

Cognitive behavior therapy in the school setting: A case study of a nine year old anxious boy with extreme blushing

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Abstract:

Within the field of school psychology there is a gap between research and practice, caused by difficulties in translating the programs from research to the realities of the school setting. Illustrations of real-life cases may help school psychologists gain insight into the application of interventions. The purpose of this study was to describe an example of small group cognitive behavior therapy in the school setting. It concerned test anxiety with extreme blushing. A single subject case study of a nine year old Dutch boy was described. Interviews, observations and questionnaires were used for evaluation, as well as a standard national achievement test. The results indicate that the test anxiety and blushing decreased and on the achievement test three years later, performance was good. As it concerns a case study, the results are discussed tentatively. It was concluded that the intervention was successful without alterations to the program. This study provides an illustration of research put into practice.

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Introduction

This article describes a successful intervention for a nine year old boy presenting emerging test anxiety and extreme blushing. The treatment consisted of a group-based cognitive therapy (CBT) in the school setting. This case-study illustrates how CBT can be applied within primary school addressing test anxiety when the concern is not only on the level of an emerging mental health problem, but also on a specific symptom. Mental health problems are a major concern in primary education because they negatively affect socio-emotional as well as academic school functioning. Within the ecological context perspective of Bronfenbrenner schools represent a key component of the child's microsystem: they are one of the most proximal influences on a child, and understandably, represent the primary setting where children show impairment due to mental health problems [1]. Research demonstrates that school-based cognitive-behavioral interventions that focus on small groups or individual students yield improvements in emotional, behavioral, social, and academic functioning [2]. Nevertheless, within the field of school psychology there is a gap between research and practice that seems to be caused by difficulties in translating the programs from research to the realities of the school setting [3]. Illustrations of real-life cases may help school psychologists gain insight into the application of interventions.

Test anxiety refers to feeling tense, fearful, and worried in evaluative situations[4]. It has formally been defined by Dusek as an "unpleasant feeling or emotional state that has physiological and behavioral concomitants and that is experienced in formal testing or other evaluative situations" (p.88) [5]. It has been estimated that between 10% to 40% of all students suffer from various levels of test anxiety [6]. In the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR; [7]), test anxiety is included indirectly as: "Individuals with Social Phobia often underachieve in school due to test anxiety(...)". Bögels et al. argue that pervasive test

anxiety is a form of social phobia (or social anxiety disorder), if fear of negative evaluation by others is the core issue, as was true for the current case [8]. Test anxiety poses students at risk for underperformance on achievement tests, poor grades, repeating a grade and school drop-out [9-12]. As such, it is important for schools to reduce test anxiety in their students effectively [13].

Blushing can be one of the symptoms of test anxiety [7]. According to the communicative account of blushing, blushing has a remedial function. It communicates to observers that one is sensitive to their judgment [14]. Experimental research shows that blushing causes others to make more favorable appraisals. A blushing person is considered to be more trustworthy, less responsible for violating a norm and more friendly compared to a person that does not blush, but for example only shows shame [15]. Despite these positive effects, blushing is involuntary and uncontrollable and signals to others the presence of emotions that a person perhaps would like to suppress. The social blushing theory states that blushing occurs when a person receives undesired social attention [16]. Particularly in young people, blushing is a bodily symptom that can occur in situations of increased self-consciousness [17], and these situations are common for children with test anxiety. Further, it is important to note that blushing is not only an especially salient physiological reaction (feeling warm cheeks), it is also clearly observable to others. As blushing often occurs in situations where one would rather not increase the attention of others, blushing can be highly aversive and for anxious individuals it can become a source of shame and anxiety in its own right [18].

