Summary and General Discussion
Staff members of residential wards for children and adolescents have a demanding job in which they are confronted with multiple stressors such as aggressive, non-compliant and self-destructive behaviour on a regular basis (Dean et al., 2010; Needham et al., 2005; Stone et al., 2011; Wielemaker, 2009). These behaviours are often triggered by adult authority, while most conflicts occur when unit rules and regulations have to be complied with (Fisher & Kane, 1998). Sometimes a small conflict can escalate to such an extent that to prevent damage, seclusion and restraint measures are used. In the short term, these measures protect staff, other patients and property from direct (further) injury or damage. However, in the long term this interpersonal ‘violence’ is likely to amplify aggression in both staff and clients, and may even lead to traumatic stress symptoms (Goren et al., 1993; Mohr et al., 1998; Natta et al., 1990; Smith et al., 2005).

Several interventions such as Collaborative Problem Solving (CPS) and the Comprehensive Behavioural Management Model (CBM) (Dean et al., 2007; Ercole-Fricke et al., 2016; Greene et al., 2006; Martin et al., 2008; Nunno et al., 2003) have been developed, showing promising results in reducing seclusion and restraint measures or improving confidence in staff members dealing with challenging behaviour. However, the main focus of such interventions is to control the child’s behaviour. When the child’s behaviour does not change or cannot be controlled, staff members may easily conclude that they are doing something wrong, causing doubt and feelings of helplessness, sometimes resulting in burnout symptoms (Brouwers & Tomic, 2016; Harder et al., 2006).

An alternative approach to dealing with aggressive behaviour is to shift the focus from controlling the ‘uncontrollable’ child to altering the caregiver’s behaviour to escape the negative spiral they are in and to decrease feelings of helplessness in caregivers. This shift in focus is central to Non-violent Resistance (NVR). NVR is a concrete and practical method for dealing with severe escalation and impasses without using coercion, originally developed for parents by Omer (2004). Inspired by the ideas of Haim Omer, the NVR method was later adapted for use in residential settings by staff of a Dutch residential psychiatric institution (Van Gink, Van der Stegen, Goddard, & Ottenbros, 2012). They expected that the NVR principles and actions found to help parents to escape the negative spiral they were in and diminish their feelings of helplessness (Weinblatt & Omer, 2008) may be helpful for
residential staff as well. With the growing interest of other residential psychiatric institutions to use NVR, and the growing awareness that seclusion and restraint have to be decreased in residential youth care, research on usability/adaptability, implementation and effectiveness was needed for institutions to make a thoughtful decision to adopt this new approach. Therefore, the aim of this thesis was to study the adaptation, implementation and effectiveness of NVR for residential child and adolescent settings. The main purpose was threefold:

1. Describing the adaptation of NVR for residential settings,
2. Studying the implementation process in terms of facilitating and hampering factors, finding a way to assess NVR implementation fidelity and,
3. Examining the effect of NVR implementation on work climate, living group climate, aggression and seclusion and restraint in residential child and adolescent settings.

However, such a research endeavour is challenging in residential settings, for example because of enormous variety in treatment content, the multitude and high turn-over of staff members, the heterogeneity of populations, as well as the severity, multitude, and complexity of problems (Knorth et al., 2008). Because of the difficulties in performing research in this complex setting and to better understand the interplay between the residential context and NVR, a mixed method approach was used, including both retrospective and prospective studies, using existing data from before the start of our study in 2014 as well as data gathered between 2014 and 2017.

In this final chapter the main findings are summarized and discussed. Furthermore, strengths and limitations are presented, followed by practical implications for residential settings and suggestions for future research.

**SUMMARY OF KEY FINDINGS**

In chapter 2, the adaptation of NVR for child and adolescent residential settings was described. Possible hampering and facilitating elements of implementing NVR across four different institutions that implemented NVR between 2007 and 2014 were reported. These elements were based on a retrospective analyses of steering
group minutes, supervision minutes and reports about implementation making use of four stages of implementation (exploration, installation, initial implementation and full implementation) described by the National Implementation Research Network (https://nirn.fpg.unc.edu/learn-implementation/implementation-stages). Finally, seclusion and restraint rates before and after implementation were presented.

