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### Stronger than your voices

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# Stronger than your voices: A cognitive behavioral therapy for youth suffering from auditory verbal hallucinations

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## Abstract

**Objective:** Auditory verbal hallucinations (AVHs) are a common feature in youth and mostly transient. Nevertheless, while present, AVH can cause considerable distress. Children and adolescents seeking help for distressing AVH represent a heterogeneous group in terms of underlying factors, yet they consistently suffer from their AVH. Until now, a youth-specific psychotherapeutic intervention for AVH was lacking. Experts in the field of treating AVH in both adults and youngsters collaborated with service users to develop the cognitive behavioral therapy (CBT) “Stronger Than Your Voices” (STYV). We investigated feasibility and clinical outcomes of the STYV therapy.

**Methods:** Patients were derived from children and adolescents seeking help for AVH at the UMC Utrecht outpatient clinic with an indication for STYV therapy. Therapists preferably originated from referring health care facilities and were required to have sufficient general knowledge and experience with CBT. They received a short individual training to apply STYV. After, patients and their therapists could participate this naturalistic pilot study, assessing feasibility, tolerability, and clinical change when applying the STYV therapy.

**Results:** Six participants (10–16 years old), all suffering from comorbid psychopathology, provided pre and post measures, all completing STYV therapy without experiencing an aggravation of symptoms. AVH total impact decreased 40% with Cohen’s *d* within-group effect size (1.28) also suggesting clinically meaningful change. Therapists were positive about STYV therapy and manual.

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**Conclusion:** The STYV therapy is feasible for youth with distressing AVH. First results indicate that STYV may be clinically effective. A trial to further test effectiveness in a larger sample is needed.

### **Keywords**

Hearing voices, auditory verbal hallucinations, child, adolescent, psychotherapy, cognitive behavior therapy

### **Introduction**

Auditory verbal hallucinations (AVHs) are common in youth, occurring in over one in seven children and adolescents (Maijer, Begemann, Palmen, Leucht, & Sommer, 2018). Although often transient (Bartels-Velthuis, Wigman, Jenner, Bruggeman, & van Os, 2016; Rubio, Sanjuan, Florez-Salamanca, & Cuesta, 2012), AVH can cause considerable distress from a young age (Bartels-Velthuis, Jenner, van de Willige, van Os, & Wiersma, 2010; Escher, Romme, Buiks, Delespaul, & Van Os, 2002) and thus lead to help seeking behavior (Kapur et al., 2014; Maijer, Palmen, & Sommer, 2017). While exact numbers of children and adolescents seeking help for AVH are missing, one in four voice-hearing adolescents in the general population is estimated to be in need of clinical care due to AVH characteristics and co-occurring mental health issues (Maijer, Steenhuis, et al., 2019). In March 2013, the UMC Utrecht started an outpatient clinic for youth hearing voices. When seeking help for AVH at the outpatient clinic, these youngsters represented a heterogeneous group: from being rather healthy and well-functioning at the one end, to highly suffering and urgently needing clinical care at the other (Maijer et al., 2017). This is in line with the current understanding of AVH (and other psychotic symptoms) lying on a continuum, from occurring as a rather benign phenomenon in otherwise healthy individuals at one end to a highly distressing symptom in patients suffering from a wide range of severe psychopathology at the other (Bartels-Velthuis et al., 2016; de Leede-Smith & Barkus, 2013; Edelson, Rabinovich, & Portnoy, 2003; Jardri et al., 2014; Johns & van Os, 2001; Kelleher et al., 2012; Linscott & van Os, 2013; van Os, Linscott, Myin-Germeys, Delespaul, & Krabbendam, 2009). Children and adolescents seeking help for AVH were in need of care due to both their AVH severity and the presence of a wide range of psychopathology (Maijer et al., 2017). In line with findings from Kapur and colleagues (2014), regardless of their levels of suffering, all youngsters and their parents visiting the UMC Utrecht outpatient clinic shared expectancies of finding more information on AVH, a better understanding why they heard voices and—where possible—reassurance. Also, they were relieved to encounter a thorough, though normalizing and de-stigmatizing approach to this phenomenon. Experiences at the outpatient clinic revealed that two targets had to be addressed right from the start: (1) to understand possible underlying causes of AVH, such as psychopathology (e.g., posttraumatic stress, autism spectrum, mood and anxiety disorders), or stress due to circumstantial factors, such as being bullied or family issues, as finding underlying factor(s) associated with hallucinations will provide an opportunity to target these causal factors, and (2) to provide psychoeducation regarding AVH, as most youngsters (and their parents) are scared of their voices and have dysfunctional beliefs about them (e.g., presume them to be almighty entities). Tailored psychoeducation about hallucinations and perception may provide relief and reduce fear of AVH. In most cases, the approach of understanding and targeting possible causative factors combined with psychoeducation was sufficient to meet youngsters' (and their parents') need of care. However, some children and adolescents kept suffering from their voices and were in need for symptom-specific care to enhance their appraisals regarding AVH and reduce the impact of voice hearing such as compliance with