In the case presented in this article, a nine year old boy was referred to the school psychologist because the teacher noticed that his learning was impaired by a fear of failure. Whereas the teacher felt it was important for him to be able to concentrate on learning; the boy and his family concentrated on the experienced worries,

fears, nervousness and extreme blushing. In other words, the important outcomes were: reduction of test anxiety, blushing and the more indirect outcome of school achievement. An important question of the case study was whether the blushing would be reduced by a CBT that was focused on test anxiety. This was the expectation because, not only is CBT one of the interventions that is recommended for treating test anxiety [13, 19]; Drummond and Su argue that anxiety management strategies in clinical settings reduce fear of blushing and blushing itself [20]. They demonstrated that social anxiety rather than expected or perceived blushing can increase facial blood flow during embarrassment. Therefore, reduction of anxiety should also lead to subsiding of the blushing.

Importance of this Study

In general, case studies are important because they help make something being discussed more realistic for teachers, school boards, and others. Case studies help people to see that what they have learned or read about a subject is not purely theoretical but instead can serve to create practical solutions to real dilemmas. With respect to interventions in schools, there is discussion about the use of existing programs because people sometimes reason that those problems are unlikely to be successful for a specific case or child [3]. The thought is that the child is an individual that in some aspects departs from the population of children for which the program was developed. Protocols and programs are seen as cookie-cutter approaches that in practice are unfit. With the current study, an example of a program put into practice for a specific child that departs from peers with test anxiety because of the extreme blushing, provides a clear example that CBT can be followed effectively and can meet specific individual needs.

Case Representation

Tim was a nine year old boy from a two-parent family of average social economic status. He lived with his parents and younger brother near his school in a small town in the Netherlands. Tim had entered school

at age 4, which is common in the Netherlands where kindergarten and primary school are integrated.

Referral Information

The fourth grade teacher referred Tim to the care coordinator (CC) of the school because she noticed that he displayed clear signs of distress (frequent, visible blushing and expressions of worry) and that his learning progress was unexpectedly low. The CC discussed the referral with Tim's parents who confirmed that Tim seemed to be bothered a lot by fear of failure and associated distress. The parents agreed for Tim to be seen by the school psychologist (i.e., author of the paper). In order to remain objectively, all assessments and observations were discussed with a second person, a social worker, who also co-observed the second last session of the therapy.

Assessment

Tim and his parents were interviewed separately from each other using a semi-structured interview. Tim explained that he was very nervous at school before and during tests, and when speaking in front of the class or several classmates. His major concern was that he blushed frequently. According to Tim: "It happens all the time and I get really embarrassed". Tim said that he would like to show more initiative in certain situations, such as playing a game, but that his shyness and nervousness withheld him from doing so. With concern to his school work, Tim often felt unable to concentrate and had many worries ("I think I will fail", "I feel uncertain about the task", "I think I might not be smart enough").

Tim's parents showed great involvement and his mother recognized some of the anxiety symptoms from her own youth. The parents confirmed that Tim was bothered frequently by his anxiety and felt helpless in not being able to reassure him. Tim's parents knew that he blushed a lot at school whereas at home he was much more relaxed. The parents were discussing

repetition of the fourth grade with the CC because of the little progress that Tim made during the school year. They thought that their son was “a sweet, open and bright boy”, but that his fears interfered with his ability to learn. They thought that Tim not only had low test scores, but also had actually learned less than he would have done when he had not been anxious. The symptoms seemed to have developed over a period of one year. The onset of test anxiety at this age falls within the normal range.

Tim completed two self-confidence subscales of the School Attitudes Questionnaire (SAQ; 21): expressive skills and self-confidence in examinations. The SAQ is a psychometrically sound and well-accepted diagnostic tool in the Dutch educational system. Each of the SAQ items consisted of a proposition, and the participant is asked to judge if the proposition is applicable to himself or herself on a short Likert-type response scale that has three options: *that is the case*, *I don't know*, and *that is not the case*. Construct validity and reliability of these scales are good [21]. In comparison to the norm scores, Tim showed confidence well below the average (stanine 3) on the self-confidence in examinations scale (an example of an item is: *During a school test I am usually calm and able to work with concentration*) and extremely low (stanine 1) on the expression scale (an example of an item is: *I get shy when everyone in the classroom suddenly looks at me*).