Four main adaptations of the NVR were realized for use in residential settings. First, an adaptation to facilitate intra team communication (e.g. NVR action whiteboard). Second an adaptation to increasing parental presence (e.g. abolishing fixed visiting hours). Third, to increase transparency within the ward, a special NVR group moment was created, in which unacceptable behaviour and solutions are mentioned openly in front of all children/adolescents. Fourth, two new interventions (the Reparation act and the Request for a solution) were added to help staff shift their attitude towards cooperation and leaving responsibility with the child instead of imposing their own solutions.

Results of the retrospective analyses of supervision and implementation minutes suggested some general elements to facilitate implementation of interventions in residential settings, such as assessing needs on all organizational levels, deciding on one goal, setting up a collaborative implementation team, appointing project champions (respected staff members available to support staff through the change process) and providing stability. In addition, some elements facilitating implementation of the multi-level intervention NVR in specific were identified:

- Awareness that NVR is not a quick fix; it requires a considerable amount of time and financial investment to support successful implementation (exploration stage).
- A change in culture and outlook on mechanisms of change is required as well as a plan providing an organization-wide perspective instead of focusing on one professional group e.g. residential workers for this change in culture (program installation stage).
- Influential team members committed to NVR are likely to help in decreasing the considerable risk of relapsing into more familiar patterns of thinking
Summary and General Discussion

and acting e.g. a focus on the child instead of focus on the team (initial implementation stage).

- Finally, installing internal trainers who have experience working on a ward is recommended to provide annual refresher courses, train new staff members, coaching and consultation (full implementation stage).

Seclusion and restraint figures pre-post showed a decrease after the implementation of the adapted version of NVR in most institutions, which indicated that NVR may be effective in decreasing seclusion and restraint. However, further research with a larger sample size and a control condition is needed to allow for drawing conclusions about the effectiveness of NVR in reducing seclusion and restraint in residential youth care.

In chapter 3 perceptions from NVR trained staff members about potential benefits, active ingredients, implementation and consolidation, were explored in a qualitative design with semi-structured interviews. NVR trained staff members from three Dutch sites for residential care, each providing a different category of child and adolescent residential care (residential psychiatric care, residential youth care and secure residential youth care) were interviewed about their experiences. In general, staff members felt NVR was beneficial in their work and increased peace of mind, when confronted with aggression and other forms of unacceptable behaviour. They benefited from the fact that NVR creates time; time to think about potential ways of responding, time to reflect at their own way of working more critically, and time to investigate their role in escalation processes more frequently. As for the active ingredients of NVR, staff members mentioned the focus on being one team, the believe that they can only control themselves, delaying their response, and getting support from colleagues. Staff members felt more certain and comfortable using the de-escalation aspects and milder NVR tools to resist unacceptable behaviour rather than the more intense tools, such as the Sit-in. To facilitate implementation, staff members indicated that making small steps and not focusing on using NVR exclusively and thereby neglecting the things that have worked for them before, was important. They felt more attention on how to combine already used methods with NVR is necessary. Staff members emphasized that implementing NVR was severely affected by instability of staff composition within the team and/or the institution, because NVR was seen as a true team process. Support from colleagues
is essential to persevere, due to the sometimes counterintuitive nature of NVR. Staff members therefore stipulated the need to train all staff members involved with the care of the child (not only the group workers) as essential. Support is also created by appointing initiators who mention and remind their colleagues about the NVR way of thinking, attitude and interventions. In the case of consolidation and maintenance of NVR, staff reported training for new staff members was essential, to assure the NVR way of working in case of staff turnover. To help bring the learned NVR skills into practice, staff members have to talk about and practice NVR on a regular basis and have to be able to always consult someone and sometimes to even have someone working alongside them to coach them on the job.

