Chapter 7

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KIDS: A Modification Approach in Stuttering Therapy for School Children

Abstract

In Germany, the modification approach '*KIDS*' is one of the most frequently applied methods in outpatient individual therapy for stuttering preschool and school children. As a child-oriented approach based on Van Riper's therapy (1971, 2006), it aims at the reduction of dysfunctional coping strategies and negative psychological reactions to stuttering. In addition, *KIDS* aims to improve quality of life and resilience. The child becomes able to help him/herself by modifying the moments of stuttering and to achieve a self-image as a competent speaker in a supportive environment, in which parents can act as disseminators of relevant information to other care takers. This chapter provides a background to the methodological process, presents the prerequisites necessary for *KIDS*, and describes the diagnostic process, the initial consultation, and the establishment of a triangular contract based on careful negotiations between all participants in the treatment. The presentation of the treatment phases is followed by a case study illustrating the variable adaptation of the methods in an individual case.

Key Terminology

Stuttering modification, school children, adaptation to individual cases, theory-driven procedures.

Introduction

"Children are allowed to stutter", abbreviated *KIDS* ('Kindern duerfen stottern' in German), is the provocative slogan from the therapy concept of Sandrieser and Schneider (2015), who have thus named an essential effective factor of their approach: non-avoidance. However, the sentence "Children are allowed to stutter" does not mean that children remain at the mercy of their stuttering. It must be supplemented: "...and they can learn to do it easily and without fear and thus become successful in communicating and socializing." When children adopt the attitude that stuttering is undesirable and even sanctioned in a society, they will evaluate stuttering symptoms as failures from which they try to escape as quickly as possible, and start to struggle with symptoms and develop avoidance behavior. They will try to avoid stuttering out of fear of the next symptom and the negative environmental reactions to it. The result is a loss of quality of life. If permission to stutter is conveyed, this negative vicious circle is counteracted, and inappropriate fears, along with the fighting and avoidance behavior, prove to be unnecessary. This also means informing all adults in the environment that children do not stutter on purpose and should not be punished for it, even with well-intentioned advice such as calming down. Hence, on the one hand, *KIDS* focuses on the emotional, cognitive and social aspects of stuttering in their respective environments. On the other hand, strategies for controlling stuttering events are taught, which is why *KIDS* is one of the approaches of stuttering modification (Natke & Kohmäscher, 2020).

KIDS is conceived in two different versions: *Mini-KIDS* (Sandrieser & Schneider, 2015, Waelkens, 2018) for children between 2 and 6 years of age, and *School-KIDS* for 7–12 years. In the following *KIDS* is described in general before focusing on *School-KIDS*.

In many respects, the situation of school children who stutter differs considerably from the situation of children of preschool age. For one thing, school-age children are confronted with linguistically diverse, as well as emotionally demanding, speech situations from the time they start school. Friends become increasingly important (Daniels, Gabel & Hughes, 2012), and children who stutter are more likely to be mocked and bullied than their fluent speaking peers (Erickson & Block, 2013). Furthermore, the probability of a permanent, unassisted reduction of stuttering symptoms (spontaneous remission) decreases considerably. While the remission rate for stuttering children under 10 years of age is around 75%, it is significantly lower for 8 to12 year-old children at 50% (DGPP, 2016). Thus, an effective stuttering therapy for children of primary school age is paramount to achieve a significant improvement in symptomatology and fewer negative consequences, by preventing speech anxiety at school.

In terms of therapeutic care, it has been shown that child-oriented stuttering modification therapies, like *KIDS*, are based on modification therapies designed for adults, while taking into consideration the special needs of elementary school children. According to study findings, self-efficacy and resilience take on special importance, as they significantly influence quality of life in the long term (Carter, Breen, Yaruss & Beilby, 2017; Plexico, Erath, Shores & Burrus, 2019). Overall, the number of clinical trials on efficacy and effectiveness for this age group is low, especially for stuttering modification therapies, and they mostly concern group treatment. Laiho and Klippi (2007) demonstrated quantitative as well as qualitative improvements in stuttering symptoms after intensive therapy for a group of 21 children between 6.8 and 14 years of age, which were maintained for 9 months after completion of therapy. Stuttering modification therapies may thus be effective for this age group, but the extent of effectiveness is currently unknown, and existing evidence cannot be readily extrapolated to other therapy formats.

History and background of *KIDS*

In Germany, stuttering modification for adults has been widely used for a long time, and early on, individual speech and language therapists transferred elements of stuttering modification to work with school children, although without publishing their experiences. In general, however, as in many other countries, there was great uncertainty about how best to help school-age children who stutter. Therefore, many speech and language therapists avoided stuttering therapy, and indirect or psychotherapeutic methods were used more frequently in treatments. Even when working directly on speech, there was often great reluctance to address the emotional aspects of stuttering. With the emergence of Dell's approach (1971, 2000; Dell & Starke, 2001; Schneider, 1999) and the development of *KIDS* (Sandrieser & Schneider, 2001, 2015) in the 1990s, the therapy landscape changed. Today, *KIDS* as a best-practice method is one of the most widely-used therapy concepts for stuttering school children in Germany. Accordingly, this chapter refers to the situation in Germany. To enable the reader to make the transfer to the conditions in his or her own country, the underlying German framework conditions are briefly described here: Treatment is possible only on medical prescription. As a rule, health insurance companies cover the costs. School children are mainly treated on an outpatient basis in private practices. This makes it more difficult to deal with the school situation, since speech therapy is not linked to schools. On the other hand, it is much easier to involve parents.[1]

[1] 'Parents' includes biological parents as well as legal guardians and caretakers.

Sandrieser and Schneider (2015) assume a predominantly genetically-determined, vulnerable neurophysiological system of speech control. This system persists in the majority of school children, and in most cases leads to dysfluencies typical of stuttering in response to specific triggers (Packman & Attanasio, 2010). These in turn are associated with a loss of control. To manage this loss of control, children intuitively develop coping strategies. If there are no, or only mild, accompanying behaviors and no stressful psychological reactions to stuttering, this is a sign that a child has developed functional coping strategies. Dysfunctional coping strategies, on the other hand, are characterized by struggle behaviors in the symptom, linguistic and situational avoidance behaviors, and emotional and cognitive responses. These may manifest as, for example, low social and communicative self-efficacy, speech and situational anxiety, self-deprecation as a speaker, and weakened resilience (Boyle, Beita-Ell, Milewski & Fearon, 2018; Carter, Breen & Beilby, 2019). *KIDS* therefore intervenes in negative coping processes, and strengthens resilience. This is done by teaching self-efficacy in communication, reducing fears related to speaking and stuttering, increasing communicative competence, and giving the opportunity to cope with stressful experiences. In addition, there is the establishment of an informed and supportive social environment to the extent which is possible.

Diagnostic Questions and Procedures

As an individualized approach, *KIDS* requires a differentiated diagnosis which, like the goals of *KIDS*, is based on the ICF (*International Classification of Functioning, Disability and Health*, WHO, 2001). Thus, beyond the level of body functions (i.e., the quality of speech and stuttering), *KIDS* substantially addresses activity, participation, personal factors and environmental factors. A detailed anamnesis and diagnosis are required at the beginning of therapy, which provides the basis for a consultation, at the end of which the parent or guardian can make decisions about the further course of action. The treatment process is accompanied by less extensive diagnostic evaluations. This serves to continuously adapt *KIDS* to the current situation. At the end, a final assessment is recommended to evaluate the success of treatment.

In *KIDS'* initial three-stage assessment, it is first determined whether stuttering is indeed present. The second stage determines the extent of stuttering on the basis of the quantity and quality of symptoms, and their impact on the quality of everyday life. In the third stage, the therapy goals are derived. If the anamnesis or spontaneous speech sample give indications of further areas that should be assessed (i.e., suspicion of a developmental language disorder, cluttering), or that

may be of different diagnostic importance (i.e., suspected tic symptomatology, obsessive compulsive behavior), these areas must be the subject to documentation and counseling.

Case History Interview and Assessment

The data collection in the initial diagnostics comprises firstly, an interview with the legal guardians or parents and the child, including case history questionnaires, and second, an assessment consisting of a clinical observation of the child's spontaneous speech and, if necessary, further examinations.