Treatment Plan

In this study, a Dutch program was used entitled “Je kunt meer dan je denkt” (literally translated to “You can do more than you think”, a Dutch expression meaning that you shouldn't underestimate your abilities). It is a program for small groups of children aged 6-12. It consists of eight sessions and one booster session. The sessions took place in the two months prior to summer vacation and the booster session was given in the second week of the new school year. The intervention was given on Mondays directly

after school, in the remedial teaching classroom of the school. Besides Tim, five other children participated: four girls (one of which was from the same classroom) and one boy, which was Tim's nephew, who was in the third grade.

The core components of CBT are: teaching children to identify and label irrational thoughts and to replace them with positive self-statements or modify them by challenging their veracity (cognitive component); exposure and relaxation training (behavioral components) [22]. These components were integrated in each session, that consisted of: a summary of the last session, discussion of the homework, introduction of a new topic, relaxation exercises, exposure, a game, complimenting oneself (the children wrote down something that they were proud of), and reviewing the session. The exposure consisted of the children taking turns to stand in a puppet theater and talk about a predefined topic. The children were allowed to choose for how long they would talk and could choose to hide in the puppet theater. The games intended to allow children practice group presentations in a fun way. After each session, the children received a letter with a summary and a homework assignment.

Course of Treatment

Session 1

In the first session, the psychologist introduced herself with a collage, then talked with the children about why they were in the intervention group and what they would like to learn. Tim said that he would like to become less anxious and that he wanted to ‘stop blushing so frequently’. He said: “I hate it when it happens. I feel it and I just know that my face is all red”. A story was told about a child with test anxiety and afterwards the children discussed what they recognized. Tim recognized the emotional, cognitive and physical symptoms that were included in the story. The rules were made together with the children. They were formulated positively (e.g., we are quiet when another person is talking, we are kind to each other). The

children then did a game pretending animals in duo's and the others had to guess. Tim complimented himself on making a rule. In reviewing the session, it was clear that Tim had experienced some nervousness, but nevertheless also felt sufficiently safe. While talking, Tim blushed several times.

Session 2

The children had to introduce themselves with a collage that they had made as a homework assignment. Tim was clearly nervous when doing so, but the positive responses of the other children seemed to reassure him. The breathing exercise went really well. The exposure exercise was more difficult. Tim choose to present himself, and used two sentences. He was blushing. Afterwards a game with different types of moving (e.g., running, jumping) was played. Tim anxiously observed the behavior of the others, but during the game did become a bit more brave in his behavioral expression. He complimented himself on doing all the exercises.

Session 3

Tim had successfully worked with the homework assignment (repeating the relaxation exercised). The topic explained and discussed was emotions. The children then played a game pretending they entered a bus, and each time all the passengers would show the same emotional expression as the child who entered. Tim really enjoyed the game. He asked if it could be repeated, which was done after the session was officially finished. The relaxation went well and during the exposure exercise Tim showed slightly more fun, although was still blushing. He answered a question of one of the girls. An exercise was done in which the children had to walk to the belonging emotion labels that were spread around the room while the psychologist mentioned short situations. Tim was able to explain his answers and showed emotional insight. Tim complimented himself on being kind. During the session Tim asked the other children whether he was blushing. He had to smile when one of the others told him that he did, but that it was cute.

Session 4

Tim had spent a lot of work on his homework assignment collecting pictures from newspapers and magazines with emotions on them. The cognitive model of emotional response was explained and practiced using the smart board with several examples. After the relaxation and exposure exercise, the children also role-played several situations, thoughts and feelings according to the model. Tim again asked the other children whether he was blushing and opened up about his feelings of embarrassment when classmates laughed about him at moments of blushing. The more positive responses from his peers in the group seemed to help. He further was stimulated to try the relaxation techniques (which was homework again) at times when he felt he would blush. Tim complimented himself on cooperating so well.

Session 5

This session, the children learned to discriminate between positive, helping thoughts and negative thoughts. Tim was quite able to make this distinction, but found it very hard to think of positive thoughts that he could use for his real-life examples. He accepted help from the other children. As a game, the children had to act crazy. Tim tried a few odd dancing steps, but mainly laughed which seemed to be his way to escape out of a situation he found uncomfortable. Nevertheless, during this session Tim did not blush. Tim complimented himself on getting hot chocolate for everyone at the start of the session.