In chapter 4, the influence of the adapted version of NVR on work climate, living group climate and on aggression in child and adolescent residential care was examined. Residential staff members, from the same sites as described in chapter 3, were asked about the work climate seven times, every three months. Children staying at the residential wards at the participating sites were asked about the living group climate seven times, every three months as well. In addition, the average number of aggressive incidents before and after NVR implementation was compared. For this study we chose to report aggressive incidents instead of seclusion and restraint figures, because the youth care institution did not use seclusion and restraint and the institution that provided secure youth care could not provide reliable figures on the number of seclusion and restraint measures due to a change in the registration system. Research shows that aggressive behaviour is one of the main reasons to use seclusion and restraint measures (Paavola & Tiihonen, 2010; Raboch et al., 2010) so reducing aggressive incidents could be a valid indicator for a reduction of seclusion and restraint as well as being a worthwhile cause in itself.

In contrast to what was expected, no overall effects on work climate were found (multilevel analysis). Only one of the three participating sites showed small to medium positive effects on the following elements of work climate: team functioning, satisfaction, engagement, having a shared vision and on commitment. Possibly, differences in the degree of successful implementation (stability in staff composition and the level of readiness to change) account for these inconsistent
findings, since positive change only occurred at the most stable implementation site.

Living group climate only changed at one site during and after NVR implementation as well, but not in the expected direction. Closed group climate (characterized by a negative atmosphere, distrust, random rules, and lack of mutual respect) seemed to increase and open climate (supportive, structured, respectful and empowering) decreased. Since these changes were only found at the most unstable implementation site, the contradictory results could be an indication of the influence of the highly unstable situation during reorganization on perceived living group climate.

Aggressive incidents were low before and remained low after NVR implementation at all sites.

These findings only provide limited evidence that the implementation of NVR has a positive influence on work climate in residential settings. These positive results seem to depend on a certain degree of stability and successful implementation. The absence of expected profound results, seem to stress the impact of contextual factors (major cutbacks, reorganization, degree of successful implementation, readiness for change) on intervention success, work climate and living group climate.

In chapter 5 we described the development and validation of the first version of an instrument to assess implementation fidelity of NVR, the Reaction to Unacceptable Behaviour – Inventory (RUBI-NL). Due to the possible major influence of the ever-changing context of residential youth care and the complexity of the methodology itself as found in the previous studies, it did not seem sufficient to assess whether employees had received NVR training, but also to assess whether or not they have been able to incorporate NVR. However, no instrument was available for this assessment. The RUBI-NL was constructed during expert meetings and content validity was evaluated by experts who had not contributed to the development of the instrument. Based on their evaluation, it was concluded that the 16-item instrument seemed to have good content validity and that it could differentiate between NVR and other methods. Furthermore, we asked 129 staff members to complete the RUBI-NL, to assess and refine construct validity by using
confirmatory factor analysis. After deletion of one item, the results indicated the two-factor model with the subscales Mindset and Behaviour as the best model. The one-factor model met the criteria for acceptance as well. Additionally, the RUBI-NL seemed reliable and valid based on the high correlations between the items and the moderate to good internal consistency for the one-factor and two-factor models, after the removal of one item. The five-factor model (with the different NVR aspects) seemed less reliable with regard to its internal consistency. Lastly, the RUBI-NL appeared to discriminate between NVR-trained staff and non-trained staff, in case of total NVR score, and Mindset and Behaviour. This discrimination was seen between non-trained staff and staff with 9 months of NVR training. Staff with 9 months of NVR training scored significantly higher than non-trained staff. A possible explanation for the fact that there was almost no difference between non-trained staff and staff members with 6 months of NVR training could be that this method is more than a change in ways but aims at a change in culture, what could possibly take more time than 6 months of training.

GENERAL DISCUSSION

To help residential youth and residential mental health care institutions in their task to reduce seclusion and restraint, this thesis combines quantitative and qualitative research data concerning a promising method: Non-violence Resistance (NVR). In our opinion these studies are a first step in the accumulation of evidence for the effectiveness of NVR in the ever changing context of residential settings. To aid institutions in making a thoughtful decision whether to adopt this new approach, our studies focused on increasing insight into the 1) usability/adaptability (perceived value, active ingredients and fit with other used methods), 2) implementation and 3) effectiveness of NVR in residential settings, resulting in the following main results:

USABILITY/ADAPTABILITY

- The extent to which NVR is usable in the residential setting seems to depend to a large extent on the degree of stability in staff and organization within the institutions. Reorganization and low staff stability showed major barriers to successful implementation, because NVR is a true team process (“you need a village to raise a child”) and needs a certain amount of team cohesion
• Staff members have the tendency to use the de-escalation aspects and milder NVR tools, rather than the more intense tools, for example the *Sit-in*.

