Coming on strong: Is Responsive Aggression Regulation Therapy (Re-ART) a promising intervention?

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Chapter 6

General Conclusion
Introduction

The aim of this dissertation was to assess whether Responsive Aggression Regulation Therapy (Re-ART) is a promising intervention. A promising intervention is theoretically-based and there are qualitative and/or quantitative data, derived from (quasi-) experimental research, showing positive outcomes for the population of interest, while there is not yet enough research to support effectiveness and generalizability of positive outcomes (Justice & Pullen, 2003). First, a meta-analysis was conducted to assess whether certain essential Re-ART components – which are also applied in other interventions – resulted in positive changes in outcome variables, such as a reduction of recidivism. Then, the reliability and validity of the 'Brief Irrational Thoughts Inventory' (BITI) was investigated. Third, we examined the effectiveness of Re-ART intramural using a quasi-experimental design with a waiting list comparison group receiving Treatment-As-Usual (TAU). Finally, we examined whether the level of program integrity of Re-ART was sufficient in an outpatient forensic setting and a residential juvenile justice institution, and investigated the extent to which the treatment targets of Re-ART were reached.

The results of this dissertation indicate that Re-ART is a promising intervention. First of all, Andrews and Bonta (2010) demonstrated that the application of the RNR-principles is effective for delinquent young people. The choice of Re-ART to focus on these principles, in particular specific responsivity, providing tailored treatment accounting for individual (criminogenic) needs, and the use of do-exercising (e.g., skills training, mindfulness) seems innovative and promising from a theoretical point of view. Moreover, the meta-analysis in this dissertation demonstrated that treatments which make use of individually oriented treatment with CBT-elements for adolescents and young adults with severe aggression problems yield moderate to large effect sizes. Second, positive changes in many program objectives were observed after Re-ART had been applied with sufficient levels of program
integrity (PI). This suggested that the largely individual treatments employing CBT-elements and the application of the RNR model appear to have a positive influence on the effectiveness of Re-Art. The fact that Re-Art has been accredited by the Accreditation Panel for Behavioral Programs of the Dutch Ministry of Security and Justice and is currently offered by various ambulant (7) and residential institutions (8) in the Netherlands shows that Re-Art is considered a promising intervention. Accreditation indicates, amongst others, that Re-Art has been evaluated to have a valid theoretical foundation, is able to reach its intended target group, meets the requirements of participant selection and program integrity assessment, and targets dynamic criminogenic risk factors, protective factors, skills, and treatment motivation.

Summary of the main findings
This dissertation comprises four studies to assess whether Re-Art is a promising intervention. The first study describes a multilevel meta-analysis, including 8 studies (15 effect sizes) and 218 adolescents and young adults, examining the effectiveness of individually oriented treatment with CBT-elements for adolescents and young adults with severe aggression problems. The included studies examined the effect of Mode Deactivation Therapy, Stress-inoculation therapy, and the Cell-Phone program. A large and homogeneous overall effect size was found \((d = 1.49)\), indicating consistency of positive intervention effects across studies. The meta-analysis demonstrated that only few individually tailored interventions using CBT-elements have been developed and evaluated for youths with severe aggression problems. Furthermore, these individually tailored behavioral interventions do not describe the extent to which they have incorporated the What Works principles of effective interventions. This is remarkable, because the RNR model is considered a best practice for behavioral corrections (Andrews & Bonta, 2010, Smith,
Gendreau, & Swartz, 2009). Moreover, adherence to the RNR principles has been shown to effectively reduce recidivism, whereas non-adherence to the RNR principles can have detrimental effects on treatment outcomes for clients in a forensic setting (Andrews & Bonta, 2006; Lowenkamp & Latessa, 2005). This meta-analysis also showed that group treatment with CBT-elements is one of the most common modalities in treatment of adolescents with severe aggression problems. There may be added value if group interventions are supplemented with a number of individually tailored promising interventions (like Re-ART) that make use of the What Works principles and CBT-elements.