Session 6

In this session, the children further worked on replacing their negative thoughts. In the relaxation exercise, not only breathing and bodily techniques were used, but also dreaming about positive events. The game of the second session was repeated, but this time the children were asked to move in a way that corresponded with certain thoughts (e.g., I can do this!). Tim had worked on altering his thoughts and showed improvement in finding positive thoughts. Tim

volunteered to be second in the exposure exercise. He complimented himself on being more present in the group. Tim had blushed only during the game.

Session 7

The children learned that it is OK to make mistakes. Tim had also heard this message before by his parents and teacher and was very willing to share experiences with the other children. In the game children had to move objects in a circle without using their hands. The exposure went really well. Tim took several minutes. During the relaxation exercise, Tim was laughing with one of the girls. Tim had not blushed during this session. He complimented himself for helping others.

Session 8

The topic was finding solutions for problems. Tim participated well. In the game the children worked together in two teams getting across the room in different ways and Tim showed some initiative, that he later complimented himself on. The exposure exercise went as well as the previous session. Tim felt sorry that it was the last session. Tim had not blushed.

End of Program

After the eight sessions, the parents were given information about Tim's progress. They also received advice on how to help Tim with relaxation and changing negative thoughts into helpful thoughts. In the booster session, the children received a reminder of all the techniques that they had learned. Tim enjoyed this session and made a relaxed impression.

Results

Observations

Observations during the sessions revealed decreases in Tim's anxiety and blushing. The parents were interviewed after the eight sessions and they felt that there was a significant decrease in Tim's fear of failure. They still agreed that it would be best for Tim to repeat the fourth grade and had more faith that he

would make progression now.