Sixty minutes should be planned for the interview, examination of the child, reporting of the initial findings, and arrangements for further treatment. Additional time is needed for documenting the analysis. Since stuttering school children are aware of their stuttering, there is no substantive reason to investigate the history without the child present. In fact, the child can contribute pertinent information in areas where parents may have no insight. Because of the variability of stuttering symptoms it is also important to ask whether the symptoms shown that day are representative.

Topics covered in the interview with parents involve the onset and course of stuttering, the observed core symptoms, any struggling or avoidance behavior that may have occurred, and suspected or recognizable psychological reactions to stuttering. In addition, information on the family history, the child's speech and general development, and the resources of both the child, and his/her family and social environment are provided by the parents. Furthermore, the clinician evaluates the family's knowledge regarding their child's stuttering (i.e., the origin, possible courses of development, subjective degree of stress) and if stuttering has limited the child's participation in everyday situations, routines, and events.

Recommended Diagnostic Procedures

To be able to diagnose stuttering with certainty, a differentiated spontaneous speech analysis is necessary, in which the quantity and above all the quality (accompanying behavior, avoidance behavior) of the stuttering are recorded. A video recording is vital for this, and is highly recommended. It serves as a basis for evaluation and is also needed later to inform the parents. If recording in the therapy room is not possible, a home recording may serve as a reference. The widely used *Stuttering Severity Instrument* (SSI-4, Riley, 2009) has proven to be a sufficiently valid and standardized

instrument for clinical practice. It can be used to assess the frequency and duration of core stuttering symptoms, as well as any physical concomitants of stuttering (head, torso, or limb movement, muscular facial tensions, change in volume, etc.), and naturalness of speech. The reading text of the *SSI-4* is suitable for children with sufficient reading skills to detect possible avoidance behavior, as words cannot be avoided while reading. If reading aloud triggers stuttering, this can be followed by a conversation about the stress of the school day. The child's naturalness of speech should be evaluated by the parents and the clinician together.

Avoidance behavior and tabooing of stuttering can be assessed with a provocation procedure such as the *RSE (Reactions to Stuttering by the Examiner*; Schneider, 2015). Here, the child is confronted with pseudo-stuttering or intentionally imitated stuttering, and directly questioned about his/her own symptomatology. If the child reacts defensively to the dysfluencies or the conversation about them, it may be hypothesized that the child experiences his/her stuttering as unpleasant. In some cases, it is useful to have a supplementary consultation with the teachers at school.

Questionnaires such as the *OASES* (*Overall Assessment of the Speaker's Experience with Stuttering*, Yaruss & Quesal, 2006, 2008; Yaruss, Coleman & Quesal, 2016), and Cook's (2013) *Questionnaire on the psycho-social burden of stuttering for children and adolescents*, as well as questions assessing reactions from the environment, serve to assess the ICF dimensions of activity, participation, personal and environmental factors. They provide information about the emotional burden, which does not have to correlate with the severity of stuttering (Cook, 2013).

The First Consultation

Based on this comprehensive assessment and the information from the case history, a well-founded consultation needs to be provided, preferably in a separate appointment. If stuttering is present, the family will be informed about the diagnosis, the current severity of the stuttering (using a scale from weak to severe), and treatment options and goals, so that the family can decide which treatment approach is appropriate for them. In some cases, the family is informed about the necessity of further speech and language assessment, (i.e., to exclude cluttering as a differential diagnosis, or to check on additional language or communicative-pragmatic deficits and word retrieval disorders). If selective mutism is suspected, differential diagnosis should also exclude covert stuttering masked by marked avoidance. The consultation also includes the necessity to refer to other professionals if other developmental disorders such as anxiety disorder or a general developmental retardation are assumed.

If therapy according to the *KIDS* concept is to take place, the mode of action, the effects, the methods, and any additional measures as well as the tasks of the parties involved (child, clinician, parents) are discussed. On this basis, a joint therapy decision and agreements on concrete implementation can be made.

Rationale and Framework of *School-KIDS*

School-KIDS is based on stuttering modification approaches for adults, and provides an age-appropriate attractiveness, clearness, and practicability for primary school children.

Objectives

The main objectives of *School-KIDS* are the following:

- the reduction of socially-disapproved secondary behavior and negative psychological reactions to stuttering;
- the improvement of quality of life and resilience through communicative competence, and a self-image as a competent and self-efficient speaker with the willingness and ability to help oneself;
- the ability to provide information about stuttering;
- to the extent possible, the creation of a supportive environment in which parents can act as disseminators to inform other care-givers.

KIDS assumes that speech fluency improves and the probability of recovery increases in school children if the above-mentioned goals are achieved. However, for some school children, recovery does not occur. Therefore, managing persistent stuttering is an equally relevant goal.

Underlying Assumptions

KIDS is primarily a concept that teaches problem-solving strategies. It goes beyond the establishment of a speech technique and integrates the child's environment. *KIDS* assumes that allowing children to show stuttering prevents dysfunctional coping strategies.

Another basic assumption of *KIDS* is that tabooing and trivializing stuttering leaves children alone with their problem and denies them opportunities to develop functional coping strategies. Functional coping occurs when children examine their fantasies in conversation with others, relieve themselves emotionally, and thereby experience comfort and support.

Setting

KIDS was initially developed for outpatient individual therapy with 1–2 therapy sessions per week. Additionally, there is very positive clinical experience with its use as intensive group therapy. *KIDS* is a therapy that can last half a year or longer and does not provide a pre-defined time whereupon therapy is ended.

Structure

KIDS consists of several treatment phases that may, but do not need to, appear in chronological order (figure 1):

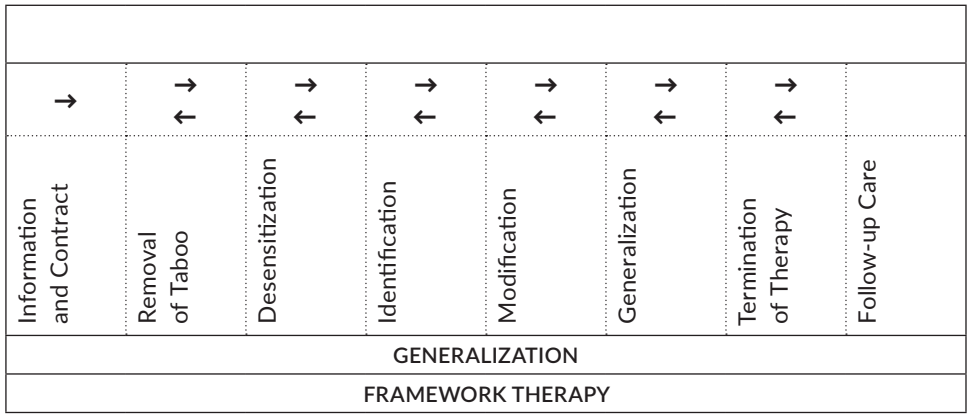

Figure 1: Phases of *KIDS* in its sequence

- Children rarely decide on their own, whether to apply for stuttering therapy. Therefore, at the beginning, an *information and contract phase* with parents and child establishes the necessary compliance and motivation for the goals of *KIDS*, which clearly differ from the common wish of a cure for stuttering. Throughout the treatment process there is continuous parental counseling and, if possible, active parental involvement, as well as regular review meetings in which the effects of the therapy to date are reflected upon, the procedure is adjusted, and it is ensured that everyone involved in the therapy is pursuing the same goals.
- One fundamental element of *KIDS* is the *removal of taboo from stuttering*.
- The second element, present throughout the entire therapy, is the *desensitization* against the symptomatology, and against the fear of listener reactions.
- *Identification* teaches the ability to objectively perceive, describe and imitate one's own symptoms and also involves cognitive, emotional and behavioral responses.

