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Abstract

The effects of Aggression Replacement Training (ART) were explored in a group of Dutch violent young men aged 16 to 21 years, who were obliged by the court to follow a treatment program in a forensic psychiatric outpatient clinic. To evaluate the training, patients completed a set of self-report questionnaires at three moments in time: at intake/before a waiting period, after the waiting period/before the training, and after the training. During the waiting period, the patients did not change on most measures, although they displayed a significant increase in anger. The patients who completed the therapy scored significantly lower on psychopathy than the patients who dropped out. The training produced significant decreases in physical aggression and social anxiety and showed trends toward a decline in self-reported hostility, general aggression, and anger. After the training, the patients scored comparably with a reference group on measures of hostility

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and aggressive behavior. Altogether, these results provide tentative support for the efficacy of the ART for violent young men referred to forensic psychiatric outpatient settings.

Keywords

aggression replacement training, violent young men, forensic psychiatric outpatients.

Aggression Replacement Training (ART) is a multimodal intervention originally developed to promote prosocial behavior in children and adolescents who display aggressive and violent behavior. The training was designed by Goldstein, Glick, and Gibbs (1998), who considered aggressive behavior to be associated with inadequate emotional control, a limited range of social skills, and a lack of prosocial norms and values. Consequently, ART has three major components, namely, Anger Control Training, Skillstreaming (social skills training), and Moral Reasoning Training. Given in its most common format, ART lasts for 10 weeks at 3 sessions weekly, 1 for each component. The sessions on Anger Control Training and Skillstreaming last about an hour, whereas the sessions devoted to Moral Reasoning Training may be twice as long. The groups usually consist of six to eight members. Anger Control Training, the emotional component of ART, is based on the theory of Novaco (1975), which states that anger is a combination of physiologic arousal and cognitive appraisals of aversive events. The training format is derived from Feindler, Ecton, Kingsley, and Dubey (1986), in which participants are taught to interpret the behavior of others more adequately, to lower heightened levels of arousal, and to realize the consequences of their behavior. Skillstreaming, the behavioral component of ART, is founded on the social learning theory of Bandura (1973) and involves the replacement of antisocial behaviors with prosocial ones. During these sessions, skills are systematically modeled by group leaders and then practiced by the participants. Moral Reasoning Training, the moral component of ART, was taken from the moral development theory of Kohlberg (1969), which supposes that participants become more morally mature by means of group discussions about moral dilemmas. During all the components of ART, homework assignments are given to enhance the generalization of learned skills to new situations.

Goldstein et al. (1998) found that ART decreased antisocial behavior significantly in controlled studies of American aggressive and/or delinquent adolescents in residential settings, outpatient projects, and gangs. Nugent, Bruley, and Allen (1999) administered an adapted version of ART to 522 boys and girls in a runaway shelter over a 21-day period. The training was

condensed into a 15-day program and included anger control and social skills training but not the moral reasoning component. The results indicated that ART led to a significant decrease in antisocial and aggressive behavior. The Washington State Institute for Public Policy (WSIPP; 2004) investigated the original ART program in a group of 704 medium- and high-risk juvenile offenders. This training group was compared with a control group of 525 juvenile offenders, who received the usual juvenile court services instead. ART resulted in a 24% reduction in 18-month felony recidivism in the training group compared with the control group (Barnoski, 2004).

ART has been applied not only to juvenile but also to adult offenders. Hatcher et al. (2010) studied ART in a group of British violent adult offenders on probation. An experimental group of 53 violent offenders who were required to follow ART was compared with a matched control group of 53 violent offenders who were not obliged to follow the training. Twenty offenders in the experimental group were reconvicted, compared with 27 offenders in the comparison control group. Because of these findings, Hatcher et al. (2010) concluded that "the ART programme may be effective with adult males in community settings" (p. 529).