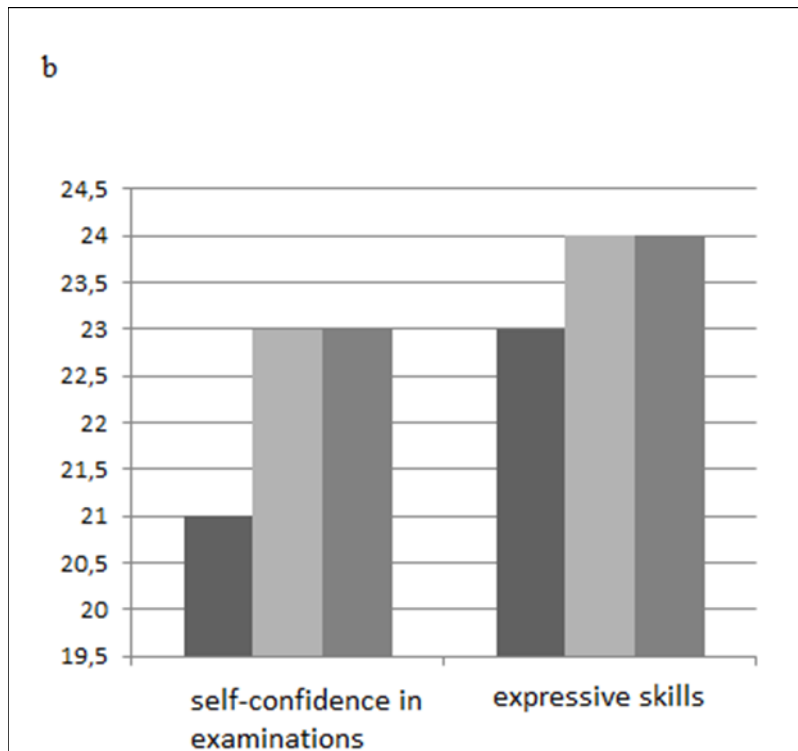
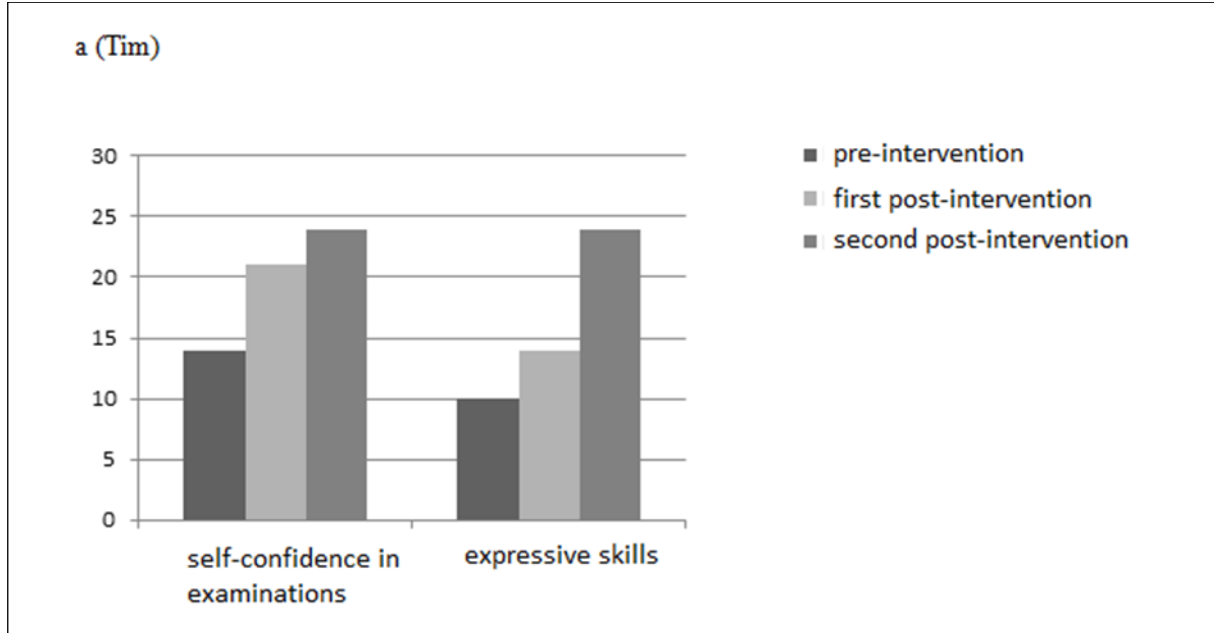
Interview with Tim