command hallucinations. However, despite increasing research on AVH in youth, age- and symptom-specific psychotherapy was lacking until recently (Garralda, 2016; Jardri et al., 2014). In adults, tailored cognitive behavioral therapy (CBT) has already proven to be effective for treating distressing voices (van der Gaag, Valmaggia, & Smit, 2014). Also, applying therapy such as competitive memory training (COMET; specifically targeting low self-esteem) next to CBT constitutes additive value regarding AVH appraisals and emotional impact of voices (van der Gaag, van Oosterhout, Daalman, Sommer, & Korrelboom, 2012). In youth, targeted CBT for psychotic experiences is also expected to be effective (Ruffell et al., 2016). Therefore, more thorough and symptom-specific psychotherapeutic interventions for youth with distressing voices are urgently needed.

Considering the above contributed to the rationale of the clinicians working at the outpatient clinic to develop the youth- and AVH-specific therapy manual “Stronger Than Your Voices” (STYV).

The STYV manual is designed for all youth, aged 8–18 years, suffering from AVH, irrespective of possible underlying causative factors or psychopathology. In the STYV therapy, psychoeducation is combined with CBT techniques, aiming to provide more adaptive appraisals and enhance coping regarding AVH and resilience in general. Consequently, AVH should become less distressing and dominant and may even diminish or possibly disappear.

This study presents the findings regarding the feasibility and clinical effectiveness of the STYV therapy in a convenience sample of voice-hearing children and adolescents seeking help at the UMC Utrecht.

## Materials and methods

### *The STYV therapy*

The STYV results from a collaboration of experienced clinicians from the outpatient clinics for youth and adults at the UMC Utrecht (among whom the authors K.M., S.J.M.C.P., I.E.C.S.) and Tonnie Staring from the Dutch foundation for CBT in psychosis (see [www.gedachtenuitpluizen.nl](http://www.gedachtenuitpluizen.nl)), the latter having wide experience with developing CBT manuals for symptoms related to psychotic disorders in adults. During the development, the STYV manual was used in the treatment of nine voice-hearing patients (five boys and four girls, age ranging from 10–17 years and underlying psychopathology, varying from mood, anxiety, autism spectrum, attention deficit hyperactivity, and borderline personality disorders). The feedback of these patients and their therapists was used to refine the manual.

The current STYV therapy manual is intended as a guideline for customized training of young people aged 8–18 years who suffer from AVH. In line with a recent review, providing a stepwise approach for clinicians encountering youth with AVH (Majjer, Hayward, et al., 2019), the STYV manual provides clear guidance when and how to use the therapy: basically serving as an add-on therapy for those children and adolescents who, despite psychoeducation and interventions targeting possible causative factors, remain to suffer from their AVH such that they warrant symptom-specific care.

We expect STYV to reduce suffering by increasing perceived control over AVH. Consequently, the voice hearing might decrease or even disappear, but this is not the primary goal. The core idea is that young people become “stronger than their voices.” The attitude is one of normalization. We assume that “voices” are products of your own psyche. Most young people who have problems with hearing voices do not experience it as something coming from themselves. Rather, the voices appear to be something powerful over which they experience very little control. Also, they feel like having very little control over their responses (both emotionally and behaviourally), such as listening to the voices, performing commands, or withdrawing socially. Knowledge about what hearing

voices is (to put it simplified: aberrant activity of your own brain) and experiencing control by means of the *Strong Tricks* step (cognitive and behavioral techniques) in the manual brings back a feeling of control to young people; they can choose how to respond to hearing voices.