In the Netherlands, three studies in criminal youth have been devoted to the effect of EQUIP (Gibbs, Potter, & Goldstein, 1995), a peer-helping training with components from ART. First, Nas, Brugman, and Koops (2005) evaluated the EQUIP program in male adolescents, aged 12 to 18 years, in a high-security correctional facility. For the evaluation, an experimental group was compared with a matched control group from two other facilities that offered "care as usual." After completing the treatment, the experimental group reported significantly less cognitive distortions than the control group but not more social skills. In an extended study, Brugman and Bink (2010) found that an experimental group of 49 adolescents showed a significantly greater reduction in cognitive distortions than a control group of 28 adolescents, but no differences in recidivism rate could be established. Finally, Helmond, Overbeek, and Brugman (2012) investigated program integrity (Hollin, 1995) in an experimental group of 89 adolescent detainees that was compared with a control group of 26 adolescents. Those who followed EQUIP remained stable in their social skills and moral value evaluation, but the control group showed a decrease in social skills and moral value evaluation. Overall, the treatment integrity was found to be "low to moderate," but EQUIP turned out to be equally effective in "low and moderate program integrity" groups (p. 1725). In summary, ART has been shown to be effective in adolescent and adult offenders on community supervision, but for juvenile offenders in correctional facilities, the results were variable. It should be noted that the American and British studies used recidivism as outcome

criterion, whereas the Dutch studies also focused on a decrease in crime-related cognitions and problem behaviors.

The Present Study

The U.S. Department of Health and Human Services (2011) considers four interventions for juvenile offenders as evidence-based, namely, Functional Family Therapy (FFT; Alexander & Parsons, 1982), Multisystemic Therapy (MST; Henggeler, 1999), Multidimensional Treatment Foster Care (MTFC; Chamberlain, 2003), and Brief Strategic Family Therapy (BSFT; Santisteban et al., 2003). These interventions hold in common the view that the delinquent behavior of a juvenile is primarily the result of dysfunctional family interactions. ART is not mentioned, perhaps because it focuses more on juveniles as part of the peer group than as part of the family. However, several authors view ART as an effective (Howell, 2009), promising (Guerra, Kim, & Boxer, 2008), or economically beneficial (McGuire, 2013) intervention with a solid basis in social learning theory (Hollin, 2004). It was for these reasons that ART was implemented in a Dutch forensic psychiatric outpatient clinic as a treatment program for violent young men. Because no study on the effect of ART has been done in this population thus far, the implementation of the training was accompanied with an explorative effect study.

Various issues of ART were investigated in our group of violent male forensic psychiatric outpatients aged 16 to 21 years. To explore whether ART would result in any effect, we measured the patients at three moments in time: at intake/before a waiting period (intake measurement), after the waiting period/before the training (pre-training measurement), and after the training (post-training measurement). Criminogenic needs (Andrews & Bonta, 2010) were assessed by comparing the patients with a reference group of secondary vocational students who were measured once only because of another study. During the waiting period, the patients were not supposed to change, but ART was expected to result in a significant reduction in hostility, anger, aggression, and social anxiety, as well as a significant increase in social skills. After the training, we expected no differences between the patients and the reference group on the studied problem behaviors.

Method

Participants

The study was carried out in a nonrandom group of 123 patients of forensic psychiatric outpatient clinic “het Dok” at Rotterdam (Netherlands) with a

mean age of 17.35 years ($SD = 1.82$, range = 15-21 years). These patients were convicted by the court for a violent offense (e.g., assault, robbery with violence, or serious threats with violence) and ordered to follow a treatment program in a forensic psychiatric outpatient clinic. The decision of the court was based on the conclusion of a psychiatric or psychological evaluation (Pro Justitia report) that recidivism was probable because of a mental disorder (Vreugdenhil, Doreleijers, Vermeiren, Wouters, & Van den Brink, 2004). A total of 103 patients were interviewed shortly after their referral. Thirty of them withdrew prematurely during the waiting period (nonstarters). Therefore, we could only collect data on the 73 patients who were measured both during the intake interview and at the start of the training. These patients had a mean age of 17.12 years ($SD = 1.72$, range = 15-21 years). Twenty other patients joined the training without an intake measurement, which resulted in 93 patients at the start of the training. Between the start and the end of the training, another 31 patients dropped out (non-completers). Consequently, 62 patients completed the questionnaires at both the start and the end of the training. Their mean age was 17.35 years ($SD = 1.91$, range = 15-21 years). The mean age of the 61 patients who withdrew prematurely during the waiting period or during the training (nonstarters plus non-completers) was 17.35 years ($SD = 1.82$, range = 15-21 years).