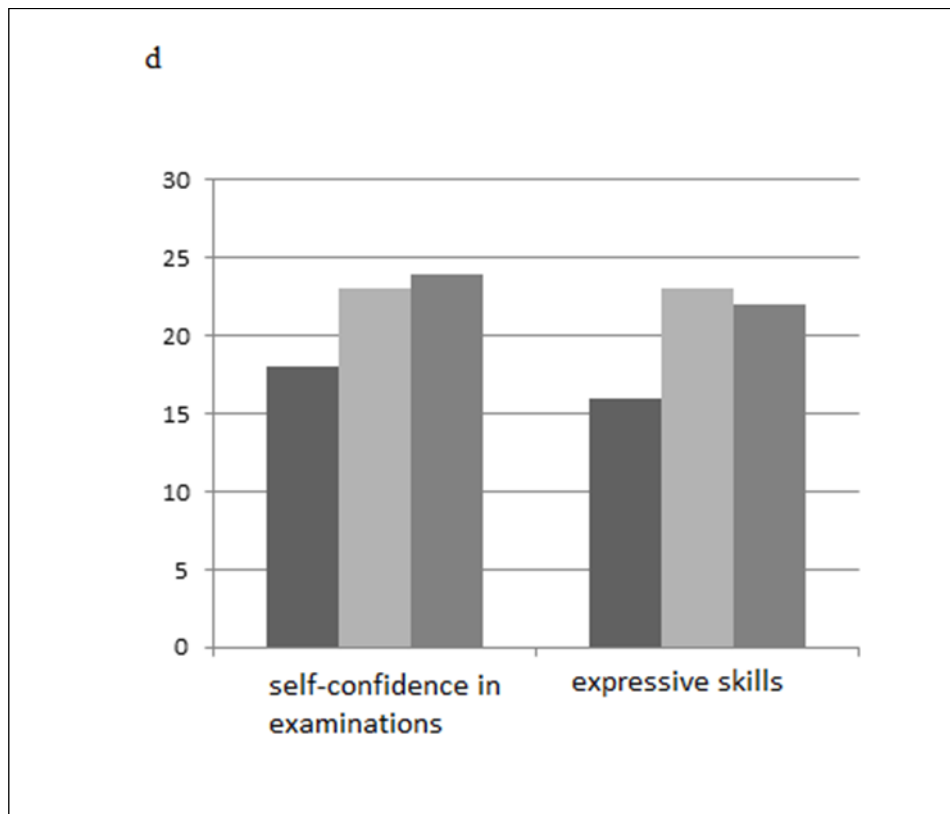
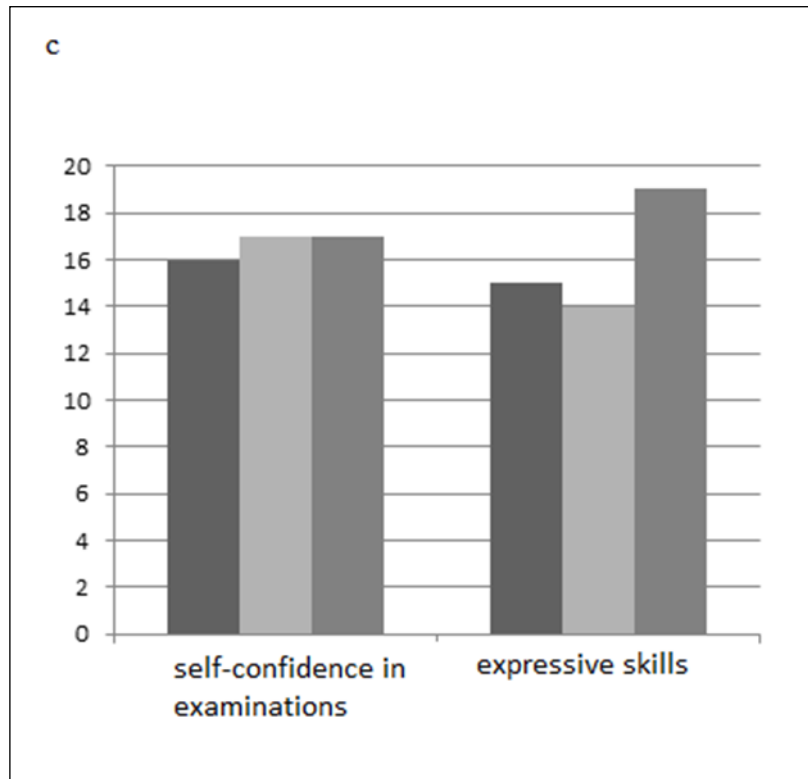
On the booster session, Tim was interviewed during the booster session. He was happy to share some positive experiences.. He said that he felt that although it was exciting to be in a class full of new children, he felt more secure than in the past and had already made some new friends. This was an expected improvement, as in the last session, Tim had explained that even though his confidence in expression was low, he felt that he would be able to become more experienced and he seemed highly motivated to show more social initiative. Further, Tim now thought he blushed much less frequently and he explained that: "I now also know that a lot of children do not think it is stupid when I blush". With schoolwork he found it easier to concentrate and he thought that he would become one of the brightest students of his classroom now he felt more confident.

Questionnaire

On the SAQ, Tim had shown an increase in confidence directly after the eight sessions: his self-confidence in examinations had become average (stanine 6) and his confidence on the expression scale had grown, but was still low (stanine 2). At the second post-intervention assessment (booster session), his confidence on both scales was above average (stanine 8 and 9 respectively). For a picture of the whole group improvement, the graphs of the raw scores of all children are presented in Figure 1a-f. As can be seen, all children showed improvement on at least one of the two scales.