The STYV combines psychoeducation with cognitive-behavioral techniques. Therefore, clinicians who intend to work with this therapy should have at least some experience in applying CBT. The manual is structured in four phases: *A Strong Understanding, A Strong Plan, Strong Tricks, and Strong Finish*. The chapters *Feeling Strong* and *Strong Sleep & Relaxation* can be added and tailored to individual needs. These last two chapters are suitable for those patients in whom low self-esteem, a lack of sleep, and an elevated level of stress are frequently contributing elements to their voice-hearing experiences. The number of sessions is not limited in advance; the duration of the treatment will depend on individual needs and progress made during therapy.

At the end of the therapy, the patient will have a *Strong Scheme*, including do's and don'ts to prevent (worsening of) AVH and regain control over AVH. Although the four phases are fixed, the manual serves to develop a tailor-made therapy as therapeutic goals are based upon individual case formulations. Therapist and patient together choose which techniques they will use to reach these goals. The manual provides various supporting forms to complete or to follow for each chapter. The content of the chapters is outlined in Table 1.

### *Involving parents/caregivers*

When treating children or adolescents with distressing AVH, it is important to always include parents or caregivers (and sometimes even other close relatives such as siblings, teachers or peers) in psychoeducation. In most cases, it is not only the youngsters who seek help, but also their parents feel desperate about how to understand and engage with this phenomenon. Therefore, we advise to at least inform parents/caregivers (preferably in the presence of their child) on the steps and progress of the therapy or invite them during or at the end of therapy sessions. The aim is that parents will gain a better understanding how to adequately support their child. This can be reached if parents/caregivers have the same information as their child and discuss their ideas about voices together with the therapist.

### *Participants*

Possible participants were derived from children and adolescents seeking help for AVH at the UMC Utrecht outpatient clinic with an indication for treatment with STYV: these patients had received care following the steps described in the introduction (in short: broad diagnostic assessment, targeting of possible causal factors and psycho-education regarding hearing voices), however remained in need of specific strengthening of their coping abilities toward their voices. There were no specific inclusion or exclusion criteria as STYV aims to provide psychotherapeutic therapy for all youth aged 8–18 years and regardless of underlying (mental) health issues. Medical ethical approval and informed consent was not needed, as agreed upon with the local medical ethical committee (3 March 2016, research proposal 16/129).

### *Training and supervision of therapists*

We encouraged referring clinicians of patients indicated for therapy to apply STYV themselves. Therefore, therapists from several mental health care facilities could participate in the pilot study. In line with STYV protocol, therapists were required to have sufficient knowledge and experience with CBT and the accompanying learning theory principles and skills.

**Table 1.** Stronger than your voices protocol.

Session	Objective	Steps	Practical aids
Fixed chapters Strong Understanding	1. The therapist and the young person get to know each other and together make sense of the characteristics and impact of the auditory hallucinations.	1. Introductory meeting and overall explanation of the treatment procedures.	1. –
Sessions: 2 to 3	2. The young person and his or her environment understand what hearing voices is.	Listing of characteristics and impact of the auditory hallucinations	Voices interview, Strong Measurement Form, and a start with Strong Start Form
Strong Plan	A Strong Plan is developed in this chapter; a treatment plan with objectives and a summary of triggers and previous used tricks with their effects. A Strong Scheme is compiled based on the Strong Plan and finalized during therapy.	Registering for the auditory hallucinations for 1 or 2 weeks	Strong Start Form
		2. Psycho-education (either with young person and parents/important relatives together or (partly) separated	2. Strong Understanding Form
Sessions: 1 or 2		1. Set concrete objectives: what the young person no longer wants to do and what the young person wants to do again after regaining control over the voices.	1. Strong Plan Form and Strong Scheme Form
		2. Make a summary of the tricks and techniques that the young person has already tried and their effects. Also, determine the influence of the circumstances, and record situations that could be possible triggers.	2. Strong Plan Form and Strong Scheme Form (known triggers and previous effective tricks)
		3. Other tips and tricks available are then explained.	3. Strong Tricks Form
		4. A plan of the tricks (strategies) that the young person is going to try out is then drawn up. Also, decide and draw up whether the optional chapters Feeling Strong and Strong Sleep & Relaxation will be used.	4. Strong Plan Form

(Continued)

Table 1. (Continued)