The patients had conduct or oppositional defiant disorder as their main diagnosis on Axis I or, when they were 18 years or above, an antisocial personality disorder on Axis II of the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; *DSM-IV*; American Psychiatric Association, 1994). The classifications were based not only on the psychiatric and/or psychological evaluation (Pro Justitia report) used by the court in deciding to impose a forensic psychiatric outpatient treatment but also on the evaluation of an experienced clinical psychologist during the intake interview.

Almost all patients gave the impression of being unmotivated to follow the obligatory training. They claimed to have been treated unfairly by the court, which implied that their conviction was the result of a judicial flaw.

Measures

In this study, we used a standard set of measures for personality traits and problem behaviors for individuals aged 16 years or above; these measures were chosen because of their relation to determinants of violent behavior, such as hostility, anger, social anxiety, and social skills. This standard set of measures comprises the following instruments. The *Psychopathy Checklist-Revised* (PCL-R; Hare, 1991; Dutch version: Vertommen, Verheul, De Ruiter, & Hildebrand, 2002) was used to measure psychopathy. This checklist

consists of 20 items that have to be rated on a 3-point scale, with 0 = *does not apply*, 1 = *applies to some extent*, and 2 = *applies*. Vertommen et al. (2002) found support for the reliability and validity of the Dutch version of the PCL-R, and they confirmed the two-factor structure by Hare (1991): (a) callous and remorseless use of others (e.g., “lack of remorse or guilt”) and (b) a chronically unstable and antisocial lifestyle (e.g., “poor behavioral controls”). We administered the PCL-R to patients younger than 18 years according to the instructions of Forth, Hart, and Hare (1990).

The *NEO Five-Factor Inventory* (NEO-FFI; Costa & McCrae, 1992; Dutch version: Hoekstra, Ormel, & De Fruyt, 1996) includes 60 items and measures the Big Five personality domains of neuroticism, extraversion, openness, agreeableness, and conscientiousness. Participants score the items in the NEO-FFI on a 5-point Likert-type scale ranging from *entirely disagree* to *entirely agree*. In the present study, we were interested only in the Neuroticism (e.g., “I seldom feel lonely or sad.”) and Agreeableness (e.g., “Some people find me selfish and egotistic.”) scales because these traits are considered relevant in the context of aggression (Hornsveld, Nijman, & Kraaimaat, 2008). In a Dutch sample of 356 non-clinical adults, internal consistency (Cronbach’s α) was .82 for the neuroticism domain and .69 for the agreeableness domain. In a subgroup of 135 adults, test–retest reliability after 6 months appeared to be .82 and .75, respectively (Hoekstra et al., 1996). In this study, agreeableness is regarded as the opposite of an antisocial and egoistic attitude.

The Trait Anger subscale of the Spielberger (1980) *State-Trait Anger Scale* (STAS; Van der Ploeg, Defares, & Spielberger, 1982), which consists of 10 items, was used as a concurrent measure of the general disposition to anger. Participants rate each item about how they generally feel (e.g., “I am quick tempered.”) by using a 4-point Likert-type scale: 1 = *almost never*, 2 = *sometimes*, 3 = *often*, and 4 = *almost always*. In a group of 188 Dutch non-clinical male adults, Van der Ploeg et al. (1982) found that the internal consistency (Cronbach’s α) of the Trait Anger subscale was .88. In a subgroup of 70 non-clinical male adults, a test–retest reliability of .78 was documented.

An adapted version of Rosenzweig’s (1978) *Picture-Frustration Study* (PFS-AV; Hornsveld, Nijman, Hollin, & Kraaimaat, 2007) was used to measure hostility. This test asks participants to write down their reactions to 12 cartoon-like pictures. The subjects are instructed to examine the situations shown in the pictures (e.g., to a shopkeeper: “This is the third time that this watch has stopped.”) and to write in the blank text box the first appropriate reply that enters their mind. The answers are scored by an experienced and independent research assistant (psychologist) on a 7-point scale, ranging from 1 = *not hostile at all* to 7 = *extremely hostile*. In a sample of 231 Dutch

violent forensic psychiatric patients (all males), the internal consistency (Cronbach's α) turned out to be .76, the inter-rater reliability .77, and the test–retest reliability .67 (Hornsveld et al., 2007).