The second study examined the reliability and validity of the Brief Irrational Thoughts Inventory (BITI). The BITI is a questionnaire that purports to assess the nature and severity of irrational thoughts related to aggressive (externalizing), sub-assertive (internalizing), and distrust-related behavior in adolescents with conduct problems. The BITI has ecological validity given that the instrument was developed from daily clinical practice. A confirmatory factor analysis showed that construct validity was satisfactory; the factorial model had an acceptable fit to the data, and the results indicated measurement invariance across gender and different ethnic groups (native and non-native Dutch respondents). The convergent validity varied from sufficient to good. Furthermore, the BITI proofed to be insensitive to differences in age and verbal intelligence. Finally, concurrent validity was satisfactory, with the exception of thoughts related to sub-assertive (internalizing) behavior.

The BITI offers the opportunity to signal various irrational thoughts related to aggressive (externalizing), sub-assertive (internalizing) and distrust-related behaviors. A common finding is that adolescents often exhibit co-occurring internalizing and externalizing problems (Youngstrom, Findling, & Calabrese, 2003). Furthermore, dysfunctional thoughts related to distrust-related behavior also constitute a relevant
characteristic of severe aggression problems (Orobio de Castro, 2007). Knowing what specific irrational thoughts are linked to the aggression problem (internalizing, externalizing, or co-occurring problems) may directly affect the focus of treatment (Sudak, 2006). In addition, the BITI may be useful to quickly and easily assess and monitor, through repeated assessments, the extent and changes in irrational thoughts in adolescents with conduct problems.

The third study examined the effectiveness of Re-ART using a quasi-experimental design with a waiting list comparison group receiving TAU. The results showed that Re-ART was more effective than TAU in reducing violent recidivism risk, aggressive behavior, inadequate coping skills and cognitions (except for negative attitude), and enhancing the juvenile’s responsiveness to treatment. Most of the effects were moderate to large. The effects were only small for aggression related social skills (assertiveness), which may be explained by the daily social skill training received by both the experimental and comparison group. The results of this study confirm the findings of Landenberger and Lipsey (2005) and Lipsey (2009), showing that violent adolescent offenders can be successfully treated at least in the short term (post-test) as measured by a variety of psychometric scales and institutional behavior. It is plausible to suggest that the positive results of Re-ART were related to the use of the RNR-principles and the attention paid to specific responsivity, because these were not the key elements of TAU.

The fourth study investigated the level of program integrity of Re-ART in three forensic outpatient settings. Subsequently, we examined changes in several outcome variables between pre-test and post-test, and whether a high degree of program integrity was related to larger changes in these outcome variables. The results showed that the program integrity of half of the treatments was not sufficient. Mostly, the treatment did not appear to be adequate in terms of relating the exposure to the recidivism risk (the intensity and
frequency of the program was too low) and adherence (not all of the standard modules were offered). This means that the risk and need principles were not sufficiently applied. Notably, Bosker, Witteman, and Hermanns (2013) found the same results in the Dutch probation service.

We found that a higher level of program integrity (PI+) was related to positive changes in aggression, cognitive distortions, social support, coping and distrust (responsiveness to treatment). Despite the fact that the level of PI did not affect the results on all components, a moderate to large effect was found for the majority of outcome measures. Additionally, it was found that the Re-ART PI+ group showed positive changes between pre- and post-test in risk for recidivism, aggression, coping, cognitive distortions and family functioning. The results of this study support the idea that more attention should be paid to PI. Both the operationalization (risk and need principle) and observance when implementing Re-ART, but also the quality of the therapeutic relationship seems very important (Skeem, Louden, Polaschek, & Camp, 2007).