Session	Objective	Steps	Practical aids
Strong Tricks	Discovering effective think, do, and ignore tricks by weekly choosing one or two "tricks" (meaning various AVH-specific CBT techniques, sometimes behavioral experiments).	1. Weekly choose one or two tricks to try out.	1. Strong Plan Form and Strong Tricks Form
Sessions: up to 10		2. Register auditory hallucinations and the effect of the tricks during the week, on either the hallucinations themselves or on thoughts, feelings, and behavior.	2. Strong Writing Form and optional Strong Evidence Form
A Strong Finish	Ending the therapy with a Strong Scheme, to fall back on when necessary, and post measurements.	3. Draw up effective tricks and newly discovered triggers in the Strong Scheme Form. 1. Finalize Strong Scheme Form	3. Strong Scheme Form 1. Strong Writing Form and Strong Scheme Form
Sessions: 1 or 2		2. Perform post measurement	2. Strong Measurement Form
Optional chapters			
Feeling Strong	This chapter deals with the self-image so that the young person can again feel strong.	1. A strong qualities list is drawn up and the aim is to add two new positive characteristics every week. 2. Use the positive diary to record three positive points about oneself every day.	1. Strong Qualities Form 2. Strong Diary Form
Sessions: up to 10 (during the fixed chapters of STYV)	Increase resilience by promoting sleep and relaxation.	1. Explore current lifestyle and sleeping pattern to understand where sleeping hygiene can be optimized. 2. Keep a sleeping diary	1. Strong Sleep Form 1 2. Strong Sleep Form 2
Sessions: up to 10 (during the fixed chapters of STYV)		3. Run through possible relaxation exercises and try one or several during therapy session, and choose one or two to daily practise at home.	3. Strong Relaxation Form

AVH: auditory verbal hallucinations; CBT: cognitive behavioral therapy; STYV: stronger than your voices.



Before starting therapy, one of the developing clinicians (K.M.) contacted all eligible therapists to explain the principles, aims, and steps of the STYV therapy and the pilot study, and to discuss possible questions regarding the manual and/or a specific patient either through a visit at their mental health care facility or by telephone. Supervision opportunities during therapy were available (by K.M. and T.S.).

## Measures

*Baseline demographic, clinical, and AVH characteristics.* Basic demographic data (age, gender), primary psychiatric diagnosis, and AVH characteristics were assessed at baseline using the voices interview, an adjusted version (Majjer et al., 2017) of the Auditory Vocal Hallucination Rating Scale (AVHRS) (Bartels-Velthuis, van de Willige, Jenner, & Wiersma, 2012).

## Clinical outcome by impact of AVH

The impact of and perceived control over AVH were assessed at baseline and at the end of therapy, using the 16 questions from the STYV Strong Measurement Form, rated on a 10-point scale (0=not/never/nothing and 10=completely/always/everything): how often do you hear negative voices; how often do you hear positive/neutral voices; when hearing voices, how often do you suffer from them; when hearing voices, how much do you suffer from them; how strongly do you believe your negative voices; how strongly do you believe your positive voices; how strongly do you agree with your negative voices; how strongly do you agree with your positive voices; how strongly do you perceive control over your voices; how often can you ignore your voices; how often do you follow up on your voices' commands; how often do your voices make you feel happy/frightened/angry/sad/shameful (and in case of other emotions these can be added). Impact of AVH was calculated by adding the scores per item (with inversed scores regarding the items "how strongly do you perceive control over your voices" and "how often do you follow up on your voices' commands"), resulting in a lowest impact score of 0 and a highest impact score of 160. Treatment effect is estimated with these pre and post measures.

## Therapist feedback questionnaire

Items regarding engagement and clarity, completeness and perceived usefulness of the STYV treatment were assessed using open-answer questions after ending the therapy.

## Design and statistics

The design was a naturalistic pilot study. Outcome measures were completed pre and post therapy. Therapists' feedback forms were completed post therapy.

Statistics were performed using IBM SPSS Statistics version 23.0. Descriptives and *t*-tests were used to analyze the data and calculate Cohen's *d*.