The *Aggression Questionnaire* (AQ; Buss & Perry, 1992; Dutch version: Meesters, Muris, Bosma, Schouten, & Beuving, 1996) comprises 29 items that can be classified under four subscales, i.e., Physical Aggression, Verbal Aggression, Anger, and Hostility. Respondents score the items on a 5-point scale ranging from 1 = *entirely disagree* to 5 = *entirely agree*. In the current study, we used only the total score (= aggression in the tables) and the score on the subscale Physical Aggression (e.g., “Once in a while I can’t control the urge to strike another person.”). In a group of 206 Dutch violent forensic psychiatric outpatients (all males), Hornsveld, Muris, Kraaimaat, and Meesters (2009) found for the AQ total an internal consistency (Cronbach's α) of .91 and for the subscale Physical Aggression an internal consistency of .79. In a subgroup of 90 outpatients the test–retest reliability was .72 and .76, respectively.

The NAS part of the *Novaco Anger Scale–Provocation Inventory* (NAS-PI; Novaco, 1994; Dutch version: Hornsveld, Muris, & Kraaimaat, 2011) was used to study the self-reported responses of the participants to 48 anger-eliciting situations (e.g., “When someone yells at me, I yell back at them.”). The items are scored on a 3-point Likert-type scale: 1 = *never true*, 2 = *sometimes true*, and 3 = *always true*. In a sample of 194 Dutch violent forensic psychiatric outpatients (all males), for the NAS total score, the internal consistency (Cronbach's α) was found to be .95 and the test–retest reliability in a subgroup of 90 outpatients was .80 (Hornsveld et al., 2011).

The *Inventory of Interpersonal Situations* (IIS; Van Dam-Baggen & Kraaimaat, 1999) assesses how much anxiety people experience during social interactions (e.g., “Refusing a request to lend out money”) and how often they are able to actually perform the appropriate behavior in such situations. For social anxiety, the scores range from 1 = “no tension at all” to 5 = “very tense”; the frequency scores range from 1 = “never” to 5 = “always.” The internal consistency (Cronbach's α) and test–retest reliability of the IIS can be qualified as good (i.e., as $> .80$ and test–retest correlations $> .70$; Van Dam-Baggen & Kraaimaat, 1999). In this study, inadequate social behavior (high scores on social anxiety and low scores on social skills) is seen as a criminogenic need, because it is one of the determinants of violent behavior.

Procedure

In the Netherlands, the supervision of convicted offenders has to be carried out by an after-care and resettlement organization. Such an organization usually

“delegates” the execution of an obligatory treatment to a forensic psychiatric outpatient clinic. It is the duty of the probation officer to motivate the patient, his girlfriend, or his parent(s) to contribute to the success of the training. Depending on the age and living conditions of the patient, the probation officer maintains relations with the school, employer, and social or welfare services.

The intake interview was carried out for late adolescents, together with their youth probation officer and preferably with at least one of the parents. However, most of these adolescents lived with their mother, who, according to the probation officer, was often not able or not motivated to attend the interview. Young men aged 18 to 21 years who lived on their own were interviewed in the presence of their probation officer only. The participation of the probation officer during the intake interview was important for the provision of additional information about the current situation of the patient, in addition to the Pro Justitia report. The presence of the probation officer also considerably enlarged the chance that the patient would attend the interview.

During the training, there was occasionally contact between one of the two trainers and the probation officer, especially when a patient did not show up. When a patient failed to attend for two sessions or did not show up at the start of the training, he could no longer follow the training except when there were valid reasons for his absence. The policy was that non-completers were sent to prison, but in reality this punishment was rarely imposed.

Young men who were referred to the outpatient clinic for obligatory treatment because of a violent crime were interviewed within a week and put on the waiting list when indicated for ART. When the waiting list group reached six to eight patients, a new training group was formed. In practice, this meant that the first patient had to wait about 8 weeks and the last one about 2 weeks until the start of the training. To explore whether ART would have any effect, sets of questionnaires were administered, particularly for the effect study; these questionnaires were to be completed individually. Participation in the study (but not in the training) was voluntary and was rewarded with a fee of €7 for each measurement.