- The *modification* of stuttering builds on this, as the child learns speech techniques in order to control symptoms.
- From the beginning, great importance is attached to the *generalization* into everyday life. For this reason, in vivo tasks, homework, and the involvement of family, friends, and school are of great importance. Towards the end of the therapy, generalization is the exclusive topic.
- The *end of therapy* can be initiated when
  a) the child stutters mildly or not at all;
  b) has a positive self-efficacy in coping with stuttering symptoms, difficult speech situations and negative listener reactions related to stuttering;
  c) when adequate reactions prevail in the environment.
- Following the end of therapy, the maintenance of the acquired skills and attitudes is ensured in the *follow-up phase with refresher sessions.* Due to the strong influence of school and peer group, it is then even more important to strengthen the involvement of peers and school, which has already accompanied the whole therapy.
- A *framework therapy* can supplement the basic elements of *KIDS*, if necessary. This refers to all strategies that go beyond the core elements described here, such as establishing a relationship of trust with very distrustful rejecting children, the ability to reflect on situations and the thoughts, feelings and behaviors associated with them, or the development of adequate problem-solving behavior when being teased. The case study in chapter 7 shows what the concrete implementation of framework therapy can look like in individual cases.

The Principles of *KIDS*

KIDS adheres to four principles: variable therapy planning, strengthening resilience, child-orientation, and orientation to everyday life.

Variable therapy planning

The treatment stipulated by *KIDS* is fixed in its basic features, but must be adapted to the individual's needs and the treatment progress. Some phases must be shortened, postponed, or worked on particularly intensively. Obligatory phases are information and contract, identification, desensitization, generalization, and follow-up care. However, modification can be omitted if symptoms occur rarely in everyday life, and are short and without associated struggle behaviors. Variable treatment planning requires conscientious clinical reasoning and continuous monitoring of effects. Children and parents are constantly informed about goals and procedures

during this process, and therapy agreements are adjusted as needed. If progress is absent, all parties involved should discuss a change in the approach up to the inclusion of non-stuttering-specific focuses if necessary.

KIDS requires careful planning of the degree of difficulty regarding linguistic and situational demands in speech tasks (Figure 2).

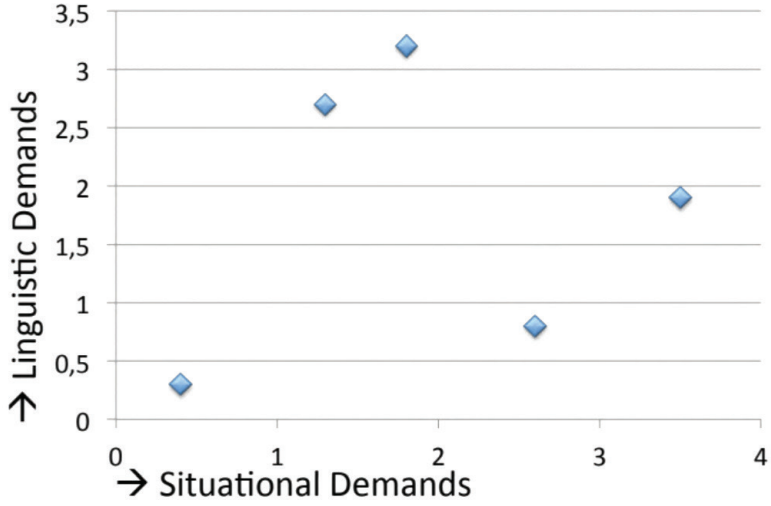

Figure 2: Exercises with hierarchical increase in demands (adapted from Sandrieser & Schneider, 2015)

A speech task can be linguistically demanding but situationally easy (e.g., explaining a complicated game rule to the clinician in the therapy room), or vice versa (e.g., asking a stranger outside for the time). The linguistic demands axis is relevant when a skill (e.g. pseudo-stuttering) has just been acquired, while the situational demands axis plays a major role in transfer (e.g. of pseudo-stuttering) to everyday life. As related to situational or speech anxiety, the hierarchy of situational demands corresponds to systematic desensitization.

Strengthening Resilience

Resilience is the characteristic of quickly regaining a high quality of life, or continuing to develop in a largely healthy manner, despite adverse or traumatic experiences (Noeker & Petermann, 2008). Oriented at the ICF, different levels can generally be affected:

- Personal factors, e.g., emotional processing of stressful experiences, self-esteem;
- Environmental factors, e.g., behavior of people in the child's environment, school;

- Activity and participation, e.g., talking with friends, hobbies in clubs, oral participation in class.

The quality of resilience is influenced by various risk factors (e.g., bullying, emotional stress, illness) and protective factors (e.g., self-efficacy, high self-confidence, good problem-solving skills, supportive family situation). Resilience is strengthened by having repeatedly coped well with stressful situations (Noeker & Petermann, 2008).

In relation to stuttering, there are three main factors that can be both protective and a risk to the development of resilience (Craig, Blumgart, & Tran, 2011):

- a sense of self-efficacy and independence in relation to stuttering and communication as well as in social situations, arising from experience of how situations have been managed;
- social competence in general, and in dealing with being someone who stutters;
- support from social relationships.

Functional coping strategies contribute significantly to the positive development of these three factors (Sandrieser & Schneider, 2015). Hence, *KIDS* targets the child's self-efficacy and communicative competence in a supportive social network. Therefore, the clinician needs to demonstrate antithetical behavior and allow stuttering (Sandrieser & Schneider, 2015; Schlegel, 1995) while finding a good balance between protecting and challenging the child.

Antithetical behavior is based on beliefs (antitheses) of the clinician that differ from those of the client (theses). Thus, a positive, curious attitude toward stuttering is antithetical to negative evaluation and avoidance (thesis). Appropriate small steps accumulate to gradually develop a new constructive thesis. **Allowing** in KIDS means that the clinician shows understanding of all motives of the child, including fear of embarrassment or shame, and dysfunctional behaviors such as avoidance. The clinician does not judge the strategies of the child, even if these are more problematic than the stuttering itself, but takes them seriously and allows them to exist. But, with antithetical behavior the clinician shows functional alternatives and encourages the child to try out more favorable ways of thinking and behaving. The clinician encourages and makes the child aware of his/her successes, while also looking for viable compromises when the child wants to avoid an exercise. In these cases, the clinician must not tolerate avoidance, otherwise this would convey to the child that the clinician also considers avoidance to be a good reaction.

Child Reference

School-KIDS is challenging to a child's reluctance to learn and persevere, and it also involves many confrontational aspects. Therefore, a trusting relationship must be

established, by listening carefully, observing closely, and consulting continuously. In this relationship, the child feels secure because he or she is involved in shaping the therapy. These agreements are called *contracting*, following *transactional analysis* (Schlegel, 1995; Stewart, 2000), and involve the child, parent, and clinician. As one becomes consciously involved in taking responsibility, one is able to attribute a share of success to oneself, and self-efficacy is enhanced. *Contracting* ensures that both the child and the parent engage in stuttering therapy, and take their share of responsibility for its success.

Child-friendly metaphors and exercises, a small-step practice structure, and individual reinforcement are other child-friendly aspects. The reinforcement shows progress and serves – in the sense of counter-conditioning – to establish a new behavior (e.g., stuttering openly, not avoiding it).

Everyday Life Reference

Transfer to everyday life and independence from the clinician is prepared for as early as possible, through in vivo work and homework. As often as possible, practice takes place outside the therapy room, so as to prevent a mental coupling of the therapy content to a place. In addition, supportive environmental conditions are established. The parents and family, supportive people and friends are all involved in the therapy, with leisure activities being included as well.

School is especially important because children who stutter have a higher risk of being bullied and/or stigmatized. Child and parents are interviewed about the school situation and previous attempts to find solutions for dealing with stuttering at school. The clinician enables the child and the parents to solve problems as far as possible by themselves. If necessary, the clinician can be asked to seek 'disadvantage compensation' directly with the school. However, he/she does not take over anything that the child or parents can solve themselves. A school visit in which the child, with the support of the clinician, explains his/her stuttering to the class has proved to be particularly helpful.

Phases of *KIDS*

Even though the goals and contents of the phases of *KIDS* are described separately and sequentially in what follows, they overlap in practice (see case study in Chapter 7). A sequence of goals tailored to each individual case is essential, and requires continual agreements in the contracting from the beginning.