## Results

Eight children and adolescents and six therapists participated in the pilot study. Therapists were one child and adolescent psychiatrist, one general remedial educationalist, one mental health psychologist, and three general psychologists (in training to become mental health psychologists) from four different mental health care facilities in the Netherlands (Apanta, GGNet, Eleos and the



UMC Utrecht). Two of the psychologists in training at the UMC Utrecht both performed two therapies. None of the therapists was fully trained and registered with the Dutch Association of CBT. The psychiatrist had had some CBT training within the psychotherapy training of her regular educational program to become a psychiatrist. The mental health psychologist and the general remedial educationalist were at the level of 100 hours basic CBT training, and the other psychologists were underway with the same 100 hours basic CBT training. All of them had achieved their CBT skills under supervision of a more experienced CBT therapist. Only the general remedial educationalist made use of supervision by K.M. Two general psychologists in training from the UMC Utrecht received supervision during STYV treatment from their educational supervisor.

From the eight youngsters entering the study, one 11-year-old girl, suffering from severe psychotic disorder, aborted STYV treatment preliminary after 10 therapy sessions as it became clear during treatment that the severity of her psychotic condition prohibited her from effectively engaging psychotherapy. Also, one child did not finish the *Strong Finish* chapter due to disengagement from therapy and contact with the clinic all together. She was actually an early completer; her hallucinations had completely disappeared at her last session. Unfortunately, the Strong Measurement Form could not be or was not filled out and post measures were therefore missing. Thus, data from six youngsters could be analyzed. Table 2 displays their demographic data and AVH characteristics.

All seven children worked through the chapters *Strong Understanding*, *Strong Plan*, and *Strong Tricks*.

Total mean Strong Measurement pre measure was 83.8 and total mean post measure was 53.6, displaying a total mean difference of 30.2 and thus almost 40% decrease of total AVH impact after STYV therapy with Cohen's  $d$  within-group effect size of 1.28.

Figure 1 shows the Strong Measurement pre- and post-CBT mean scores for each item on total group level and per individual participant.

Two therapists filled out the therapist feedback form (of whom one of the participants had aborted the study preliminary) and three therapists provided feedback on request per email. All therapists indicated to be content regarding clarity, usability, and usefulness of the manual and STYV treatment in general. None of the therapists provided comments or remarks for improvement. None of the therapists needed further supervision to be able to work with the STYV manual.

## Discussion

### Summary of main findings

We assessed feasibility, tolerability, and possible clinical impact of a manualized, symptom-specific CBT intervention for children and adolescents aged 8–18 years suffering from AVH, regardless of underlying causes or psychopathology. Clinical change was favorable, with a significant decrease of mean total impact of AVH after applying STYV therapy and an estimated high within-group effect size (Cohen's  $d$  1.44), pointing at a good clinical significance. Also, therapists' feedback was positive regarding STYV therapy, while working through the manual was found to need no further supervision.

Although STYV, at this time, seems to be the first youth- and symptom-specific CBT, psychotherapy for youth targeting a broader spectrum of psychotic-like symptoms is currently being developed. In the United Kingdom, the CBT-informed treatment protocols "Coping with Unusual ExperienceS" (CUES and CUES+) for youth are being developed and evaluated (Jolley et al., 2017; Jolley et al., 2018). The CUES also draw on previous pilot work by Maddox and colleagues (2013),

**Table 2.** Demographics and descriptives.

Case	1	2	3	4	5	6
Age (years)	15	12	13	10	14	16
Gender	Female	Female	Male	Male	Female	Female
Primary diagnosis	Depression	General anxiety disorder	Autism spectrum	General anxiety disorder	Autism spectrum	Depression
Duration of AVH	3 years	7 years	1 month	4 years	8 years	6 months
Other modalities	Visual	Visual	None	Visual	Olfactory	None
AVH characteristics						
Frequency	Continuously	Once a day	Continuously	n.p.	Once a day	Once a week
Duration	Seconds	n.p.	Hours to continuously	n.p.	Minutes	Minutes
Time	Certain situations <sup>a</sup>	n.p.	Random moments	n.p.	Certain situations	Certain situations
Loudness	n.p.	n.p.	As own voice	n.p.	Whispering	As own voice
Individual or not	Multiple voices, simultaneously	One voice	Multiple voices, simultaneously	Multiple voices	Multiple voices, simultaneously	Multiple voices, one voice at a time
Type	Known and unknown	Unknown	Unknown	n.p.	unknown	Known and unknown
Content	Comments and dangerous assignments	Comments	Dangerous assignments	Comments	Comments and dangerous assignments	Comments and assignments
Negativity	Negative and neutral	Negative	Negative and neutral	Negative	Negative	Negative
Suffering	Always	n.p.	Most of the time	Always	Most of the time	Sometimes
Controllability	None	n.p.	50% of the time	None	50% of the time	50% of the time
No of sessions	6	12	14	13	8	6

AVH: auditory verbal hallucinations; n.p.: information not provided.