The assessment of the PCL-R scores and the ART were done by experienced clinical psychologists who completed additional education of 6 years after their 4-year university study of psychology. The trainers had a training scenario at their disposal, whereas the patients could do their homework assignments in a workbook (Hornsveld, 2004).

Aggression Replacement Training

The outpatient version of the ART consists of 15 weekly sessions lasting 1½ hours each and three 5-weekly follow-up meetings for 6 to 8 patients: (a)

anger management, sessions 1 to 5; (b) social skills, sessions 6 to 10; (c) moral reasoning, sessions 11 to 15; and follow-up and evaluation, sessions 16 to 18. Role-playing was an essential part of the sessions. Participants had to complete homework assignments for the generalization of learned skills to new situations. Altogether, the training meant an investment of approximately 40 hr for the patient, which is often a requirement of the court for juvenile offenders.

Design and Statistics

The study was approved by the Dutch Review Committee for Patient-Linked Research in Arnhem, the Netherlands, and by the Scientific Research and Documentation Center of the Dutch Ministry of Security and Justice.

Data sets were analyzed through the statistical program IBM SPSS Statistics 20.0. The problem behaviors of the patients at the intake (intake measurement) were compared with those at the start of the training (pre-training measurement) through a two-tailed paired samples *t* test ($p < .05$). The behaviors at the start of the training (pre-training measurement) were also compared with those after the training (post-training measurement) through a one-tailed paired samples *t* test ($p < .05$). Differences between dropouts and completers were evaluated with a two-tailed *t* test ($p < .05$). To determine the factors that predicted dropout, a stepwise binary logistic regression analysis was applied. Multiple ANCOVAs (two-tailed; $p < .05$) were used to compare the intake measurement and the posttreatment measurement with a reference group. Because comparable norm groups for the used measurement instruments were lacking, a group of secondary vocational students functioned as a reference group. These students were measured once only as part due to another study. Age was used as a covariate because the mean age of the reference group ($M = 18.14$ years, $SD = 1.81$) was significantly higher ($t(396) = -4.03, p < .001$) than the mean age of the patients ($M = 17.35$ years, $SD = 1.76$).

Results

Criminogenic Needs

To assess the criminogenic needs of the patients, we compared the personality traits and problem behaviors of the patients with those of the reference group, consisting of 275 secondary vocational students (all men). The patients scored significantly higher than the students on trait anger (STAS), $F(2, 395) = 2.52, p = .041$; hostility (PFS-AV), $F(2, 280) = 18.90, p < .001$; and

aggression (AQ), $F(2, 395) = 2.74, p = .033$; and significantly lower on agreeableness (NEO-FFI), $F(2, 395) = 2.39, p = .047$, and social anxiety (IIS), $F(2, 395) = 10.19, p < .001$.

The patients who withdrew prematurely (nonstarters plus non-completers) seemed to score significantly higher on psychopathy (PCL-R Total), $t(121) = -2.57, p = .006$, than did the completers, in particular on the factor antisocial behavior, $t(121) = -3.36, p < .001$. No differences were found on the other measures. To determine which intake measures could differentiate completers from dropouts, a stepwise binary logistic regression analysis was done with each individual measure. Only the PCL-R Total could independently differentiate completers from dropouts, $B (SE) = 0.09 (0.037)$, odds ratio = 1.094, $p = .014$. More specifically, completers and dropouts were differentiated by Factor 2 of the PCL-R, $B (SE) = 0.214 (0.069)$, odds ratio = 1.239, $p = .002$, and not by Factor 1 of the PCL-R, $B (SE) = 0.063 (0.058)$, odds ratio = 1.065, $p = .281$.

Behavior Change

The 73 patients for whom intake and pre-training measurements were available did not change significantly with respect to hostility (PFS-AV), aggressive behavior (AQ), social anxiety (IIS), and social skills (IIS) in the time between these measurements. However, there was a significant increase in anger as measured with the NAS (Table 1).

Comparison between pre-training and post-training measurements was done for 62 patients (Table 2). This group scored significantly lower on self-reported physical aggression (AQ) and social anxiety (IIS) during the post-training measurement, although the effect sizes were small. In addition, we established a trend of reduction of hostility ($p = .056$), aggression ($p = .050$), and anger ($p = .058$).