Information and Contracting

In order to enable parents and children to decide on the further course of action, they need information about the consequences of not starting therapy, about trustworthy therapy methods available to them (objectives, procedure, risks, evidence, tasks of the people involved in the therapy process), and about methods to be advised against. The success of therapy is contingent upon shared decision-making, where the child and the parents are equal partners in their decisions about therapy or no therapy, and the chosen method. This requires the clinician to have a comprehensive knowledge of the therapy landscape and an awareness of his/her responsibility as a counselor (e.g., to offer children and linguistically impaired people information in simple language, to inform themselves about the cultural background of the family so as to be able to classify inquiries and concerns, and provide information material in foreign languages). In addition, the parents must be informed about the structural conditions (e.g., insurance coverage, waiting times), and it must be ensured that they have sufficient opportunity to ask questions to avoid misunderstandings. These questions often concern the therapy goal of the child and parents. They usually wish for the complete cure of stuttering. However, it cannot be promised that this will be achieved.

Once the parents have given the clinician the mandate to initiate therapy according to *KIDS*, the contracting begins (Berne, 2016; Sandrieser & Schneider, 2015; Sandrieser, 2018). This ensures that the child, and if possible, the parents, actively participate in the therapy, have the same realistic goals, and know and accept their share of responsibility.

The well-known and proven techniques of interviewing, systemic counseling, non-violent communication, and behavioral therapy can be successfully used in implementing contracting. This requires clarification of the roles of all parties involved (e.g., whether parents may serve as co-therapists) and reflection on their own behavior (Sandrieser & Schneider, 2015; Sandrieser, 2018). Based on Berne's (2016) concept of contracting in *transactional analysis*, a contract is an explicit mutual commitment to strive for concrete and realistic goals, which are formulated positively and in simple language. Contracts can be verbal, written or, especially for the child, drawn as a picture. During the process of contracting, the clinician moderates and pays attention to communication on equal and voluntary terms. Agreements are made on the following areas:

1. Structure (e.g., place, frequency, scheduling, costs of the therapy).
2. Process (e.g., methods, type of cooperation, exchange of information during therapy).
3. Responsibilities of the parties involved (mostly child, parents, and clinician).

This approach helps to prevent misunderstandings (e.g., unrealistic or different expectations of therapy) and helps to address and resolve annoyances. In addition, the contract supports the participants in the different phases of this process of change because it creates transparency and promotes personal responsibility, self-efficacy and readiness for the transfer to everyday life. In addition to the basic agreement on joint action, contracting is consistently used within a therapy session for short-term tasks, (e.g., for agreement on homework or exercises).

Desensitization

Desensitization is both a phase in the *KIDS* therapy concept and a therapeutic technique from behavior therapy, which is used repeatedly in all other phases. It serves to reduce or prevent conditioned fear reactions associated with stuttering. Conditioned fear reactions manifest themselves as relatively stereotypical patterns of feelings, thoughts, and behaviors. In desensitization, these patterns are broken down. Fortunately, in elementary school children, due to the shorter reinforcement history, less stable patterns can be assumed than in adults. In addition, children's fear responses can be mitigated more easily by supportive behaviors in the environment.

Learning processes within desensitization are based on repeated concrete experiences of mastering fearful situations and not having followed an old pattern. It is the clinician's task to facilitate such experiences. Desensitization is hierarchically structured (Figure 2). In the first step there is often no linguistic task to be solved by the child, but the child "only" needs to be present and observe the clinician and his/her conversational partner during in vivo tasks. It should be taken into consideration that the child and the parents may have different degrees of need for desensitization.

Among other things, desensitization themes mainly constitute the topic of stuttering and associated thoughts and feelings (taboo eradication), the symptomatology itself (including pseudo-stuttering and overt stuttering), speech fears and triggers of stuttering (making contact, giving a presentation), the loss of time due to stuttering and speech techniques, the use of speech techniques, and being different from others.

Especially with highly avoidant children, desensitization can lead to an increase in symptomatology, as the children dare to stutter more openly and no longer avoid anxiety-provoking situations. Parents must be informed about this in advance. The increase in symptomatology can be explained as an intermediate step towards a stronger self-awareness, and as a prerequisite for the modification in which the symptomatology is reduced again. As a metaphor, the image of the iceberg can be

used (Sheehan, 1970): the bulk of the iceberg (= feelings, thoughts, avoidance of stuttering) is under the water and it needs to rise above the water in order to be able to work with it.

The parts of the identification (section 5.3) embedded in the desensitization phase additionally support desensitization to one's own symptomatology (Figure 3). Since several topics are worked on in parallel during the desensitization phase, this phase takes a relatively long time. Due to the varying learning pace of children, the number of hours needed cannot be predicted.

Goals of Desensitization

1. The child and parents react neutrally towards stuttering symptoms.
2. The child can name, imitate, and explain his/her core behaviors.
3. Avoidance behavior is notably reduced.
4. In most situations, the child is able to pseudo-stutter calmly.
5. The child is ready to speak out and inform others about his/her stuttering.
6. The child can appropriately reflect upon annoying or derogatory listener reactions and usually respond adequately.
7. For the most part, the child has control over his/her feelings of fear and expects to be able to cope with communication situations.
8. The child has largely gained a feeling of control over his/her stuttering and speaking.

The usual sequence of the desensitization phase begins with taboo eradication and freeing from the stigma of stuttering, by providing information about the symptomatology, causation and neurophysiology of stuttering and existing prejudices. Parallel to this, identification is started by teaching articulatory phonetics. Pseudo-stuttering and desensitization to listeners' reactions follow. With a little delay, many children may already prepare to learn the speech techniques.

Freedom from Taboo

An essential aspect for the eradication of stuttering as taboo is education and conversation about others' and one's own stuttering. Right at the beginning of therapy, the definition of stuttering, loss of control, and core and associated behaviors are taught (Sandrieser & Schneider, 2015; Sandrieser & Schneider, 2019). This is followed by applying this knowledge to the analysis of others' stuttering, imitated stuttering, and if interested, one's own stuttering. Reactive and learned behavior, as well as emotional and cognitive reactions to stuttering may be illustrated with the metaphorical picture of layers of onion skin.

The genetic predisposition and the neurophysiology of speech and stuttering are taught in a way that is easy for children to understand (Schneider & Kohmaescher, 2017). By posing questions to people in their environment, it becomes clear to the child that many prejudices and misinformation about stuttering exist, and that only education can provide a remedy. The children become "experts" on their stuttering and the parents are guided to act as positive models and disseminators.

An in-depth analysis of the school situation with the child forms the foundation and concrete framework for therapy in dealing with peers, the stress of school, teachers' prejudices, and/or poor verbal grades. The principle of systematic desensitization is taught using a "courage ladder", in which the child develops his/her personal desensitization hierarchy and undertakes initial "courage tests" with pseudo-stuttering in the therapy room. The child is given an overview of the stages of the therapy process and, as a preview of the modification, the clinician informs the child about speech techniques and their effects. Finally, the entire family is invited and informed about stuttering and the therapy. A school event on stuttering planned in the later course of therapy follows the same pattern.

Desensitization towards the Symptoms

First, desensitization against the symptomatology is done with pseudo-stuttering. In KIDS, this is defined as purposeful tension-free part-word repetitions. As soon as these can be used in small interaction sequences at the sentence level, in vivo desensitization against listener reactions is added. As mentioned earlier, situational demands and linguistic complexity are considered during planning. Using the analogy of the uncontrolled panic reaction of a hydrophobic person in water, the clinician conveys the speech motor effect of uncontrolled stuttering and the serenity-inducing effect of desensitization through pseudo-stuttering. All exercises are hierarchical, meant to be fun, and empowering in the sense of counter-conditioning, and they need a lot of reinforcement. For example, the child is allowed to determine when and how long the clinician should stutter. Afterwards, clinician and child reflect together on whether the pseudo-stuttering was relaxed and whether real stuttering symptoms occurred. In addition to pseudo-stuttering exercises, the clinician repeatedly demonstrates calm pseudo-stuttering in his/her speech, with the reminder that relaxed stuttering can also be learned from listening. The clinician also helps the child pay attention to effortless and short "easy" symptoms which already occur, thus conveying that symptoms which are close to the goal of relaxed stuttering already exist. Discrimination exercises desensitize against different types of symptoms. Toughening up against the loss of time can be achieved with a stopwatch, which is used to specify the duration to be endured for a block. Or the roll

of a dice can be used to randomize the number of repetitions in a part-word repetition. Again, the child is first allowed to decide over the clinician.