<sup>a</sup>Certain situations, for example, when feeling stressed or tired, or when being at school.

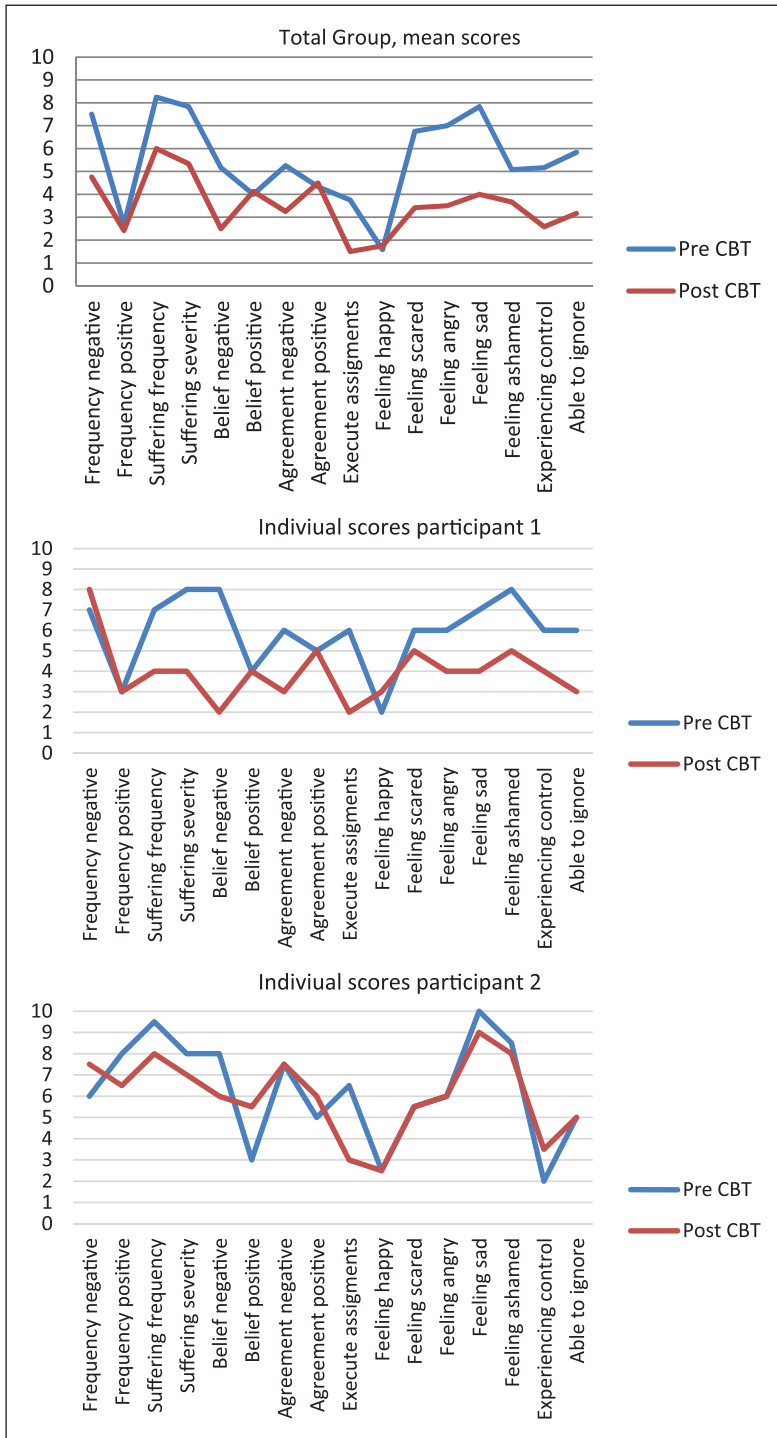


Figure 1. (Continued)