Finally, we compared the post-training measurement scores of the patients with those of the reference group. After completion of the treatment, the patients did not differ from the students with respect to hostility (PFS-AV), $F(2, 219) = 2.55, p = .081$, and aggressive behavior (AQ), $F(2, 334) = 1.00, p = .369$. However, the patients scored significantly lower on anger (NAS), $F(2, 219) = 3.62, p = .029$.

Discussion

We carried out an explorative study on the results of an outpatient version of ART among violent young men who were referred to a forensic psychiatric outpatient clinic for an obligatory treatment. The patients could be

Table 1. Intake Measurement Versus Pre-Training Measurement ($n = 73$).

Measure	Content of Scale	<i>M (SD)</i>		<i>t</i>	95% CI		Cohen's <i>d</i>
		Intake	Pre		LL	UL	
PFS-AV	Hostility	33.22 (9.58)	34.16 (11.49)	$t(72) = -0.85$ ($p = .396$)	-3.14	1.26	-.13
AQ	Aggression	90.00 (27.88)	85.59 (21.57)	$t(72) = 1.52$ ($p = .134$)	-1.39	10.21	.21
	Physical aggression	33.01 (18.47)	29.48 (8.19)	$t(72) = 1.73$ ($p = .088$)	-0.55	7.61	.36
NAS	Anger	87.52 (17.35)	90.81 (19.32)	$t(72) = -2.43$ ($p = .018$)	-5.99	-0.58	-.29
IIS	Social anxiety	71.43 (28.73)	68.07 (25.80)	$t(72) = 1.72$ ($p = .089$)	-0.53	7.24	.24
	Social skills	112.42 (25.19)	112.32 (25.18)	$t(72) = 0.04$ ($p = .970$)	-5.21	5.41	.01

Note. Pre = pre-training measurement; CI = confidence interval; LL = lower limit; UL = upper limit; PFS-AV = Adapted version of the Picture-Frustration Study; AQ = Aggression Questionnaire; NAS = Novaco Anger Scale (1994 version); IIS = Inventory of Interpersonal Situations.

characterized as being more egotistic (lower on agreeableness), angry, hostile, and aggressive than the reference group of secondary vocational students. As expected, the patients did not change on most measures during the waiting period, although they displayed a significant increase in anger, for which we have no clear explanation. ART produced a significant reduction in physical aggression and social anxiety. Trends in the hypothesized direction were found regarding hostility, general aggression, and anger. After the training, the patients did not differ from the reference group with regard to hostility and aggression. They scored significantly lower on anger and on social anxiety. On average, the effect sizes of the changes were small, but this was in accordance with the literature on cognitive behavioral interventions for violent offenders (e.g., Lipton, Pearson, Cleland, & Yee, 2002).

McMurrin and Theodosi (2007) found that the completion rates of community programs were as low as one third, even when the offenders were obliged by the court to follow the program. For instance, Hatcher et al. (2010) mentioned that in a group of 53 offenders selected for ART, 25 refused to participate in the training, and 13 dropped out in the course of the training. In the current study, 61 of the 123 patients did not show up at the start of the training or did not complete the training, resulting in a total dropout rate of almost 50%. The patients who withdrew prematurely (nonstarters

Table 2. Pre-Training Measurement Versus Post-Training Measurement ($n = 62$).

Measure	Content of Scale	<i>M</i> (<i>SD</i>)		<i>t</i>	95% CI		Cohen's <i>d</i>
		Pre	Post		LL	UL	
PFS-AV	Hostility	33.34 (12.30)	30.84 (12.27)	$t(61) = 1.62$ ($p = .056$)	-0.60	5.60	.25
AQ	Aggression	82.56 (20.67)	78.90 (20.32)	$t(61) = 1.68$ ($p = .050$)	-0.71	8.03	.21
	Physical aggression	28.39 (8.02)	26.45 (7.46)	$t(61) = 2.21$ ($p = .016$)	0.18	3.69	.28
NAS	Anger	87.29 (18.31)	83.98 (16.74)	$t(61) = 1.56$ ($p = .058$)	-0.83	7.44	.21
IIS	Social anxiety	65.36 (26.24)	57.74 (22.75)	$t(61) = 2.09$ ($p = .021$)	0.33	14.91	.31
	Social skills	115.88 (22.22)	116.93 (29.75)	$t(61) = -0.28$ ($p = .393$)	-8.74	6.65	-.04