• Staff members in our qualitative study reported that combining the already used methods with NVR can be challenging. They indicate that there is a risk of getting confused when this is not properly addressed in training.

**IMPLEMENTATION**

• For successful NVR implementation, the first stage of implementation (the exploration stage,) in particular, should require much more attention. In this first stage of implementation, management must pay attention to the outer and inner context (eventual policy changes and reorganization in the foreseeable future, resource availability, and investigate which tasks are required).

**EFFECTIVITY**

• Our results on effectiveness are not straightforward. Staff members in our qualitative study (chapter 3), reported that when implemented successful, NVR was beneficial in their work and strengthened peace of mind, when confronted with aggression and other forms of unacceptable behaviour. In our study on the influence of the adapted NVR on work climate in residential settings (chapter 4) however, multilevel analysis showed significant positive effects on work climate at only one of the three participating sites.

In the following paragraphs these main findings will be discussed in relation to the central aim of this thesis to find out whether NVR could be helpful for residential staff members to help escape the negative spiral they sometimes enter with a child and diminish feelings of helplessness, without using coercion (seclusion and restraint). However, before doing so, it is important to emphasize that conducting research in this setting comes with considerable methodological challenges. Outcome studies for complex interventions in residential care settings are rarely randomized controlled trials, the so called ‘gold standard’ (Bettmann & Jasperson, 2009; Hair, 2005; Lee, Bright, Svoboda, Fakunmoju, & Barth, 2011). NVR is a basic intervention/first degree approach concerning the whole group.
instead of the individual child and is often used every day (Knorth, 2002; Kok, 1991; Scholte & Van Der Ploeg, 2000), which does not allow randomization at an individual level. Randomization on group level is difficult as well, as the number of residential settings is relatively small and diverse. Furthermore, employees in the same institution often work on several groups, because they substitute for colleagues from other teams. Because of the vast variety in treatment content, severity and complexity of problems between groups, group randomization would not allow to study the unique effect of one intervention. Although difficult, conducting effect studies in residential settings is not impossible. A viable option is to shift to a more cumulative view on gathering evidence for effectiveness (realist evaluation approach) recognizing the merits of quasi-experimental studies and qualitative studies that will help develop theory building and adaptability to the ever changing context of residential youth care (Duncan et al., 2018; Knorth et al., 2008; Pawson & Tilley, 1997; Redfern et al., 2003; Veerman & van Yperen, 2007). In our quantitative study for example, we chose to use a quasi-experimental stepped wedge design, because this design allows to control for time as well as between and within differences when all unexposed observations are compared with the exposed observations (data from all sights together). Due to differences between the various sites (with respect to patients, culture, atmosphere, and implementation trajectories) and the possible impact on NVR implementation and effectiveness, we considered it necessary to also examine the sites separately, losing out on the benefits of the stepped wedge design mentioned above, but in our opinion gaining in terms of meaningfulness. Moreover, we included a qualitative study to increase our understanding of the effects of NVR by collecting data from NVR trained staff members.

**USABILITY AND PERCEIVED VALUE OF NVR IN THE RESIDENTIAL SETTING**

The extent to which NVR is usable in the residential setting seems to depend to a large extent on the degree of stability. When there is much turmoil (due to reorganization and major policy changes) staff members need all their energy to ‘survive’. During our study, major policy changes nationwide in the domain of youth care resulted in cutbacks and reorganization at two of our study sites. Reorganization and low staff stability showed to be major barriers to successful implementation. These findings are in line with other research on implementation of interventions
in residential youth care (James et al., 2017). Furthermore, staff members in our qualitative study about active ingredients stated that implementing NVR was even more vulnerable to instability and staff turnover than other interventions, since NVR is a true team process (‘you need a village to raise a child’) and needs a certain amount of team cohesion to create the ‘We feeling’ that is central to NVR.

