Research protocol:

Evaluating the Back 2 school program in a Norwegian setting: A multicenter pilot study.

Revised Version– Date 21st October 2022

Background

Some youth find it difficult to attend school. This may lead to absence, intermittent or continued, which jeopardizes academic development (Carroll, 2010) and often contributes to impaired social-emotional development (Malcolm, Wilson, Davidson, & Krik, 2003). Recurrent and prolonged school absenteeism is a complex problem with numerous causes (Havik et al., 2015) and risk factors (Ingul, Klöckner, Silverman, & Nordahl, 2012). It is also a major predictor for school drop-out (Calderon et al., 2009; Christle, Jolivette, & Nelson, 2007). Longer-term problems linked with school drop-out include unemployment, imprisonment, ill-health, and marital problems (Kearney, 2016).

Problematic school absenteeism (SA) has been defined by Kearney (2008) as: (1) having missed at least 25% of total school time for at least 2 weeks, (2) experienced severe difficulty attending classes for at least 2 weeks, with a significant interference in the young person's or family's daily routines, or (3) had more than 10 days (or 15 %) absence during any 15-week period in the school year. In this study, the definition by Kearney (2008) for problematic absenteeism is adapted. One advantage of this definition is that it allows for interventions with youths whose absence is sporadic but still problematic.

There has been considerable confusion on how to conceptualize School attendance problems (SAP). Terms such as truancy (TR) and school refusal (SR) have traditionally been used to describe different types of problematic school absenteeism (e.g Heyne, et al., 2019), and interventions have usually been designed for either TR or SR. Research indicate that groups overlap, and that diagnostic heterogeneity is considerable (Egger, Costello, & Angold, 2003).

In Norway, there are no official guidelines and records for registering absence in primary and secondary education. Therefore, few reliable measures of the proportion of children and youth with SA in Norway exists (Palmu et al., 2021). One study of 5465 pupils in 6th to 10th grade showed that 3,9 % had been absent for more than 10 days within the last 3 months, which qualify for SA, and 7.5% of the students were absent more than 8 days last 3 months, which constitute 13.3% of the schooldays (or more) (Havik et al., 2015). According to descriptions of school and health professionals, the proportion of young people with problematic SA seem to have augmented during the Covid-19-pandemic.

A recent meta-analysis of six psychosocial interventions for SR, five Cognitive Behavioural Treatment (CBT) trials and two medication plus CBT trials, showed a significant reduction in school absenteeism with a moderate effect size (g = .54), but no significant effects on anxiety symptoms (B. Maynard et al., 2018). A systematic review of TR interventions found a moderate and significant mean effect-size, g = .46 (average improvement in attendance of 4.69 days), but 15 of the 16 studies reported absence rates above 10% posttreatment (B. R. Maynard, McCrea, K. T., Pigott, T. D., Kelly, M. S., 2013) .

Researchers have called for an integrated and common perspective to the complex problem of school absenteeism, that take into consideration the multiple causes and risk factors, and both

personal, familial and school related factors that influence the individual youth (Kearney & Albano, 2004). There is a need for studies that develop and evaluate integrated and comprehensive interventions to problematic SA, which incorporate different treatment needs of this heterogeneous group (Kearney & Ross, 2014; Maynard et al., 2013). Few such studies exist, with one exception being the Back2School (B2S) study in Aarhus, Denmark (Thastum et al., 2019). The Back2School (B2S) program is a modular trans-diagnostic CBT intervention aimed at increasing school attendance and decreasing psychological problems among youths with problematic SA. The Danish B2S study was a randomized controlled treatment trial comparing the effects of the B2S program against treatment as usual (N= 152; 60.5 % boys; 12.15 years mean age) (Lomholt et al., 2020; Thastum et al., 2019). Results of the B2S study, indicated significant and positive effects on attendance rate from pre to 3-month follow-up (*d* = 0.73) for the B2S condition, but with no significant difference when compared to the TAU condition (*d* = 0.60) (Johnsen, Lomholt, Heyne, Jensen, Jeppesen, Silverman, & Thastum, 2020). The B2S study in Denmark faced challenges with the validity of measurements of school attendance and found insufficient correspondence between parental reports on absence data with official records data. This made the interpretation of results difficult. The B2S study found, however, that the youths in the B2S group had significantly larger reductions in symptoms of psychological problems (e.g., the Strengths and Difficulty Questionnaires) and improvement in school related self-efficacy from pre – 3-month follow-up compared to youths receiving TAU, with on average medium group effect sizes *(d*'s ranging from .29 to .58).