Note. Pre = pre-training measurement; Post = post-training measurement; CI = confidence interval; LL = lower limit; UL = upper limit; PFS-AV = Adapted version of the Picture-Frustration Study; AQ = Aggression Questionnaire; NAS = Novaco Anger Scale (1994 version); IIS = Inventory of Interpersonal Situations.

and non-completers) scored significantly higher than the completers on psychopathy and, in particular, on the PCL-R factor, chronically unstable and antisocial lifestyle. This result is in line with the results of other studies on treatment dropouts (Caldwell, Skeem, Salekin, & Van Rybroek, 2006; Ogloff, Wong, & Greenwood, 1990; Olver & Wong, 2009). Non-completion has also been associated with a higher risk of recidivism (Wormith, Olver, Stevenson, & Girard, 2007), as well as aggression and rule-violating behaviors (Beyko & Wong, 2005). In 1998, Browne, Foreman, and Middleton concluded from a study among 96 sex offenders that factors associated with recidivism also seem to be associated with treatment dropout. All these results seem to indicate that in violent offenders, there is a relation between psychopathy, treatment attrition, and recidivism risk.

The study described in this report had various limitations. To begin with, the patients formed a nonrandom sample, and only self-report questionnaires were used. The scores on these questionnaires may be influenced by social desirability, the patients' limited understanding of their own behavior, or the probation officer. Second, not all the patients involved in the study were measured directly after the intake interview. In addition, ART could be evaluated in only a limited number of patients because of the dropouts. A fourth limitation was that the waiting period varied between patients from 2 to 8 weeks.

We could not check whether a relatively longer waiting period might result in a greater change compared with a relatively short period because we did not collect information about the length of waiting time for each patient.

Several authors have questioned the use of short-term group treatments for offenders. For example, Heseltine, Howells, and Day (2010) believed that a 20-hr training in anger control was ineffective, and Dodge and Sherill (2006) warned of possible negative effects of group treatments among juvenile delinquents with psychiatric problems. However, our results are in line with those of an ART study in the state of Washington of the United States and the United Kingdom, that is, that the training seems to result in a reduction of physical aggression in violent young men at a forensic psychiatric outpatient clinic, with a low to medium risk of recidivism.

Nevertheless, we recommend intensifying the training to obtain more marked results, for example, by organizing two sessions a week or by extending the total number of sessions. Based on a systematic review of the effectiveness of interventions among violent offenders, Jolliffe and Farrington (2007) concluded that interventions of greater overall duration and with a greater duration per session were associated with greater effect on violent re-offending. They also found that “interventions that addressed anger control, cognitive skills, used role-play, relapse prevention and had offenders complete homework tasks appeared more effective than those interventions that did not” (p. 25). An extended outpatient ART will meet these demands.

In our opinion, interventions for this group of patients also require a more consequent and stricter policy among the referring agencies in case of both completion and non-completion of a treatment program. Although non-completers formally had to go to prison, this policy was rarely effectuated in reality. The probation agency regarded this punishment as too heavy and did not bring the patient to court; even when the patient was brought to court, the prosecutor often placed higher priorities on more severe cases. In fact, refusing to follow the training hardly had any negative consequences in most cases. However, one may question whether such a policy contributes to greater motivation in patients who may be characterized by insensitivity to punishment. Therefore, in our opinion, creating alternative conditions and consequences for the completion of an obligatory treatment program has the highest priority, especially for this population. For instance, the training can be provided at the office of the after-care and resettlement organization by a qualified trainer from the outpatient clinic and a probation officer. Then, the patient has to go to only one location instead of two, and additional individual appointments can be combined with the training.

The unanswered question is whether the training might be beneficial for violent young men with relatively high psychopathy scores because a large

part of such patients who had an antisocial lifestyle withdrew prematurely. Therefore, we believe that it is worthwhile to carry out further research on this or an extended version of ART among a larger group of violent young men who (are going to) live on their own, whereby recidivism figures could also be included.

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