**Limitations of this dissertation**

There are a number of limitations to the studies described in this dissertation that should be addressed. The main limitation concerns the small sample-sizes of the last two studies (chapters 4 and 5), which reduce the statistical power and restrict the generalizability of the findings of the intervention studies. However, the particular target group of this study tends to be small and difficult to reach. Moreover, the number of investigated juveniles was large enough in the last two studies to allow meaningful analyses. The second limitation concerns the use of a quasi-experimental design (chapter 4). A randomized controlled trial would have been preferable over a quasi-experimental design, because randomization eliminates potential selection biases. However, organizational constraints made it impossible to
conduct a true experimental study. In order to control for initial differences between groups we conducted analyses of covariance (ANCOVA), a powerful analytic tool to statistically “equate” comparison groups (Rausch, Maxwell, & Kelley. 2003). A final limitation is that the developer of an intervention or questionnaire, in this case the main investigator and developer of Re-ART and the BITI, cannot be considered as an independent researcher. However, it should be noted that the co-researchers of the University of Amsterdam were independent. Petrosino and Soydan (2005) demonstrated that dependent researchers report more positive results compared to independent researchers. There are a number of explanations for this, such as differences in the quality of research design (Eisner, 2009), methodological bias due to conflicts of interest (Gorman & Conde, 2007), and a higher degree of program integrity when the developers themselves are the principal investigators (PI; Petrosino & Soydan, 2005). It is possible that the positive results of Re-ART Intramural were related to a high level of program integrity, because the developer of Re-ART was responsible for safeguarding program integrity.

**Reflections and recommendations**

**Program integrity**

Perepletchikova and colleagues (2009) showed that interventions should pay more attention to the adequate implementation of procedures to maintain program integrity at a high level. According to the Dutch Accreditation Panel for Behavioral Programs for Offenders, Re-ART has provided sufficient guidelines to do so. However, providing the necessary guidelines does not guarantee the intervention to be implemented as intended.

The results presented in this dissertation demonstrated that the program integrity (PI) of Re-ART Intramural was sufficient in the judicial justice institution (JJI) where the study was carried out. Nevertheless, the question remains whether this result is generalizable to
other judicial justice institutions given that the developer of Re-Art was responsible for safeguarding program integrity in this particular JJI. In addition, Beerthuizen, De Wied and Orobio de Castro (2011) showed that it is difficult within a Young Offenders’ Institute to comply with the Re-Art Intramural program integrity, for example, because one has to deal with a rapid staff turnover.

Only half of the Re-Art Ambulant treatments were offered with sufficient program integrity. It is plausible to suggest that program integrity is higher in empirical studies due to the awareness of the participants being observed (Perepletchikova & Kazdin, 2005). The actual level of program integrity may therefore be lower in the outpatient setting than was assessed in the inpatient setting. This outcome demonstrates how difficult it is to conduct an accredited behavioral intervention as intended. Re-Art uses several elements to stimulate program integrity, such as program manuals, therapist selection criteria, requirements of education and coaching and PI-check lists. However, this may not be enough. On the one hand there might be a need for more stringent integrity assurance systems to maintain high PI-levels (Boendermaker, 2011; Gearing et al., 2011). On the other hand, higher levels of program integrity were found particularly in more experienced Re-Art therapists, which indicates that an organization needs a great deal of time to achieve high levels of PI.

In the fourth study of this dissertation, we did not use the experience of the Re-Art supervisors to achieve sufficient program integrity. Realization of a high degree of program integrity depends on various factors. A number of these factors will be described below.

1. Many therapists have a large case load, which makes it difficult to provide outreaching care services and/or meet with the adolescent more than once per week if this is necessary. Stated differently, caseloads that are too large interfere with the risk principle for those youths with a high risk for recidivism. Where a therapist can provide a more intensive
treatment another problem may arise. Intensive treatment can lead to tensions for youngsters on probation who have to comply with a great number of conditions (e.g., meeting the requirements of the employer and/or probation officer). This may lead to demotivation, which may interfere with the learning process. Some of these tensions as well as demotivation may be avoided by allowing the session to last longer, or offering blended care (face to face combined with e-health) or allowing the therapist to provide more outreach care.

2. Some senior therapists who offered Re-ART Ambulant may have developed a specific personal approach, which they may not easily change. Such personal approach can (sometimes) interfere with Re-ART. For instance, some therapists primarily focus on providing insights to the juvenile, which as a consequence results in less attention to practising skills. These notions were based on the outcomes of the study described in chapter 5, in which it became clear that 31.1% of the therapists did not provide structural active exercises during the Re-ART sessions.