The reliable change index is a statistic that we can use to work out whether a change in an individual's score is statistically significant, based on how reliable the measure is. It is defined as the change in a client's score divided by the standard error of the difference for the test(s) being used. If the RCI is 1.96 or greater, then the difference is statistically significant (1.96 equates to the 95% confidence interval). For the scores





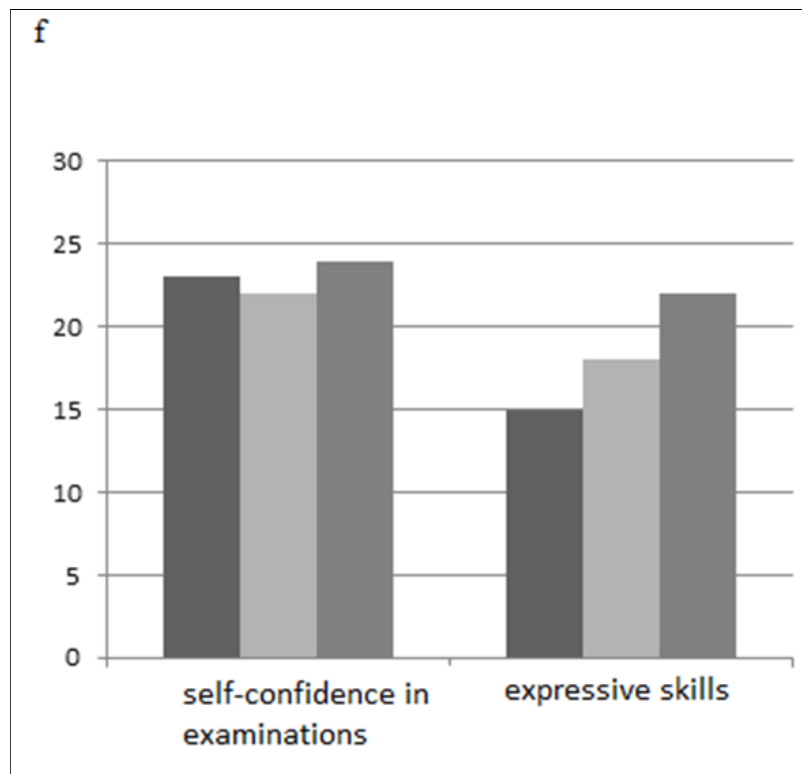
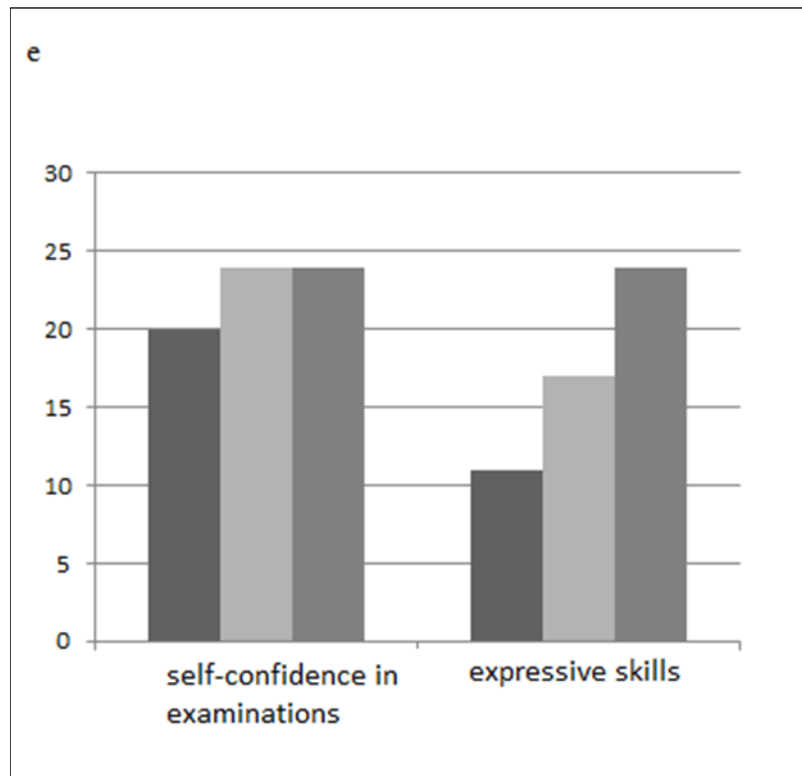


