

› BRING IT ON!

STRENGTHEN CHILDREN'S
RESILIENCE FOR A SAFE,
HEALTHY AND PROMISING
FUTURE

TNO innovation
for life

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› BRING IT ON!

A resilient child can find his or her way better in society, and in adult life. Resilience has great advantages both for the child, who can get his or her life on track better, and for society. Resilient children suffer fewer harmful effects of the setbacks that they encounter, such as physical and mental problems, fears, negative self-image or inappropriate behaviour. Catching and solving these problems at a later age can be complicated, as the problems in the youth care system show. TNO is therefore collaborating on the development and implementation of evidence-based intervention programmes to increase the resilience of children of all ages. This white paper sets out the aspects that are essential to the successful development and implementation of interventions of this kind.

WHAT IS RESILIENCE?

What is resilience? Resilience is a complex concept that can be defined as “the ability to deal with the demands of society, make independent choices and deal with setbacks”.¹

This definition combines three concepts:

- assertiveness – the ability to effectively verbalise one’s own wishes, thoughts and feelings to other people, to stand up for oneself;
- self-confidence – making independent choices, self-esteem; and
- adaptability – the ability to deal with situations.

These three aspects of resilience are particularly important at times when a person is faced with challenges in his or her life.^{2,3}



RESILIENCE AS A PROTECTIVE FACTOR FOR SAFE, HEALTHY AND PROMISING DEVELOPMENT

During their lives almost everyone, young or old, finds themselves in a situation that places demands on his or her resilience: in the case of youth e.g. family poverty, parental divorce, school bullying, illness of a family member or other traumatic childhood experiences.⁴ Situations of this kind, on average, have adverse effects on children's functioning, development and well-being. Children who are bullied, for instance, tend to have more psychosomatic problems, anxiety, depression and problems at school.^{5,6} Children of divorced parents perform less well at school, display more behavioural problems, score lower on social-emotional scales, and are over-represented in the youth support system compared with children growing up in intact families.⁷ The impact of traumatic childhood experiences can continue into adulthood. American research into ACEs (Adverse Childhood Experiences) shows strong links between these events in childhood and physical and mental disorders such as cardiovascular disease, overweight, depression and addiction decades later.^{8,9}

Research shows that resilience acts as a significant buffer against risks and that resilient children are better able to deal with traumatic events and challenges. We know, for example, that positive self-perception on the part of children is associated with good functioning at school, better social-emotional functioning and higher well-being.¹⁰ Effective problem-solving skills,^{11,12} positive emotions and greater self-regulation¹³ help to prevent problems following divorce, for instance. Children who have at least one important person in their social network supporting them suffer less from adverse effects when they are bullied.^{14,15}

Thus resilience can be regarded as an important protective factor for safe, healthy and promising development. Efforts by e.g. families, school, preventive child healthcare, welfare and other professional organizations to strengthen resilience at an early age can prevent more serious and more complex problems in later youth or adulthood.

Programmes to increase resilience comprise effective elements that are geared to the practical situation and have been adapted to the particular target group.

› STRENGTHENING RESILIENCE – THROUGH INTERVENTIONS

Everyone develops a certain degree of resilience while growing up and interacting with other people and the environment. Personality, parenting and experiences of success can make a major contribution to this. But by no means all children manage with the help of adults around them to develop their resilience to the point where they can cope effectively with the problems or situations that they encounter. These children in particular and their parents need additional support. Resilience-strengthening support facilities can be employed here. Interventions in early childhood mainly focus directly on the caregivers. A secure attachment relationship with the parents (the child-rearers) is vital here to provide a basis for the development of good social-emotional skills.¹⁶ In the case of older children the interventions often target them more directly: these can be collective or universal teaching programmes or training courses at school, e.g. to strengthen self-confidence or social skills or prevent bullying.¹⁷ Another example is selective intervention programmes or medically indicated support provided by the preventive child healthcare, welfare, and youthcare aimed at strengthening the resilience of specific groups, such as children with limited self-confidence or those who have gone through their parents' divorce. TNO is collaborating on the development and implementation of evidence-based intervention programmes that have proven effective to increase the resilience of children of all ages, across the board and selectively, and that are geared to the needs of 'intermediate users' (i.e. the professionals providing the interventions, e.g. teachers, school social workers and coaches) and 'end users' (youth and parents) as found in practice.