3. It became clear from interviews conducted by the Accreditation Panel for Behavioral Programs in 2012 with recipients and supervisors of behavioral interventions that problems were primarily experienced in the organizational context within which behavioral interventions had to be implemented. Examples of this include limited inflow of juveniles, and rapid staff turnover (Dutch Accreditation Panel, 2012). This problem is also acknowledged in the implementation and safeguarding of Re-ART. Rapid staff turnover interferes with achieving and maintaining a high degree of program integrity. Notably, this dissertation showed that program integrity was particularly high when implemented by therapists who had been providing Re-ART for almost two years.
Influence of the living environment on the effect of Re-ART

Besides the level of program integrity also the culture of a (judicial) treatment facility (e.g., the manner in which guidance is provided in order to realize a positive work environment) has been shown to exert an influence on the treatment climate (Van der Helm, Klapwijk, Stams, & Van der Laan, 2009). In particular, a facility that is focused on realizing change through support and treatment rather than through punishment and humiliation will contribute significantly to the reduction of recidivism (Lipsey, 2009; Ros, Van der Helm, Wissink, Stams, & Schaftenaar, 2013; Schubert, Mulvey, Loughran, & Loyosa, 2012). This implies that treatment outcomes among youths being taught and treated in a secure environment will depend on the living group climate (Van der Helm, 2011). Thus, there is not only a relation between the level of program integrity and intervention outcome (e.g., Arkoosh et al., 2007; Durlak & DuPre, 2008; Landenberger & Lipsey, 2005; Wilder, Atwell, & Wine, 2006), but also between the living and treatment climate and intervention outcome.

Continuity

It was concluded in the last two studies described in chapters 4 and 5 that the program integrity in both the intramural and ambulant version might be improved by establishing continuity of care through several actions (James, Stams, Asscher, Van der Laan, & De Roo, 2013; Souverein, Van der Helm, & Stams, 2013). For instance, the communication between network partners could be improved. Furthermore, it was noticeable within the ambulant version that half of the therapists reported insufficient knowledge transfer between collaborators. It was clear from the research that within the intramural version, group workers can invest more in supporting the juveniles to achieve their goals set by the program.
To ensure generalizability in an outpatient setting, the therapist is dependent on the way in which parents/guardians and the network (are able to) offer support. It is strongly recommended that a higher degree of outreach services is provided (Baas, 2005). Outreach care can promote generalizability, and with outreach care the treatment can more easily be integrated within the adolescent’s daily life. Furthermore, it helps the adolescent to change situational and structural life circumstances, which support desistance from delinquent behavior and improve motivation for change (Farral 2002; Laub & Sampson 2003).

Aftercare
The Re-ART intervention studies demonstrated that almost one third of the therapists working in an outpatient setting did not provide any aftercare (as part of Re-ART), but the therapists working in an inpatient setting initiated aftercare in almost all of the cases. It should be noted that adolescents who had been in a secure environment turn to recidivism less easily once they experience some perspective and make use of aftercare (Donker & De Bakker, 2012; James et al., 2013; Schubert et al., 2012). Currently, aftercare in the Netherlands is primarily shaped through the provision of programs comprising intensive follow-up guidance focused on realizing work, education, income and a stable home environment. However, there often are still other critical risk factors (e.g., severe aggression regulation problems or substance abuse) that reinforce severe behavior problems, which means that specific (outreaching) treatment is indicated. Unfortunately in many cases this is not offered, for instance, because there are no (or few) opportunities within the region to which the young person is returning.

Aftercare is often not provided to young people who have spent a relatively brief period in a judicial institution, and who have been offered little or no treatment aimed at their criminogenic risk factors. It is recommended that youngsters with severe aggression
problems who received treatment in the residential facility have access to (or continue with) Re-A RT or another ambulant intervention targeting aggression. Those returning to their former environment may have to deal with (new) stressors, meaning that there might be a chance they relapse to old non-adaptive or dysfunctional habits.