Figure 1a-f. The pre- and post-intervention scores of the children who participated in the CBT group on self-confidence in examinations and expressive skills

of Tim, the improvement in self-confidence in examinations was significant on both occasions: $RCI_1 = 5.22$ and $RCI_2 = 7.14$, when compared to the pre-intervention measurement. The improvement between the first and second post-intervention assessment was significant as well ($RCI = 2.24$). Similarly, for Tim's confidence on the expression scale, although the short time improvement was clinically small (from a stanine 1 to a stanine 2), it was significant ($RCI_1 = 3.08$) and the improvement on the second post-intervention assessment was also significant $RCI_2 = 10.77$. The improvement between the first and second post-intervention assessment of expression confidence was significant as well ($RCI = 7.69$).

Interview with the Teacher

For the long term evaluation of Tim's success, Tim's sixth grade teacher was interviewed three years later. This is the last grade of primary school in the Netherlands. Tim's teacher said that she knew Tim as a very gentle and kind boy. He did not seem anxious and there were no signs of test anxiety or social inhibition. According to the teacher: "Tim can sometimes feel a bit shy in new, social situations, but then he is able to discuss this." The teacher did not notice any blushing in Tim anymore.

School advice

For the final outcome, Tim's academic success, we looked at his performance on the official national test that children take in the sixth and that is used to inform the parents and the school about the child's appropriate high school level (in combination with the impression that the school has formed). On this test, Tim received advice to go to senior general secondary education (HAVO), which qualifies students to enter higher professional education (HBO).

Discussion

In this study, it was investigated what the effects of a small group CBT were for a case of test anxiety with extreme blushing. The current paper described the improvements of Tim during a program

that was given in weekly sessions. Multiple informants and methods provided information that supported that the program was sufficient for both the anxiety as well as the blushing. The positive effect on the school achievement was also supported. The findings therefore confirmed our hypotheses.

With respect to the blushing, it was found that no adjustments to the program needed to be made. The blushing was, however, given attention to in response to initiatives of Tim to share his feelings on this topic. Within the small group CBT there it was possible for all children to share their thoughts and feelings and specific concerns. This may be a factor that is essential to meet the specific needs of all children in a group based program. For this purpose, it seems essential to create a therapeutic environment that feels safe and secure [23]. The relationship with the psychologist [24], but also feelings of safety and friendship between the children should be fostered as these aspects are an important precondition for emotional disclosure in school-aged children [25]. Making positive rules together with the children (e.g., 'We listen to each other') and verbally reinforcing prosocial behavior are concrete examples of how this can be established.

The improvement in Tim's confidence in expressing himself in the presence of others showed a 'sleeper effect' (i.e., a delayed effect of treatment) [26]. This effect might have occurred because Tim needed more practice and positive experiences before an increase in confidence could be achieved. During the treatment, Tim already showed great improvement in the exposure exercise, but there are many different situations in which expression oneself for an audience is needed (e.g., getting a turn in class or being invited for a social event). What is interesting is that Tim already expressed self-assurance in using the learned techniques in order to become more confident directly after the program. When the results of an intervention seem to be disappointing, it therefore might be informative to ask children about their faith in further improvement and

to monitor this.

In conclusion, this case study is an illustrative example of how small group CBT can be applied in the school setting. The gap between research and practice needs to be narrowed because the school setting can have a great impact on a child and is also an important setting where children present mental health problems. The current problem of test anxiety is a clear example of this. The success of the intervention supports the possibilities of schools in fostering a healthy socio-emotional development in children.

Acknowledgements and Conflicts of Interest

With thanks to the child, parents and school to give their permissions. There were no conflicts of interest for the author of this paper. She was working on a voluntary basis.

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