'Children increase their resilience when they develop the skills to deal with difficult situations. Gaining positive experiences and having positive expectations also ensure that a child is able to adopt a more resilient attitude', Harvard¹⁸



› **STRENGTHENING RESILIENCE – BASED ON EVIDENCE**

Unfortunately, by no means all resilience-strengthening intervention programmes are properly underpinned by theory and empirical findings. As a result, there is only limited information on the effectiveness and efficiency of these interventions in increasing children's resilience and thus preventing problems – which is what it's all about. Also, many programmes do not manage to achieve the right kind of implementation in practice: it can be incomplete, for example, or not as prescribed. To avoid wasting time and money and have a real effect on children's resilience it is vital for a programme to be made up of components that have proven effective. A programme must also be geared, in collaboration with the professionals, to the place where it is ultimately going to be used and must meet the needs of the children for whom it is intended (e.g. in terms of age or background). Only then do we have programmes that work and that will be used. Research has shown that the following three aspects are important here.

1. USE TECHNIQUES AND ELEMENTS THAT HAVE PROVEN EFFECTIVE

It is important to use techniques and elements that have proven effective. But which ones are they? In the case of some techniques we already have a good knowledge of where they can be used effectively. TNO is collaborating on developing a tool for professionals working with children and families which can help professionals to select the right interventions and techniques and use them appropriately to deal with the specific problems.

It is not enough just to use the right, effective technique, however: an intervention comprises not only techniques but also contextual and structural elements. As regards structure, it may be important for a sufficient quantity of a particular technique to be used (for example four training sessions) in order to be effective. As regards context, the situation in which the intervention is being implemented needs to be considered: for example in a whole school class, or conversely with a selected group of children separately. These contextual and structural aspects will be specific to a particular situation and therefore need to be regarded as an element in the effectiveness of the intervention; in other words, they cannot be changed without risk. It is important, therefore, for not only the effective content but also the contextual and structural elements of an intervention programme (how the intervention should be implemented and in what way) to be developed and evaluated carefully.

SOCIAL SKILLS RESEARCH PROGRAMME

TNO has been managing a major medium-term research programme designed to strengthen social skills and resilience. The results will be disseminated nationally in the coming months and incorporated in practical and training tools for the professionals to enable them to identify and use the most effective interventions for a problem situation involving particular children.

Some of the results of this project to identify elements that have proven effective:

- Overcoming fears through gradual exposure, i.e. gradually placing children in situations that they are scared of for increasingly longer periods and more and more intensively. This method, which is commonly used to treat fears in adults effectively, is also effective in children. For example, shy children who are scared to speak up in class (who have 'speech anxiety') can be helped by practising steadily increasing amounts of speaking in social situations.
- Speech anxiety can also be reduced by turning negative thoughts into supportive thoughts by means of what is known as 'cognitive restructuring'. Derived from cognitive behavioural therapy, cognitive restructuring is particularly effective in helping children to discuss their feelings and reducing misapprehensions and unrealistic perceptions on their part.
- 'Practising the target behaviour' is a simple and effective way of teaching children social skills. It is important to practise the behaviours that are being learned sufficiently. Programmes using active methods where the children practise the target behaviour some eight to twelve times have greater impact.