It is important to realize that recidivism can be part of the re-socialization process for the Re-A RT target group. It is unrealistic to expect, particularly for those youths with severe aggression problems, that aggressive behavior will no longer be displayed if they are on a trial release or when receiving ambulant treatment. Young delinquents need time for aggressive behavior to extinguish and recidivism to stop (James, et al., 2013; Van der Helm, 2011).

Results of outpatient versus residential setting

Andrews and Bonta (2006) and Landenberger and Lipsey (2005) found better treatment results (e.g., interventions with CBT-elements and/or interventions that meet the conditions of the RNR-principles) in outpatient settings than in residential settings. This may be explained by the severity of the problems, which is more severe in youths being treated in a residential environment than in youths treated in an outpatient setting (Souverein et al., 2013; Pfeiffer & Strzelecki, 1990) or it may have been caused by unprofessional behavior of detention staff (Hanrath, 2013; Hofte, Van der Helm, & Stams, 2012; Zimbardo, 2007) or the effect of contagious effects of aggression behavior in residential group settings (Mager & Milich, 2005; Weiss et al., 2005).

In this dissertation, the results achieved in the ambulant setting of the Re-A RT+ group seem no better than those of the residential setting, which confirms the findings from the meta-analysis by De Swart et al. (2012). It is plausible to suggest that the positive results of Re-A RT Intramural were related to a higher level of program integrity, because the
developer of Re-ART was responsible for safeguarding program integrity. The meta-analysis by De Swart et al. showed that cognitive behavioral therapy has an average, positive effect on the reduction of problems, also in case of severe behavioral problems, including aggressive behavior, in youths receiving care in both residential and ambulant facilities. Experiences from therapists offering Re-ART in an ambulant setting have shown, in particular, that youths with severe aggression problems are often more difficult to reach and motivate compared to juveniles in residential treatment. As there are more dropouts in the outpatient setting it takes more effort to reach and motivate the target group and to realize continuity in care/treatment. This makes it difficult to meet the conditions of the RNR-model.

Responsiveness

Responsive treatment hinges on working within the adolescent’s experience and frame of reference, providing them with choices, and consistently monitoring the therapeutic alliance. Specific responsivity refers to the adaptation of treatment to specific characteristics of the client (e.g., age, gender, culture, personality, emotional well-being, cognitive ability and learning style; Andrews & Bonta, 2010). Attention for the responsivity principle needs to be addressed, because it can help or hinder the provision of and responsiveness to treatment and improve the quality of the therapeutic relationship.

This dissertation shows that the responsivity principle was appropriately applied within Re-ART. The therapists scored positively in terms of using language that was understandable to the adolescent and linking in to the adolescent's learning style. Almost 80% of adolescents felt they were being taken seriously by their therapist, whereas therapists scored 100% on this item. Clients may experience the therapeutic relationship differently from how the therapist experiences this relationship (Bale, Catty, Watt, Greenwood, &
Burns, 2006; Bickman et al. 2004). This means that a therapist might believe that he or she has provided sufficient validation (i.e., recognition and acceptance of another person’s feelings, thoughts, behaviors and experience as valid and understandable; Linehan et al., 1999), whereas the adolescent may have had a different experience. It is plausible to suggest that improving the quality of the therapeutic relationship can lead to better results. In fact, the connection between therapeutic alliance and positive outcome has been found in a wide range of psychosocial treatments (e.g., Bickman et al. 2012; Hawley & Garland, 2008, Shirk, Karver, & Brown, 2011, & McLeod, 2011).

Recommendations for future research

The present dissertation contributes to the forensic treatment field for youth with severe aggressive problems. However, future independent research is still needed. First, it seems relevant for Re-HART to invest in improving PI and in determining which specific components of the program are essential for achieving the desired treatment goals. The implementation of an effect study only makes sense if PI is sufficient; the outcome could otherwise lead to incorrect conclusions about the effectiveness of the intervention. After all, more convincing evidence is required for both Re-Art Intramural and Re-Art Ambulant: this may be achieved through increasing the sample size and the use of a randomized controlled trial. Such study should be carried out in multiple settings and employ an adequate follow-up period of at least two years to determine recidivism.
References


Dutch Accreditation Panel for Behavioral Programs for offenders. Annual report of 2012.