The theoretical approach of the B2S program is transdiagnostical, based on a modular CBT manual. The program aims at addressing both school attendance problems and mental health problems that are associated with SA. The intervention combines a functional and a CBT approach. The functional approach involves identifying the motivational function of the child's school absenteeism and includes 1) avoidance of school-based situations that provoke negative affectivity (anxiety/depression), 2) avoidance of aversive school-based social/evaluative situations, 3) pursuit of attention from significant others outside of school, and 4) pursuit of tangible reinforcement outside of school. The cognitive approach addresses prevalent negative cognitions in this group, e.g., cognitions concerning the youth's ability to cope with situations related to school attendance (Thastum et al., 2019). Also, focus on increasing school related self-efficacy may reduce associated emotional and behavioural problems and promote reengagement with school.

Scope of the research project

Pilot study:

In Norway, there is a lack of a clear and systematic approach for helping children and youths with problematic SA. Developing effective interventions and procedures for helping children with SA is important. The ambition of the present study is to adapt a new and promising intervention, aiming to improve the help offered to children, youth and families struggling with problematic SA in Norway.

The Norwegian B2S study is developed in collaboration with Professor Mikael Thastum at the University of Aarhus, Denmark. The planned pilot study is a collaboration between researchers at all the four Regional Centre for Child and Youth Mental Health and Child Welfare (RKBU North, West, Middle and RBUP South/East), and at the University of Bergen, Stavanger, Norwegian University of Science and Technology (NTNU), UiT the Arctic University of Norway, and the University of Aarhus, Denmark.

In the pilot study, the B2S program will be tested and evaluated in eight municipalities in all regions in Norway. Data will be collected during the school term of 2022-23. Based on the experiences from the pilot study, the research group aims to develop a large-scale randomized control intervention study of B2S in Norway.

Primary aims

The pilot has several aims. One overall aim is to gain experience in using the Back 2 School program in Norwegian community school- and health services and to assess the feasibility of the program in those settings. Another aim is to prepare and establish resources and infrastructure for a larger intervention study, and to establish a well-functioning cooperation between researchers, research organizations, and municipalities in different regions. Also, questions regarding the process of implementation of the program in community service settings will be an important issue for the pilot study.

By using a mixed method approach we will combine quantitative and qualitative methods addressing the following research questions:

Quantitative:

1. What are the characteristics of youths with SA and their families?
2. What are the changes in school absence rate, school related self-efficacy, and psychological difficulties following the intervention?
3. What additional needs for interventions and services are identified at termination of the program?
4. What is the degree of drop out, and level of satisfaction with the B2S program among children, parents and teachers?

Qualitative:

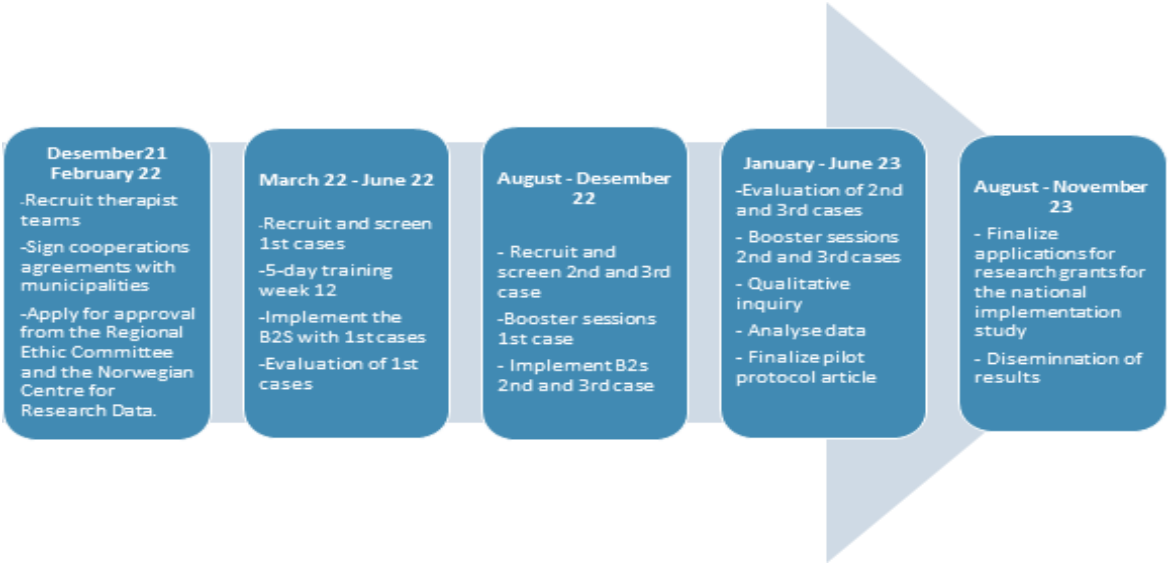
5. How do children, youths and their caregivers experience the B2S program? In what ways has the intervention been helpful? Are there ways the program and service system should be changed to better fit the needs of the youth and families struggling with SA? What would be optimized treatment and services for this group?
6. How do the therapists experience working with the B2S program to help children and youth with problematic SA? How did the therapists experience the training, the manual and the supervision? Are there ways the program and service system should be changed to better fit the needs of the youngster and families struggling with SA? What do the therapists consider to be optimized treatment and services for this group?
7. How do school staff experience the B2S program and the extended school module?