Before practicing pseudo-stuttering more intensely, a playful error analysis with the child and parents is recommended. Here, parents learn to pay attention to good quality in the child's performance and to give feedback in a supportive way, in order to avoid incorrect patterns of pseudo-stuttering being practiced in subsequent training and homework.

Once a child has confidently mastered pseudo-stuttering at the word level, the linguistic and situational complexities are elevated. At all stages, it is important that the child is able to successfully complete the exercises. If pseudo-stuttering sometimes turns into a real symptom, this should not be treated as a mistake, but a welcome opportunity to analyze the real symptom according to the methods of identification (section 5.3).

Whether, when, and how parents can be involved must be carefully discussed with both parents and the child. In the course of desensitization, many children can be expected to experience less frequent blocking and prolongations, and a spontaneous reduction in associated behavior. Children experience an increasing sense of control over their speech, become able to control it consciously, and can direct their attention alternately to content planning and speech control. However, if the child has a low stuttering frequency at the beginning of the therapy because he or she successfully avoids stuttering symptoms, it can be expected that the stuttering frequency will increase. This can be seen as a positive effect, since the child on the one hand abandons his/her speech avoidance behavior and openly shows his/her stuttering, and on the other hand also avoids fewer situations and thus risks more stuttering being triggered. In this case, parents and, if necessary, the child must be made aware that this is a desired effect, and that on this basis the modification can better unfold its effect.

Desensitization toward Listeners' Reactions

The goal of desensitization toward listeners' reactions is to reduce anxiety and avoidance behavior related to speaking and stuttering in everyday life, and to exhibit stuttering in conversations with increased self-confidence and self-esteem and value oneself in the process. When the child becomes aware of the freedom gained through desensitization, he/she can engage in it more easily.

Open stuttering refers to audible core symptoms that have not been concealed by linguistic or situational avoidance behavior, postponement (delaying a feared stuttering event with interjections and phrases until controlled speech seems possible), or starters (intuitive strategies for starting a word in a controlled way,

e.g., swallowing before a word or clicking the tongue). Accompanying behaviors, as bodily and facial movements, may initially persist, but often spontaneously diminish if the child uses open stuttering. Only if accompanying behavior persists it is worked on explicitly during desensitization or modification.

Hierarchical in vivo desensitization to listener reactions is begun as soon as the child is able to utter short sentences with pseudo-stuttering in role-play. For this phase, some children need more time, so that sometimes the child has already learned a modification technique, such as prolongation. As soon as a child manages to use the technique confidently, pseudo-stuttering and prolongation are desensitized together.

Identification

In the identification phase, the child's core symptoms are analyzed, along with any associated behaviors, avoidance and psychological reactions. Some children are even trained to stop symptoms as the first way to control them.

Goals of Identification

Identification serves:

1. Desensitizing toward one's own symptoms.
2. The development of the emotional, cognitive, sensory and motor bases for stuttering modification techniques.

Since identification, for the most part, proceeds in parallel with desensitization and later modification, this phase is actually very short, and is sometimes not even recognizable as an independent phase. Identification consists of four task areas in which a mirror, and audio- and video feedback are important tools. The task areas are:

1. **Articulatory phonetics**: the child is conveyed the basics of perception, conscious control and description of speech production. This includes the specific articulation of sounds (articulation type and location) during fluent speech.
2. **Analysis of symptoms**: articulatory phonetics is also used to analyze stuttering symptoms. This is done via real and imitated stuttering events, the latter being voluntary stuttering, which comes as close as possible to the real symptom regarding self-perception of effort and duration. When analyzing symptoms, attention is paid to the quality of symptoms. Individual stuttering moments are investigated with regard to affected word/syllable, length, secondary behaviors, and possible accompanying feelings and thoughts.

3. Identification of **avoidance behavior, thoughts and feelings** in conjunction with speech and stuttering.
4. **Symptom registration ('monitoring')**: The child is trained to direct his/her attention and register stuttering moments immediately, which represents the prerequisite for successful use of modification techniques. Monitoring is for quantity, which means the child has to register as many stuttering moments as possible in situations with linguistically increasing demands. Dell's (2000) idea of catching games is helpful to train this in a playful way. Finally, the child should be able to discern symptoms in spontaneous speech in others, and later in him/herself.

While pseudo-stuttering is used as the central technique in desensitization, in the identification phase the focus is on purposeful, imitated stuttering, i.e., an imitation of one's own, real symptoms. Identification of struggling in both the symptom and in pseudo-stuttering often reduce associated motor behavior. Fixed linguistic avoidance patterns (starter and postponement) are more often replaced by overt stuttering. By stopping a symptom during symptom analysis, the feeling of control over a symptom is strengthened.

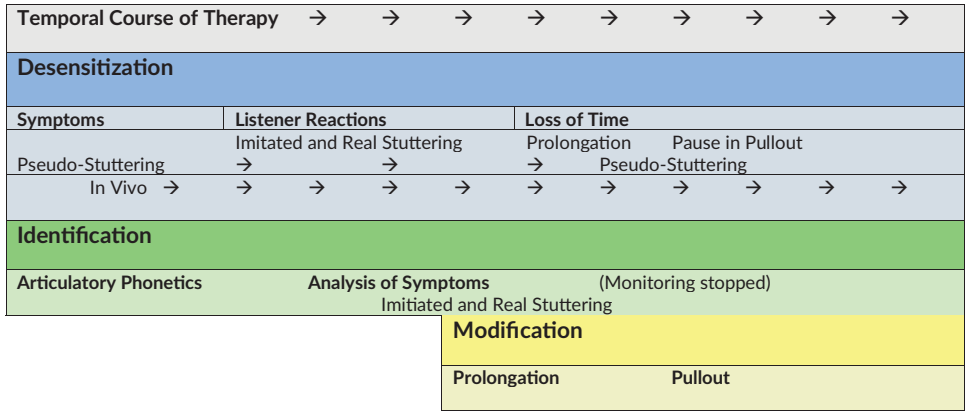

Figure 3: Example of individualized overlapping phases of desensitization, identification and modification.

With *School-KIDS*, identification begins at the start of the desensitization phase and progresses through all phases of the therapy (Figure 3). The identification begins with articulatory phonetics, infused with the curiosity and spirit of a researcher. Meanwhile, freedom from taboo and desensitization of the core symptoms are introduced. The symptom analysis is also characterized with the spirit of research, and encompasses other people's and one's own symptoms, both imitated and real. Having completed the work of articulatory phonetics, one proceeds to modifica-

tion and working on prolongations, regardless of the progress in desensitization or symptom analysis. The symptom analysis is now intensified, since with the prospect of being soon able to control stuttering symptoms, the child experiences less emotional stress. Once the child is able to analyze and (occasionally) register his/her own symptom, the monitoring is explicitly exercised, which means that symptoms are noticed quickly and systematically. At this point, stopping in a symptom may be trained, which is useful for the upcoming modification phase. The strategies of identification are also applied during modification, generalization and follow-up, if the child fails to use modification techniques successfully, as they are the prerequisites for their application.

In the identification phase, various emotional reactions can occur: satisfaction with less frequent and milder symptoms, attempts to avoid the exercises, or, rarely, shock about the frequency or severity of one's completely underestimated symptoms. Even when the therapist confronts the child step by step with his/her own symptoms, such reactions cannot really be prevented. If the child expresses shock, this should not be considered as a failure in therapy. Usually, it is an important indication that the treatment plan needs to proceed cautiously. This situation is an opportunity to strengthen the child's willingness to change. In addition, the first steps of modification can be planned. If the child tries to avoid identification, this should be taken into account and worked on during desensitization.