2. DEVELOP PROGRAMMES GEARED TO THE PRACTICAL SITUATION

Another important aspect when developing evidence-based intervention programmes is ensuring that the interventions are geared to the practice of the intermediate users. Programmes that are geared to the wishes and needs of professionals are more likely to be used and will be used better than similar programmes that are not geared to those wishes and needs. Programmes therefore need to be developed in collaboration with the professionals (teachers, educationalists, social workers, etc.), who can use them to strengthen children's resilience. If the prerequisites for implementation are identified in collaboration with these intermediate users, they can be incorporated in the development of the intervention and e.g. the training of users, thus increasing the effective use of the interventions that have been developed. TNO has developed a tool known as 'MIDI' (Measuring Instrument for Determinants of Innovations) based on scientific knowledge of barriers to and facilitating factors for implementation.^{19,20} This enables all the aspects that are important to the effective implementation of an intervention to be identified.

3. ENSURE THAT CHILDREN ARE GIVEN THE RIGHT INTERVENTION

At least as important as gearing interventions to the needs of the intermediate users is gearing them to the needs and capabilities of the end-users, the children themselves. This is why gearing the programmes to the target group is another important element in evidence-based intervention programmes. Not all interventions work in the same way for all children. 'What works for whom?' is an important question here, i.e. gearing interventions to the various stages and levels of development. With young (preschool) children it is best to use shorter sessions and visual materials, unlike with older children, who have a longer attention span and more developed reading skills. More practical techniques such as practising skills can be used on pre-vocational secondary school pupils, for example, whereas more cognitive exercises may work better on pre-university school pupils. Interventions can sometimes be personalised: digital interventions in particular can be geared specifically to individuals so as to increase their effectiveness.²¹

As regards diversity too, it is important for interventions to be geared to the circumstances in which children are growing up. The backgrounds and circumstances of growing children and the ways in which parents and children deal with them differ widely: there may be biological, psychosocial, socioeconomic and cultural diversity, or combinations of these. An intervention or technique may work well on average, but how can we ensure that it is geared as closely as possible to the wishes and needs of a particular subgroup? It is important to study this point. TNO is examining, for example, whether the evidence-based group-oriented training course on 'centering pregnancy'²² is also appropriate to support pregnant Eritrean women. This has produced new insights. An understanding of the protective factors and risk factors for particular subgroups can suggest ways of gearing interventions to the target group.



› WORKING TOGETHER TOWARDS RESILIENCE INTERVENTIONS FOR CHILDREN THAT HAVE PROVEN EFFECTIVE

This white paper aims to draw attention to increasing children's resilience, as this can prevent a lot of problems in later life. From our point of view, programmes to increase resilience should comprise elements that have proven effective and are provided in the right way, that are geared to the practical situation in which they are being used, and that have been adapted to the particular group of children who are about to use them. Recent studies have already yielded so much knowledge that it is no longer acceptable to waste time, money and resources on interventions that have ultimately been found not to improve Dutch children's resilience.

TNO is working on strengthening the resilience of Dutch youth with a wide range of disciplines. This multidisciplinary approach, involving social psychologists, educationalists, development psychologists, youth health care physicians and midwives, provides a broad perspective on the problems and results in powerful solutions (see example Case Studies 1 and 2 below). This makes TNO a strong partner for advice on, the development of and research into programmes or programme components.

In developing countries, children often don't have access to interventions that enhance their resilience and mental health²³. Contributing factors are a lack of resources and trained professionals, poor mental health literacy and limiting access to evidence-based solutions. Poor mental health is a fundamental threat to the rights of the world's poorest and most vulnerable. TNO is committed to help improve children's resilience. With a combination of support, education and innovative tooling, TNO is transforming research into results in developing countries all over the world. From community based programs to support for professionals and counsellors, TNO aims to reach both the UN's Sustainable Development Goals, and other global initiatives for improved child health and well-being.

Will you work with us on the evidence-based strengthening of children's resilience? Together we can promote the healthy, safe and promising development of Dutch youth. If you are interested or would like more information on what we are doing in the area of resilient children, please contact us: Minne Fekkes, minne.fekkes@tno.nl, 06 34 05 65 95

Strengthening resilience at an early age can prevent problems in later youth or adulthood.