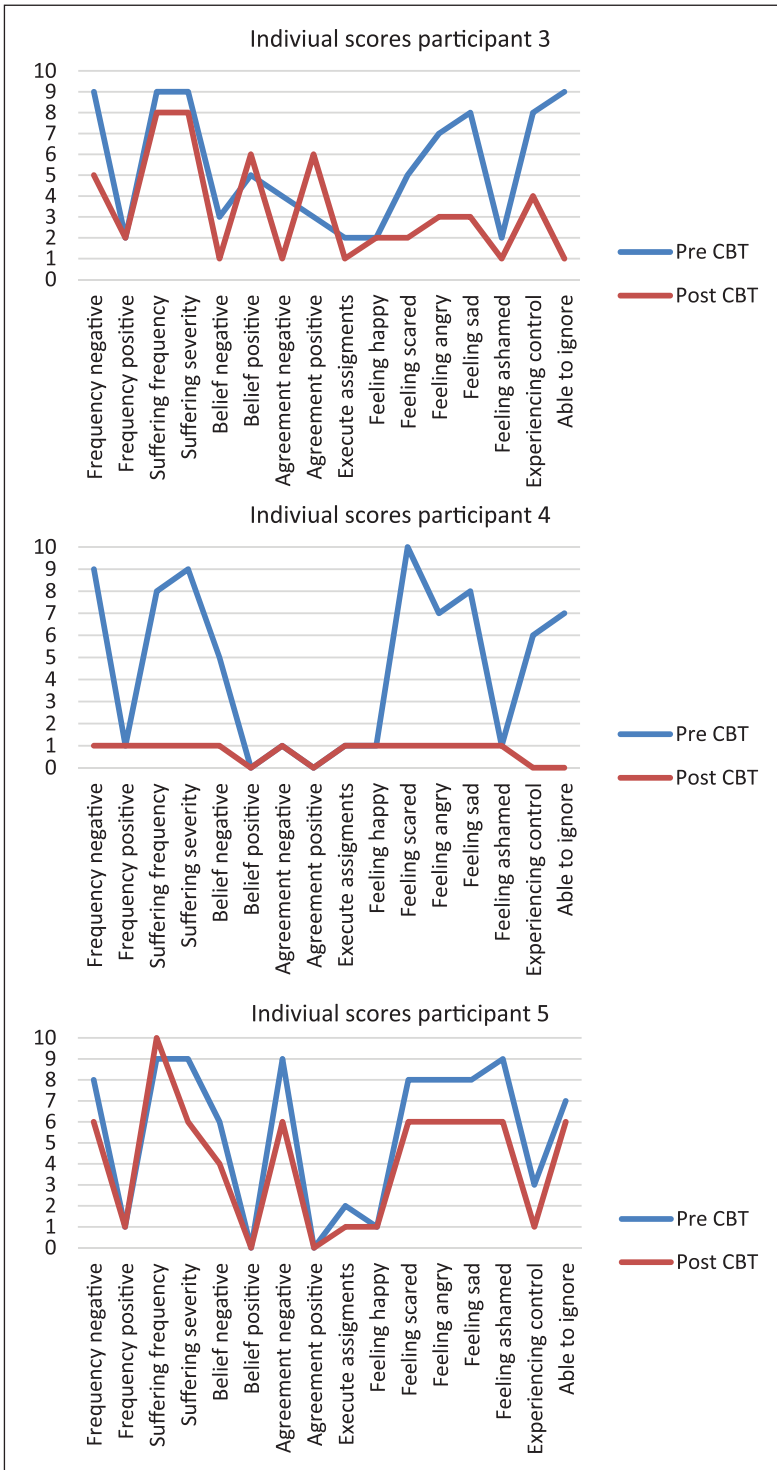
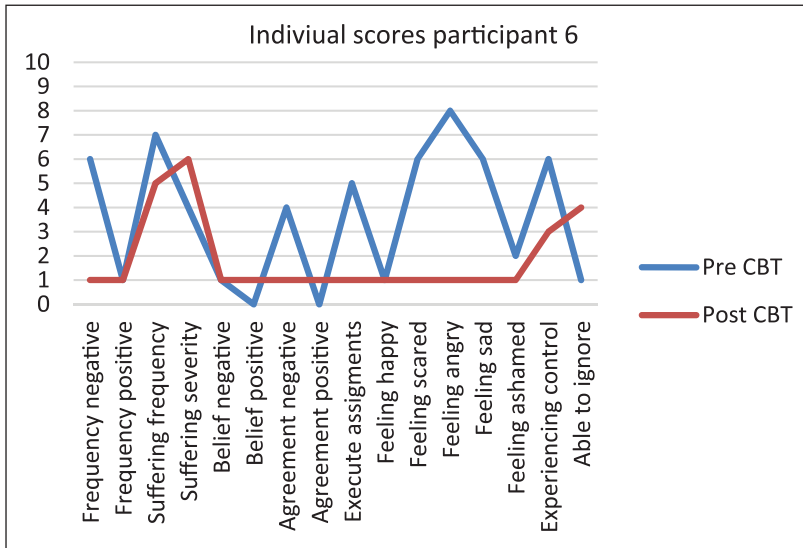