They did however report that when implemented successful, NVR was beneficial in their work and created more peace of mind, when confronted with aggression and other forms of unacceptable behaviour. They benefited from the fact that NVR creates time, time to think about potential ways of responding, time to reflect at their own way of working more critically, and time to investigate their role in escalation processes more frequently.

NVR is a complex method, that is not based on strict protocols. These methods can be challenging to disseminate to other locations. Knowing the active ingredients will help decide which elements of the intervention should receive emphasis in training and in monitoring fidelity when implemented in other locations. When asked, staff members indicated that the focus on being one team, the believe that they can only control themselves, delaying their response, and getting support from colleagues, are active ingredients of the NVR method. They feel more at ease using the de-escalation aspects and milder NVR tools to resist unacceptable behaviour such as the Reparation act and the Request for a solution, rather than the more intense tools, for example the Sit-in. Hesitation or maybe reluctance to use the most intensive intervention to resist, the Sit-in, was also found in the study of Van Holen, Vanderfaeillie, and Vanschoonlandt (2013) on NVR for foster parents and in the study of Ollefs (2008) comparing NVR with Triple P. Both studies, found positive effects of NVR on parental stress, without the use of the Sit-in, raising questions about the need to teach and monitor the use of this intervention. Further detailed process-outcome studies could provide answers as to whether the Sit-in is essential in creating positive effects of NVR. When the Sit-in is found to be an active ingredient, qualitative research could be conducted to determine how the execution of the Sit-in can be made more feasible for the residential setting.

Besides knowledge about what elements are required to be effective to decide on a method’s usability, it is important to find out if NVR is compatible with the current
interventions and/or methods used in a residential setting. Already used methods could have an enhancing or diminishing effect on implementation and outcome of NVR. Usually, professionals in residential care use multiple methods alongside each other, some methods are used for all clients, some are used to treat one specific problem of one or more clients (Knorth, 2005; Kok, 1991). Staff members in our qualitative study reported that combining the already used methods with NVR can be challenging. They indicate that there is a risk of getting confused when this is not properly addressed in training. The extent of this confusion seems to depend on the nature of the methods used before. Staff indicate that the mindset of NVR fits the solution focused way of working (James, Alemi, & Zepeda, 2013). This could be because both methods do not impose a specific behavioural change, and do not try to control the child’s behaviour. Instead, the child is asked to think for itself about a solution, demonstrating confidence that the child is able to think of alternatives. Research on the quality of residential youth care also indicates the importance of regarding children as active stakeholders, promoting personal responsibility and equality of communication (Boendermaker, van Rooijen, Berg, & Bartelink, 2013; Van der Helm, Klapwijk, Stams, & Van der Laan, 2009). As such, NVR could be a useful addition to other promising ways that regard children as active stakeholders, such as ‘shared decision making’ (Ten Brummelaar, Harder, Kalverboer, Post, & Knorth, 2018).

IMPLEMENTATION

Implementation theories teach us that improving quality of healthcare is equally dependent on the quality of novel interventions as on the implementation strategies chosen to implement them (Fixsen et al., 2009). The inconsistent results on work and living group climate (chapter 4) seem to reflect the importance of assessing readiness for change. Multi-level interventions such as NVR require substantial adaptation in the whole organizational infrastructure and sometimes a different outlook on mechanisms of change. These organizational changes take time and effort. Instead of forging ahead, without guidance of specific theory, an organization should have an understanding about their readiness for change. For successful NVR implementation, when looking at the four stages of implementation (exploration, installation, initial implementation and full implementation) described by the National Implementation Research Network (https://nirn.fpg.unc.edu/
learn implementation/implementation stages), the first stage of implementation (the exploration stage,) in particular, requires much more attention. In this first stage of implementation, management must pay attention to the outer and inner context (eventual policy changes and reorganization in the foreseeable future, resource availability, and investigate which tasks are required). Furthermore, need assessment of the different teams, compatibility with the current interventions and/or methods used, believe in the intervention, and value of the planned change are important to assess beforehand. This information can be used to develop an implementation plan fit for a specific setting and context, to prevent a false start. The implementation process is a complex adaptive system in which interaction between factors may lead to turbulence and other unanticipated effects. An NVR Implementation plan (including consolidation and maintenance), therefore needs actions to establish as much predictability and stability as possible and should be made before starting NVR training.