CASE STUDY 1: CHILDREN IN DIVORCE SITUATIONS CAN BE SUPPORTED BY INCREASING THEIR RESILIENCE

Every year an estimated 86,000 children in the Netherlands find out that their parents are going their separate ways. Divorce is a traumatic event for all concerned. Children often respond to the situation with anger, sadness and insecurity and are found on average to perform less well at school, display more behavioural problems and have lower scores on social-emotional scales. This situation places severe demands on the resilience of the children involved. Increasing their resilience can improve their well-being and limit or prevent problems due to divorce and separation.

In collaboration with professional partners, TNO has developed two effective group programmes – Tough Turtles and Courageous Dinosaurs – that teach young children how to deal with changes during and after divorce and strengthen their mental resilience.^{24,25} These take the three aspects discussed in this white paper into consideration, implementing them gradually:

- 1. The training courses are based on techniques and elements that have proven effective:** for example, techniques such as psychoeducation and cognitive restructuring derived from cognitive behavioural therapy are used to help children discuss their feelings and reduce misapprehensions and unrealistic perceptions on their part. Children learn problem-solving skills gradually; instead of teaching them what they ought to think, they learn how they can think about problems.
- 2. The training courses have been developed in a co-creation process in collaboration with professionals from the youth support and school social work systems:** the number of sessions, the materials, the activities in the courses and other facilitating factors and barriers to implementation are geared to the practical situation. The courses that train the new trainers are provided by TNO researchers along with expert professionals from the Kenniscentrum Kind en Scheiding (knowledge centre on children and divorce).
- 3. The training courses are geared to the children's level of development:** consideration is given, for instance, to the learning rate, the amount of repetition, the integration of physical exercises, visual materials and a short session length (45 minutes). The hand puppets Sam the Turtle and Rex the Dinosaur perform a central role in the training, for example.

These steps produce interventions that have been evaluated and found to be effective: research has shown that the children's well-being improved and their social-emotional problems decreased. Both interventions have been recognised as part of the Effective Youth Interventions databank and are carried out by trainers throughout the Netherlands.²⁶

Older children of divorced parents are more likely to seek information on the internet or support from a friend or buddy. Children also said they needed a practical book about divorce, so TNO has written an instructive workbook for them.²⁷

CASE STUDY 2: SCHOOL BULLYING CAN BE REDUCED SUBSTANTIALLY

Children need to be able to adopt a resilient attitude not only at home but also in other situations, e.g. at school. Group processes play an important role here. Children can find themselves in bullying situations, for example as victims, perpetrators, outsiders or defenders. Here in particular it is important for them to be able to adopt a resilient attitude so that they can help to reduce or prevent bullying situations. TNO is closely involved in [the development of anti-bullying policies for schools](#). In collaboration with Amsterdam University of Applied Sciences and the University of Amsterdam we spent a year talking to a large number of primary schools to find out what their wishes and needs are in terms of whole-school anti-bullying policies. This showed that schools want a series of lessons for all years, from 1 to 8, with not too many lessons per year. The lessons should focus on children acquiring skills to deal with bullying situations better so that they are less likely to become victims and more likely to act as defenders. Schools also want the lessons to focus on strengthening prosocial behaviour. Lastly, they need a monitoring system that shows which pupils are being bullied and which pupils are at risk. Using this information we have set to work to meet these various wishes and needs, taking the three important aspects of an effective, workable programme into consideration:

1. **We have compiled a teaching pack containing evidence-based, effective methods** that previous research has shown to be effective in changing children's behaviour.
2. **The teaching pack meets the needs of the professionals:** lessons focus both on bullying as a group process and on acquiring prosocial and resilience skills.
3. **It is also geared to the various age groups of the children:** a separate series of lessons has been devised for each year, from 1 to 8.

The result is the 'Prima' (excellent) anti-bullying policy. The Prima programme has been adopted as part of the Effective Youth Interventions databank and recently emerged from the national evaluation of anti-bullying programmes as one of the effective ones.²⁸ Key elements of the Prima intervention are a series of lessons for all years, an e-learning module and training course for all school staff, a monitoring system to identify bullying and at-risk pupils, and various protocols for dealing with difficult bullying situations.



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