Figure 1. (Continued)



**Figure 1.** Strong measurement pre- and post-CBT outcomes.

also showing positive results in a case series of CBT for children suffering from psychotic like experiences. While the main approach (both combining psychoeducation and CBT-techniques) and duration (up to 14 sessions) of STYV and CUES(+) (Jolley et al., 2017; Jolley et al., 2018) are comparable, the core difference is that STYV provides a single symptom targeted psychotherapy where CUES(+) is designed for youth with various forms of unusual (or psychotic-like) experiences (UE). Interestingly, the findings of the CUES study pointed out that UE-CBT is most promising to improve UE-specific outcomes rather than psychopathology in general (Jolley et al., 2018). This is in line with the aim and view of STYV to provide an add-on therapy, specifically targeting the impact of AVH, but only after (or next to) interventions primarily focusing on possible causal factors.

### Limitations

This study examined feasibility and clinical impact of a newly developed CBT protocol. Despite the high numbers of children and adolescents seeking help at the outpatient clinic, only a small sample actually participated in our pilot study. Diverse factors accounted for this. For example, rather than treating participants ourselves, we encouraged referring clinicians to work with STYV protocol, thereby enabling patients to receive treatment near home and clinicians to become more comfortable in treating youngsters hearing voices themselves. However, given the lack of support to formally implement this pilot study, we chose to invest in prior contact with eligible therapists to explain principles and aims of the therapy. Afterwards, we were limited in our abilities to actively follow up on therapists and their (possible) participants unless they contacted us or only by the time we expected them to have finished STYV treatment. When we did follow up on therapists, in some cases, it turned out that STYV treatment had not been applied after all or that pre and post measurements were not performed. Due to the small sample size, our estimate of the effect of the treatment is unreliable. Also, therefore, *p*-values were not reported. Another weakness of our study is that a comparison group was not included, and assessments were not blind. Moreover, the Strong Measurement Form is a newly developed questionnaire to assess impact of AVH, which has not yet

been validated. Also, treatment goals were individually set, based on AVH consequent burden and behavior. Therefore, the STYV Strong Measurement outcome only roughly represents the effectiveness of the therapy.

### **Strengths and clinical considerations**

Our results suggest that a symptom-specific intervention for youth with distressing AVH (and concurrent psychiatric disorder(s)) may be both feasible and beneficial to reduce AVH impact. The STYV corresponds to youths' and parents' need to better understand, normalize, and de-stigmatize this phenomenon and to diminish AVH intrusiveness and consequent emotions and behavior (Kapoor et al., 2014; Majjer et al., 2017). Therapists reported to feel more confident to address and treat youngsters with distressing AVH when using STYV, and they needed no further supervision to be able to work with the manual. This is in line with our aim to develop a therapy protocol that is easily applicable and can be used by any clinician with at least some minimal CBT training. Consequently, youth suffering from AVH would not necessarily need to be referred to the sparse specialized clinicians to receive adequate treatment.

### **Conclusion**

The findings of this study suggest that STYV therapy may be both feasible and clinically effective for youth aged 8–18 years suffering from AVH. For therapists to be able to use STYV, sufficient CBT knowledge and experience is required, but no extended training or further supervision seems to be needed. A trial in a larger sample is needed to more robustly examine therapy effectiveness, preferably with the inclusion of a control group.

The Dutch version of the STYV manual can be downloaded free of charge at [www.gedachtenuitpluizen.nl](http://www.gedachtenuitpluizen.nl). A preliminary English version of the manual can be obtained from the first author (K.M.).

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