EFFECTIVENESS

Our results on effectiveness are not straightforward. Staff members in our qualitative study (chapter 3) reported that when implemented successful, NVR was beneficial in their work and strengthened peace of mind, when confronted with aggression and other forms of unacceptable behaviour. In our study on the influence of the adapted NVR on work climate in residential settings (chapter 4) however, multilevel analysis showed significant positive effects on work climate at only one of the three participating sites. There are several possible explanations for this inconsistency.

First, our study was the first to investigate the NVR adaptation for use in residential settings. As a consequence, no standards for outcome measures were available. A possible explanation for the inconsistent results could be that the outcome measures we have chosen were not the most suitable. To assess effect on staff members wellbeing for instance, we chose to use the Living Group Work Climate Inventory as an outcome measure because it assesses aspects that could be theoretically linked to NVR. NVR for residential settings aims at improving staff members wellbeing by decreasing power struggles, decrease perceived workload by improving team functioning and developing an organizational or team wide
vision and act accordingly. The modest positive findings regarding work climate may be caused by the fact that the questionnaire was too general. The questions refer to a wide range of work climate aspects, many of which do not directly relate to the management of troublesome behaviour of the children. Cutbacks during the implementation period at one site, causing the closing of five out of nine wards, resulting in changes of staff within teams, patients and target groups possibly influenced perceived work climate independent of NVR implementation in a negative way. This assumption is supported by the findings of our qualitative study, in which staff members did report that they benefited from NVR. NVR created more peace of mind, and less experienced feelings of powerlessness, embarrassment and frustration. Furthermore they felt NVR helped to prevent situations getting out of control. The observed decrease in seclusion and restraint figures in our first study also point in that direction. Research on the effectiveness of NVR in the (foster) family setting on family stress, used questionnaires with items focussing on stress directly related to the upbringing of their kids (Van Holen, Vanderfaeille, Omer, & Vanschoonlandt, 2018; Weinblatt & Omer, 2008). Outcome measures focusing more on staff’s perception and stress related to the interaction between residential staff and the children, might help in decreasing the possible distortion caused by contextual factors, such as reorganization, cutbacks and high turnover.

Second, assessing living group climate was a first attempt to incorporate the child’s experience. In the effect studies of NVR in the family setting, child behaviour was assessed. Children were however not asked about their perception of their family interaction or atmosphere at home to increase understanding about the mechanisms that eventually create change in child behaviour. To find out if NVR implementation influenced the child’s perception of the atmosphere at their living group, we chose to measure living group climate. We expected living group climate to improve (increased open group climate and decreased closed group climate). Living group climate only changed at one site and not in the expected direction. Living group climate was more repressive (closed) and less open after NVR implementation. A possible explanation could be instability caused by cutbacks during the implementation period at this site distorted the potential effects of NVR. These cutbacks led to the closing of five out of nine wards, resulting in changed teams, patients and target groups. The importance of staff stability (maximising the number of familiar faces) has been reaffirmed by recent recommendation for improving the quality of
residential youth care (Jeugdzorg Nederland, 2018). Another possible explanation for these results could be that positive change in experienced group climate takes longer than the duration of our study. Interpretation of the living group climate results were furthermore hindered by the fact that our sample was small, length of stay for patients was far shorter than the duration of this study and children entered our study at different time points. Research on children who just entered residential care showed that those children show oppositional problems, are moderately motivated and often unaware of their own role in their problems, and furthermore felt they had too little choices and influence (Englebrecht, Peterson, Scherer, & Naccarato, 2008). These children, might experience their ‘new’ living environment quite differently, or have different motives when completing the questionnaires about living group climate, from children who have been staying in residential care for a longer time. The moment of administering the living group climate questionnaire (in the beginning or at the end of residential treatment), could thus have affected the results. Finally according to Van der Helm et al. (2013) a closed climate is characterized by staff members being either too repressive or too flexible. Most children in residential youth care are accustomed to punishment as a way of staff members regaining control (de Valk et al., 2016). In NVR training, staff members learn alternatives to punishment and fixed consequences. The absence of the expected reduction on the closed group climate could possibly be explained by feelings of insecurity and the perception that staff members are too flexible, lacking the clear consequences and structure they were accustomed to. Furthermore, children are asked to come up with solutions for an unacceptable situation themselves, which most children are not accustomed to. Qualitative research among children in a residential setting after NVR implementation could provide a better insight into the underlying processes.