Modification

The central idea of stuttering modification is the ability to modify stuttering symptoms and make them briefly easier and smoother, to enable the speaker to regain control over his/her stuttering. This involves learning modification techniques, and directly working on the symptoms. Regarding the emotional-cognitive level, this includes an inner locus of control and a feeling of self-efficacy (Schwarzer & Jerusalem, 2002). In the long term, this may reduce trigger factors for the frequency of stuttering. Within contracting, it must be asserted that it is impossible to modify all stuttering moments.

Goals of Modification

1. The child can apply the modification techniques with confidence, without having to pay much attention to the process and its correct realization.
2. The child is able to judge the quality of his/her modification techniques without any help, enabling him/her to find out the sources of mistakes and correct them in daily life.

3. The child is able to apply the modification techniques confidently in stressful situations.
4. The child stands by the fact that the modification techniques are effective.
5. The child is able to decide against the use of his/her modification techniques in situations where it seems to be more comfortable to stutter openly.
6. The child accepts that the techniques may fail in stressful situations.

In *KIDS*, two modification techniques can be trained:

1. The **prolongation** (preparatory set, Van Riper, 2006) for the prevention of a symptom.
2. The **pullout** (Van Riper, 2006), to resolve a symptom.

The principle of prolongation is, for consonants, to slow down the articulatory movements (slow motion), and for vowels, to use a gentle onset at the beginning of a word (Van Riper, 2006; Zueckner, 2014; Schneider & Sandrieser, 2015). This local technique may be used for the prevention of symptoms in fearful words. At the same time, the prolongation is part of the pull-out, in which control over the symptom is regained. Here, prolongation helps to transition gently and in a controlled manner into spontaneous, fluent speech. For the pullout, the symptom has to be noticed in time (monitoring) and to be stopped immediately. A pause occurs during which the articulatory posture is maintained. The purpose of this pause is to regain a sensory, motor-functional, and mental feeling of control. Usually, the muscular tension needs to be reduced. After the pause, the prolongation is used to continue with speaking without stuttering. Should the prolongation appear to be too difficult or is not acceptable for the child, it may be substituted by short, relaxed pseudo-stuttering (repetitions). This variant is called 'Pullout with pseudo-stuttering'.

Speech techniques must be practiced sufficiently often with a good quality of imitated stuttering, and the therapist should model them continuously. An independent, confident self-assessment based on an error analysis is the prerequisite for the child to be able to practice independently, and to detect and correct errors during transfer into everyday life. For most people, precise motor control is even more difficult with feelings of time pressure and emotional stress. Therefore, the use of modification techniques is trained step by step, analogous to the desensitization phase.

As the modification techniques are distinctly different from fluent speech, it is not self-evident for most children to use them in everyday situations with peers. Even if they do, the emotional arousal may complicate the use of the techniques. If children do not apply the techniques in their everyday life, the underlying decision against the use of the techniques needs to be reflected on, and the willingness to desensitize oneself to their use, as well as the accompanying loss of time,

should be discussed. To prevent and meet anxiety about listener reactions, the therapist may ask conversational partners during in vivo exercises to give their opinions on stuttering and the modification techniques used. It is also helpful to explain the obvious modification techniques at school and to peers. To introduce the techniques, it may be ideal to have a session with another child who stutters who is able to demonstrate the techniques. The child can ask questions and will, in this way, be prepared to learn them in the later procedure. During this session, the child experiences that he/she can decide when the modification techniques should be used, like tools taken from a toolbox when needed. Modification techniques should be thoroughly and frequently trained, so the child can confidently use them in case of need.

Prolongation

Introducing prolongation begins with imitating meaningless syllables in slow motion (Sandrieser & Schneider, 2015; Zueckner, 2014) in front of the mirror, and then using this in meaningful words, once the principle of slow motion has been captured. The therapist can use a hand puppet, which models many correct attempts, but also performs mistakes that resemble those of the child and which clinician and child correct jointly.

At the end of the session, the child can evaluate his/her own prolongations, and make corrections if needed. Such sessions are preparatory for independent practice at home. Eventually, it is a matter of establishing "finger exercises' as it would be in piano playing. The hierarchical exercises become increasingly more difficult concerning linguistic and situational demands, until the child can apply prolongations in everyday situations.

Pullout

The pullout is introduced in imitated symptoms. This stuttering symptom may be symbolized using a stick. The hand, representing the articulators, holds the stick tightly. At this time the child should develop problem-solving ideas as to how the tightly held stick can be freed by the hand, and then transfer this to his/her own speech. By making attempts together, the three elements 1) stopping; 2) waiting till the tension loosens; and 3) continuing to speak with prolongation (or relaxed pseudo-stuttering) are worked out and visualized as a traffic light.

At this point, the three elements of pullout are practiced and subsequently combined, before being transferred to a real symptom. Once again, intensive training

is required, in which the clinician supports the child initially with visual signs that are faded out later on.

Analog to the prolongation, hierarchical training is carried out to encourage its use in everyday situations. If the pullout is combined with relaxed pseudo-stuttering, it may be considered to practice the variant of the pullout with prolongation at a later time.

Generalization

Considering therapy in its entirety, generalization is an essential component. What has just been learned needs to be continually applied to everyday life, and early on, practice takes place outside the therapy office to a considerable degree. With continuous homework contracts, the therapist establishes a homework culture in which the child is supported, comparable to the constant training in sports supported by others. Hence, frustration and over-expectations are prevented, and the transfer from the therapy content is accompanied over a longer period of time.

The Goals of Generalization

1. The child transfers his/her skills to many areas of life.
2. The child is prepared for the end of therapy.
3. At the end of therapy, the child feels competent to manage stuttering symptoms and speech-related anxiety.

Generalization at the Final Stage of Therapy

At the end of therapy, the generalization phase, in which hardly any new content is provided, is predominant. Instead, skills are trained in as many different areas of life as possible, which requires the child's own initiative and responsibility. The essential clinical strategies are the continuation of contracting, consultation and problem-solving, with the inclusion of parents and other individuals in the child's environment. Applying the modification techniques in all speech situations is unrealistic. It is much more important to develop a feeling of control to be able to use techniques whenever desired, which reduces anxiety in communicative situations. The decision to use them is depends on the situation, and is easier if people in the environment are informed that the child will use modification techniques and what these sound like. Tolerance of failure, and supportive people in their environment both help the child to process situations that have taken a stressful course. If modification techniques are not being applied, for example at school and with peers, 'coolness' is frequently the reason. It is advisable to visit the school

and provide information about the technique to friends, classmates and teachers, and discuss with them the advantages of freedom by giving up avoidance, and to have exchanges on desensitization with other stutterers. In primary school, a child cannot be expected to use the modification techniques on his/her own, so a support system needs to be developed.

End of Therapy and Follow-up

The end of therapy is reached when no stuttering symptoms (recovery) or very mild residual stuttering exist. Residual stuttering refers to symptoms less than half a second long, without any accompanying struggle or avoidance behaviors, and no (or only a little) speech anxiety or other stress reactions related to communication, speaking and stuttering. The child and the environment show a predominant feeling of self-efficacy.

With regard to the end of therapy, it is important to check whether the changes are stable over time and occur in different areas of the child's life. If this is the case, the individual criteria for a possible resumption of therapy are agreed upon. In this phase, wherein the intervals between therapy sessions are stretched out, the therapist, parents and child come to the mutual decision that the end of treatment is desired and makes sense. It is imperative that the view of all participants is respected in this process.

During generalization, the maintenance of skills is established during continuously longer therapy-free intervals, in which the child practices on his/her own. During therapy sessions, the clinician and the child develop strategies for how to handle relapse, e.g., more stuttering symptoms or the return of stuttering-related anxiety and dysfunctional behaviors. The child is allowed to feel ambivalent – balancing between the joy of accomplishment and the sadness that a full cure is not possible. A comparison with the situation at the beginning of therapy can help to recognize and appreciate therapy progress.

Follow-up has to play a part in the finalization of therapy, and overall takes a form in which the child is no longer tied to the therapist. Here the therapist needs to be aware that relapse cannot be prevented by endless therapy and that generalization can be accompanied by the therapist only to a certain extent. Arrangements for continuing follow-up sessions, while stressing the child's self-responsibility, will prevent this.

