Alkoholizmu* 2005; 2-3: pp. 21-25.
15. Hollin C. Trening Zastępowania Agresji: kontekst poznawczo-behawioralny. In: Goldstain A, Nansen R, Daleflod B, Kalt M, eds. *Nowe perspektywy Treningu Zastępowania Agresji. Praktyka badania naukowe i wdrożenia*. Warszawa: Instytut Amity; 2005. pp. 3–20.
16. Jaworska A. *Leksykon resocjalizacji*. Oficyna Wydawnicza Impuls; 2012.
17. Padevska P. Zachowania agresywne a funkcje wykonawcze w oparciu o założenia teoretyczne programu interwencyjnego ART. Praca magisterska, Uniwersytet Jagielloński w Krakowie (2018).
18. Jasiński K. Zastosowanie treningu zastępowania agresji Amity Art® wobec recydywistów penitencjarnych. *Eruditio et Ars* 2023; 6(1): 209–226.
19. Kołodziejczyk J. *Agresja i przemoc w szkole. Konstruowanie programu przeciwdziałania agresji i przemocy w szkole*. Kraków: Wydawnictwo Sophia; 2004.
20. Bąk W. Pomiar stanu cechy ekspresji i kontroli złości. Polska adaptacja kwestionariusza STAXI-2. Uniwersytet Kazimierza Wielkiego w Bydgoszczy. *Polskie Forum Psychologiczne* 2016; 21(1): 93–122.

21. Vagg, Peter R.; Spielberger, Charles D. State trait anger expression inventory interpretive report (STAXI-2: IR). Psychol. Assess. Resour. Inc. 1979; 6.1: 1–12.

Email address: a.wiecekduranska@gmail.com