Third, in effect studies of NVR on aggressive behaviour in a (foster) family setting, changes in individual scores on behavioural problems before and after NVR implementation were compared with the change of these problems in the control condition (Van Holen et al., 2018; Weinblatt & Omer, 2008). In a family or foster family the same child remains within the family for the whole implementation period. In residential settings children come and go, some were there at the beginning of the implementation but left before the implementation period was over, others started when implementation was almost at its end, making
comparisons on problem behaviour on an individual level impossible. Therefore, in our study we were only able to measure the amount of aggressive incidents and seclusion and restraint measures on implementation site level as an outcome measure. The numbers of aggressive incidents were not easy to interpret, because they were already very low before implementation or could not be compared due to the reorganization, closure of wards during our study or changes in registration systems. As a consequence assessing change was impossible.

Finally, differences in the degree of successful implementation at the different sites could also account for the inconsistent findings. Due to the initial absence of a fidelity measure to assess the degree to which NVR was delivered as intended (was successfully implemented), conclusions about the association between NVR and outcome is hampered. According to trained residential staff members in our qualitative study, a change in thinking about and coping with unacceptable behaviour (we instead of I, the believe that they can only control themselves and not the other) is required for NVR to be effective. The fact that NVR is not a protocol based intervention, makes assessing NVR fidelity a challenge. The development of the Reaction to Unacceptable Behaviour Inventory (RUBI) is a first step in fidelity assessment, however, in our opinion it will need to be supplemented with qualitative research to better understand the degree of successful implementation of NVR in daily practise.

**STRENGTHS AND LIMITATIONS**

To our knowledge, the studies described in this thesis are the first to describe and investigate the NVR adapted for residential settings. By describing the adaptation, implementation experiences and evaluation we have taken the first step in the accumulation of evidence for NVR in this setting. Another strength is that it was conducted in the complex setting of residential (psychiatric) youth care, in which effect studies are scarce due to the often complicated interplay between different methods in these settings. Instead of eliminating this complex interplay and contextual factors, we chose to do this research in the practice into which an intervention must be practicable eventually, thereby collecting data with high ecological validity. Finally, this is the first study to incorporate child experience or perception.
Summary and General Discussion

Notwithstanding these strengths, in order to interpret the results of this thesis, some limitations with regard to the study design and methods should be taken into account. First, the data in our study on possible hampering and facilitating elements were gathered retrospectively and not originally collected to support implementation and effectivity research. Results therefore have to be considered exploratory and intended to be a first step and basis for future research. Second, due to the large-scale reorganization at one of the participating sites, and nationwide changes in youth care policy, it is difficult to determine the exact effect of NVR implementation on work climate, living group climate and aggression. Changes in teams, patients and target groups could have effected work climate and living group climate independent of NVR implementation. Third, the comparison of living group climate scores were complicated, due to differences in patient characteristics and treatment motivation. Interpretation of the living group climate results was hindered by the fact that length of stay for patients was far shorter than the duration of this study. As a result, the composition of the patient groups differed between the various implementation stages. We were able to correct for some child and staff characteristics (age, IQ, gender, behavioural problems) at each ward at each implementation stage. Although these comparison of staff and patient characteristics between implementation periods showed no differences, future research would do well to correct for differences in treatment motivation as well. Finally, in our effect study we were unable to systematically assess the extent to which NVR was successfully implemented. Due to the fact that NVR is not a strictly protocolled method, it proved to be hard to differentiate between NVR and other ways to handle troublesome behaviour. Although the RUBI showed acceptable reliability and validity, it should be seen as a first step in finding a way to assess NVR implementation fidelity.