Framework Therapy

A stuttering therapy is embedded in the child's environment (life context) and his/her family. Therefore, there may be reasons to draw attention to areas in therapy that do not adhere directly to *KIDS* but rather a sort of framework therapy. This concept was chosen because it builds a frame within which *KIDS* is pursued. Framework therapy should not be misconstrued or confused with therapeutic interventions in co-disorders (e.g., the additional treatment of specific language disorders or anxiety). Also, fundamental therapeutic strategies, such as building a therapeutic relationship or using a playful approach are not part of framework therapy.

Goals of Framework Therapy

1. The child achieves skills and competencies that are prerequisite for certain interventions in *KIDS*.
2. The child is less prone to risk factors that trigger stuttering or weaken resilience related to stuttering.

Framework therapy is not arbitrary in terms of content and methods, and is only justified when there is a basic relevance for stuttering and stuttering therapy. It needs to be agreed upon within the framework of contracting. Because framework therapy is contracted according to need, it is not assigned to specific therapy phases. Often, the need for framework therapy appears right at the start. Sometimes it becomes clear in the course of therapy which topics need to be addressed, e.g., self-image with stuttering, dealing with failures or processing negative experiences related to stuttering. This means that framework therapy is usually required at the start of therapy, though focus areas can be added or changed at any time. Interventions of framework therapy could be the main theme in one or more therapy sessions, or be a part of other interventions, e.g., working on conflict-solving strategies and pragmatic skills embedded in desensitization toward listeners' reactions. During working on freedom from taboos and desensitization, psychological education plays a huge role. This includes teaching medical facts systematically, not only to the patient but to all those involved, and enabling them to deal favorably and sovereignly with stuttering (Baeuml, Behrendt, Hennigsen & Pitschel-Walz, 2016).

As many prejudices surrounding stuttering exist, early education helps to place the patients and their families in the role of disseminators, and as protectors against the negative behavior of others. For Sandrieser and Schneider (2015), it is an important therapy goal that people who stutter feel themselves as competent conversational partners who have strategies which allow them to express themselves within

a reasonable time. A standard part of every stuttering therapy is to counsel parents about how to assist and empower their child, and to offer compassion for the parents' sorrow. The situation-dependent variability of stuttering often demands the inclusion of teachers. Their contribution to therapy can take different forms, such as filling out questionnaires, making telephone calls, training, and having school visits with the child. In some cases, this enables the detection of important trigger factors that need to be worked on. The communication with the teachers may be direct, or indirect via the parents. Besides this, detection and handling of bullying may also be part of framework therapy.

Evaluating interactions within the family can serve to identify systemic aspects, such as dealing with a deficit, valuing behavior which does not conform to the norm, or identifying the attitude to therapeutic support as either a resource or a hindrance to the therapy. In addition, the cultural sphere plays an important role, e.g., dealing with illness, expressing feelings or role designations, as well as the role of stuttering in a culture. Information about self-help organizations and, as far as possible, contact with other people who stutter, is another essential component of framework therapy. In *KIDS*, parent groups are recommended as accompanying interventions for individual therapy.

Interventions that set the stage for stuttering-specific therapeutic interventions include working on self-monitoring, improving oral motor skills for pullout, or training divided attention to be able to use modification techniques efficiently. Often, framework therapy aims to reduce trigger factors for stuttering (Packman & Attanasio, 2010), such as the establishment of problem-solving strategies, the acceptance of negative feelings, social competence, dealing with teasing, and coping with disturbing and stressful stuttering experiences. As in the other phases, the aims for framework therapy need to be contracted and adjusted if necessary.

Case Study Noah

Noah, a 9-year-old boy, comes with his mother to the first session. He shows severe stuttering with long blocks and part word repetitions that are accompanied by struggling in terms of facial and whole-body movements. Speech avoidance is not apparent. His stuttering appeared for the first time at age four. In the assessment, he is shy at the beginning but opens up when being asked about his model railroad, and wants to share a lot of information despite his apparent struggle with stuttering. Mother and son explain problems with oral participation at school, with the beginning of avoidance behavior in class. According to Noah, the teachers are uninformed and sometimes behave carelessly. Certain classmates would tease him. Owing to his gifts he is already in fourth grade, so is the youngest and smallest of his classmates, which makes him feel inferior to them. In RSE (Reactions to Stuttering by the Examiner; Schneider, 2015) when his symptoms are addressed, he shows a strong reaction of embarrassment, but reflects openly on his observations with the therapist. Up to this point, therapy has not taken place, since the symptoms have worsened greatly just in the past two months. The mother feels helpless and sorrowful with Noah's stuttering, but is able to support and value him. His father also stutters.	Case History and Assessment
At the next session, the parents attend without Noah. They share the clinician's evaluation of symptoms and understand that the chance for remission is rather low. Considering therapy, they wish for Noah to learn a self-confident way to deal with his stuttering, and for his symptoms to become less and milder. The father is open to a fluency shaping or stuttering modification approach, whereas the mother rules out fluency shaping. Having received detailed information about School-KIDS, the parents mandate the therapy. Doing this, it is emphasized that treatment of the father's stuttering is neither a prerequisite nor a component of Noah's therapy. Another consultation with the parents is scheduled in order to discuss the situation at school in more detail.	Initial Recommendations & Clinical Advice
In the following sessions, Noah is informed about stuttering. In the 'bumping experiment' (wherein a person is trying to write properly, while another person repeatedly bumps his/her arm) he experiences what is meant by loss of control, and he transfers this reaction in the experiment to his current and common struggling and avoidance behavior. His insights are documented in 'a stuttering onion.' Later on, he intensely observes how his mother reacts to the 'bumping experiment' and both come to the conclusion that it is unfair to devalue stuttering. Noah learns about the neurophysiology of stuttering by drawing a large picture with 'the speech center' in the brain which sends signals ('little messengers') to the articulators. He reflects on the fact that his 'speech center' is prone to making mistakes. He sees the connection to his father's stuttering and a possible genetic predisposition. In another session, he finds out about stuttering prejudices by developing a quiz about stuttering, that he is eager to take to his grandma and grandpa's house.	Freedom from Taboos

During this time two conversations take place with both parents, in which a guide for parents (Schneider & Kohmaescher, 2017) is recommended. Furthermore, strategies are developed to educate Noah's teachers about how to deal with his stuttering and support him emotionally at school. The confirmation that they are dealing well with Noah's stuttering at home is a relief to the parents.	Education & Contracting
As Noah is drawing the seating arrangement in his classroom, he gives an extensive talk about his sadness and wishes, and he formulates a therapy goal – to gain insight how he can make his stuttering become milder, to dare to improve his oral participation in class, and learn how to deal with peers who annoy him. *The clinician and Noah develop a contract that resembles a railway map with the different phases and goals of therapy visualized, including the modification techniques and their effects. Noah explains the expected treatment course to his mother, the clinician adds information about shared responsibility, and she moderates arrangements concerning therapeutic homework.*	Contracting & Triangular Contract
Finally, the whole family, including the elder sister and the grandparents are invited to an education session about stuttering. Noah presents his share with a self-created Power Point presentation, and is enthusiastic about the attention and appreciation he experiences. Afterwards, he can well imagine holding such an event in his class.	Removal of Taboos & Family Session
By means of the topic 'extreme water phobia', Noah and his clinician discuss possible coping styles, such as avoidance, uncompromising confrontation, and gradual approach towards the feared water. This is then transferred to stuttering and the options of desensitization. The fact that desensitization will make his speech center more relaxed and less prone to errors motivates Noah to engage in pseudo-stuttering. Being able to do this easily, the level of difficulty on the linguistic level can be raised quickly towards monologues with voluntary stuttering. The situational demands are increased on the one hand by practicing on the street, and on the other hand by practicing with an intern and a friend.	Desensitization of Symptoms & Towards Listener Reactions
During identification, a short part of each therapy session is spent analyzing the location and type of articulation in fluent speech and voluntary symptoms, as well as imitating the stuttering symptoms of a person on video. Noah has developed an inquisitive, searching attitude, and is interested in exploring his own stuttering. By agreement, the clinician is allowed to interrupt Noah if he stutters, since during therapy he hardly stutters any more. His mother confirms that at home he also speaks more fluently.	Identification: Articulatory Phonetics & First Symptom Analysis
Noah finds articulatory phonetics easy, so he can begin to work on prolongations rather soon. It is apparent that he is consciously controlling his articulation, but he does not take the time he needs to do it properly. For desensitizing against time loss, the clinician and Noah practice articulatory transitions and correct each other if they are, whether deliberate or not, too fast. Another playful practice is to bet on who achieves the longest prolongation.	The Start of Modification & Desensitization to Loss of Time