PRACTICAL IMPLICATIONS

The results from this thesis help bring to light the possible value of NVR as a method to help residential staff members escape the negative spiral they sometimes enter with a child and diminish feelings of helplessness, without using coercion (seclusion and restraint). Furthermore, these results could be used to further develop the method and ways to systematically implement and monitor NVR fidelity, because quality improvement cannot happen without constant measurement and eval-
Implementation is an interplay of looking ahead, executing and looking back (Stals, 2012). The active ingredients that were mentioned provide input and guidelines to improve training design. To find out if the Sit-in is an active ingredient for (residential) NVR, trainers have to find ways to support staff members using the Sit-in and collect and analyse their experiences. This could be done by increasing the amount of practice during training sessions or during coaching on the job and by thinking about different and efficient ways to organize support needed.

Staff furthermore felt that more attention is necessary to combine already used methods with NVR. Thoughts as to how to prevent this confusion when combining methods that focus on addressing aggressive behaviour are: making sure the same terms and language is being used, provide time for contemplating about how the already used interventions can support NVR and vice versa, and think carefully about the way NVR is introduced. Not as the new and only solution, but as an extra tool, that you can use in situations when the prevailing methods aren’t sufficient. Therefore, in the future, it would be well-advised to assess in what way NVR is consistent with or deviates from the vision and the methods already used. At present, standards for interpreting RUBI scale scores are not developed yet. When those standards are developed, management could ask teams to complete the RUBI, to assess compatibility with NVR.

This research shows NVR could be a valuable method for residential settings, because staff members experience more peace of mind when confronted with aggression and other forms of unacceptable behaviour. Furthermore, positive effects on team functioning, satisfaction, engagement and having a shared vision were found and seclusion and restraint figures pre-post showed a decrease after the implementation of the adapted version of NVR. However, our results also underscore that instead of forging ahead and organize NVR training, a considerable amount of time has to be spent on assessing the match between the needs of the organization and staff members and the fit with the present culture. In addition, stability of the organization is a crucial factor in the implementation process.
RECOMMENDATIONS FOR FUTURE RESEARCH

The studies presented in this thesis should be seen as first steps in understanding the effect of NVR in residential settings. To increase understanding and improve conclusive power, further longitudinal mixed method research to detect possible effect patterns over time needs to go side by side with process evaluation. Starting with measuring readiness for change, assessing the degree of compatibility with the NVR way of thinking and doing (RUBI) and assessing stability in the foreseeable future is important. An implementation plan based on this information, with actions to establish as much predictability and stability as possible, can then be systematically monitored. Furthermore measuring NVR fidelity during the implementation and the effect of external factors, such as staff turnover and constant policy changes, should be included in future effect studies. Next to measuring the amount of aggressive incidents and seclusion and restraint measures on implementation site level, individual changes in aggressive behaviour could be studied in long-stay institutions or measured over longer intervals while continuously assessing group climate. Finally, qualitative research to assess staff members and child perceptions and experience with NVR would benefit understanding and could eventually help to find more fitting and sensitive outcome measures.

CONCLUSION

This thesis shows that NVR could be a valuable addition to other methods improving work climate and living group climate in (secure) residential (psychiatric) youth care settings, in which the use of seclusion and restraint should be reduced, or even banned, as strived for by the Dutch minister of public health (Jeugdzorg Nederland, 2019).

However it is certainly not easy, as successful adaptability, implementation and effectivity seems to depend on multiple factors of which a certain degree of stability within the team and the institution as a whole is maybe one of the most important factors. In order to increase the chances of successful implementation and positive effects, efforts have to be made to create more stability, both on institutional level and on a larger scale on national policy-making level.