Prolongation and pseudo-stuttering run parallel for many sessions with in vivo, personalized training. The mother learns to judge the quality of the technique, and is allowed to train these techniques regularly as Noah's practice partner at home. Since teasing has returned recently, a school visit is prepared and Noah develops problem-solving strategies as well, as he practices oral participation in role plays. The parents learn about the 'disadvantage compensation' and this is put into practice adequately.	Desensitization in Vivo Framework Therapy: Problem-Solving for Teasing
Noah modifies real stuttering symptoms spontaneously in a manner quite close to the pullout. The therapist takes this up for practice and trains pullouts in imitated symptoms with Noah. *During practice, it seems hard for Noah to maintain an adequate pause after stopping. To transfer his skills to real symptoms requires registering them promptly. When considering whether to resume work on symptom registration, the clinician decides that this is neither possible nor necessary, as Noah only shows short, effortless symptoms, even in stressful situations.*	Modification & Pullout Identification & Symptom Registration
Following extensive preparation and difficulties in arranging an appointment, the school visit is about to take place. Noah's classmates and his teacher react very positively, and teasing recedes from then on. Noah is even protected at recess in the schoolyard.	Desensitization, Freedom from Taboos
By chance, the clinician learns that at home Noah has set up his own YouTube channel in which he announces his stuttering before presenting Lego Star Wars figures.	Spontaneous Freedom from Taboos
Due to mild symptoms and recent positive coping strategies in benevolent surroundings, all participants agree to take a three-month break from therapy. Noah feels well-prepared for exchanging schools.	Therapy Break
After the therapy break, stuttering continues to be mild and speech avoidance remains absent. Noah suggests a visit to the new school. His social status is good in a difficult class, surely because of his self-confident appearance with his stuttering. *Noah is a member of the theatre group. In therapy, the review, practice and generalization of the pullout are central, above all in withstanding the accompanying loss of time.*	Freedom from Taboos Generalization, Desensitization to Time Loss
Pullouts are now rarely used in everyday life because Noah no longer feels disturbed by his stuttering symptoms. In most natural speaking situations and in vivo, symptoms are not triggered any more nor have to be modified. *Noah reports on very few longer blocks (every 1–2 months) that he is not able to control. In this regard, his mother feels more insecure than he does. In contracting, it is clarified what should be done if the frequency of symptoms increases, and under which circumstances a re-examination might be useful. Two more follow-up sessions are planned for the coming year.*	Preparation for the Finalization of Therapy Contract Work
In the follow-up session, Noah seems relaxed. His symptoms occur more often, but are too short to be treated with prolongations or pullouts. He reports that the long uncontrollable blockings have subsided. He sees no need to deal with them at the time. His parents also see no need to resume therapy. Disability compensation for school is not necessary anymore.	Follow-Up after Six Months and a Year

Until his final high school exams, Noah has no interest in therapy. Even though his stuttering is more frequent and comprises some struggling behavior, he does not consider this a problem. He continues to be active in theater. His school grades, regardless of oral participation, have become worse, since at the moment he is less motivated to work for school. He considers a refresher for the oral final exam (graduation from high school). Noah and his parents are informed that disability compensation would need to be applied for in time, before the final exam.	Post Five-Year Follow-Up

Conclusion and Perspectives

With *School-KIDS*, a theory-based therapy concept of stuttering modification is available to school-aged children. It retains the well-proven elements of therapy from Van Riper (1971, 2006) and Dell (2000) and demands individualized therapy within a framework. The concept is influenced by current research on the origin of (social) anxiety, the meaning of resilience, and quality of life, which is why – following the ICF – the entire environment (life situation) of the child who stutters is taken into consideration. Contracting explicitly promotes the child's self-efficacy and success through carefully staggered practices which are graduated from easy to difficult. In Germany, *School-KIDS* is a widely used therapy approach, and has proved to be applicable and subjectively effective in individual as well as group therapy. However, when it comes to establishing the objective external evidence of its effectiveness, this is complicated by the individualization of the approach, in which the duration and intensity of therapy goals are not the same for all patients. Therefore, the authors have made some efforts to gain evidence by developing a treatment manual (Schneider & Sandrieser, 2018). From 2018 to 2022, *School-KIDS* has been evaluated in the multi-center pragmatic trial *PMS KIDS* (registration DRKS00015851, Kohmaescher, 2018). The therapy courses of 73 school-age children who stutter, treated in various outpatient settings, were followed over 12 months. Outcomes showed significant and clinically relevant improvements in affective, cognitive and behavioral aspects of stuttering, supporting the value of *KIDS* as a therapy option for school-aged children who stutter (Kohmäscher, Heim, Primassin, Heiler & da Costa Avelar, 2022).

Definitions

Antithetical behavior refers to the clinician's belief (antithesis) that differs from the patient's behavior or belief (thesis), e.g., that the clinician finds stuttering interesting whereas the child does not like it.

Articulatory phonetics is a work area in identification, in which the basis for fluent and stuttered speech production are mediated.

Imitated stuttering – in *KIDS*, the child's stuttering symptoms are purposely imitated, including core symptoms as well as tension and secondary behaviors.

Freedom from taboo is explained by a process within desensitization, in which the child learns how to openly talk about stuttering and the therapy, so that the taboo of stuttering is eradicated.

Allowing stands for the therapist's attitude of acceptance, in which the child and the parents are allowed to express thoughts and feelings, and also show and try out behaviors which until now they did not dare to, or which they assumed to be undesirable, uncomfortable or dangerous.

Pseudo-stuttering in *KIDS* refers to deliberate stuttering in the form of struggle-free, relaxed part-word repetitions or, in some rare cases, prolongations.

Contracting, borrowed from transactional analysis, describes the procedure in *KIDS* to permanently meet and reflect upon binding, positively-formulated and goal-directed agreements in the process of therapy.

Multiple Choice Questions

1. *KIDS* intervenes in negative coping strategies by:
   a) strengthening self-efficacy (in dealing with symptoms and in communication).
   b) reducing anxiety.
   c) teaching the child to talk fluently with speech techniques.
   d) increasing communicative competences.
   e) working through burdensome experiences with stuttering.
2. The ICF-oriented initial assessment in *KIDS* enables one to:
   a) assess whether stuttering is present.
   b) estimate the length of therapy.
   c) appraise the need for therapy.
   d) derive therapy goals.
   e) predict how successful the therapy will be.

3. *KIDS* is based on essential principles:
   a) variable treatment plan, strengthening resilience, child- and everyday life-reference.
   b) variable treatment plan, strengthening speech fluency, child- and everyday life-reference.
   c) treatment plan according to phases of *KIDS*, strengthening resilience, child- and everyday life-reference.
   d) variable treatment plan, strengthening resilience, child orientation, help for self-help.
   e) variable treatment plan, strengthening resilience, modification, everyday life-reference.
4. With regard to the phases in *KIDS* it needs to be kept in mind that:
   a) the phases need to be strictly separated from each other.
   b) the information and contracting phases are central at the beginning, though will continue to be relevant in the therapy process.
   c) desensitization is of great significance, and is worked on parallel to elements of identification.
   d) the necessity and arrangement of modification depends on success of desensitization, and the complexity of the child's symptoms.
   e) generalization of skills learned in therapy should be pursued as soon as possible.
5. *KIDS* therapy ends when:
   a) the child is able to modify all stuttering symptoms.
   b) regular therapy sessions are no longer necessary, and the follow-up phase can be instigated.
   c) the child does not stutter any more.
   d) in the clinician's view, a remission has been reached, or only mild stuttering exists.
   e) the child (and his/her parents) wish to end the therapy, and this is sensible in the view of the clinician.

Recommended Reading

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