Based on the findings from the pilot study we aim to answer the following questions:

- How should a larger-scale implementations study of the Back 2 School program be planned, optimized and conducted?
- What should be the treatment comparison condition?
- What is an optimal level of school involvement in B2S?

Resources and timeline

Figure 1: Timeline of the pilot study in Norway



Project period

Data for the pilot project will be collected during the schoolyear of 2022 -2023. The analysis of the results and writing of reports are planned for the autumn of 2023. During the same time the project group plans to write the application for funding of the national effectiveness and implementation study, the main study.

The training of the professionals teams in the B2S program will be given during the week from the 21st to the 25th of March 2022. Beforehand, the teams have recruited a case for the first implementation of the program (the rehearsal case). The project group recommends that the first implementation is conducted shortly after the week of training. The data collected during the rehearsal case will not be included in the database of the pilot. The teams will meet with the supervisor team weekly as soon as they start implementing the B2S.

From august 2022 through June 2023 each team will conduct the B2S program and collect data from two cases each.

Methods:

Participants and settings:

16 youth (6-16 years of age) will be included in the pilot study. The study will be conducted in eight Norwegian municipalities. Each region (East, West, Middle, North) recruits one to two teams of professionals from their geographical area. The setting for the B2S intervention is within first line services in the municipalities that are imposed to provide services for the target group.

Inclusion/ exclusion

In the pilot study, the following inclusion criteria applies:

1) Youth enrolled in a public school within the municipality,

2) aged 6–16 years and in 1st to -10th grade (excluding second semester of the 10th grade),

3) having a level of school absenteeism above 10% during the last 3 months of school (excluding legal absence, e.g., permitted extra holidays),

4) The youth and at least one parent/caregiver understand and speak Norwegian sufficiently to participate in the intervention and complete questionnaires,

5) At minimum one of the parents is motivated for working on increasing the youth's school attendance,

6) The participating families are willing to record baseline levels of school absenteeism and to participate in assessment, intervention procedures, and follow-up assessment,

7) Written informed consent from caregiver with judicial parental rights and responsibilities (usually both parents) to take part in the B2S pilot study is obtained.

8) Youth with a diagnosis of autism spectrum disorders cannot be included in the pilot study (exclusion criteria). Also, youth in need of acute and/or more intensive specialist mental health services (e.g., due to suicidal risk, ongoing symptoms of psychosis, ongoing eating disorder) cannot be included.

Design:

Quantitative study:

The evaluation of changes in school absenteeism (primary outcome) of the B2S program will be conducted using a multiple - baseline across subjects' design comparing the individuals' baseline levels of school absenteeism with the level of absenteeism following participation in the B2S program. The structure of the multiple baseline design with *16* subjects is comprised of two treatment conditions, a baseline (control) and an intervention condition with *N* equally spaced measurement occasions (Hedges, Pustejovsky, & Shadish, 2013). Thus, each subject function as their own control. Changes in secondary outcome measures (psychological wellbeing, school related self-efficacy) are assessed through repeated measurement at pre- (T1), and post intervention (T2). Information regarding additional needs for interventions and services is registered at T2 and at the 3-month booster session (T3).

Qualitative study:

In-depth interviews with 8-10 of the young people, their caregivers and school personnel concerning their experience with participating in the B2S program will be conducted. The interviews will explore questions concerning program specific evaluation, but also questions to identify important success criteria and obstacles to getting help from the intervention. Focus group interviews with professionals concerning feasibility of the B2S program within the system of care will be conducted.

Procedure:

Professionals

Each municipality forms a B2S Team consisting of three professionals. The teams will be interdisciplinary including both member(s) with a relevant health profession (clinical psychologist, medical doctor, health nurse, social educator) and member(s) within a pedagogical profession (teacher, special educator).

Training

All professionals receive a 5-days training course comprising assessment measures and proceedings, case formulation and the Back 2 School manual. Following training, the teams will be given weekly supervision by an interdisciplinary team of supervisors, consisting of 1 CBT expert and one with educational professional background, to ensure adherence and quality in delivery. The B2S teams receive a total of 70 hours of training (35 hours) and supervision (estimated 35 hours) during the pilot study.

Recruitment

The recruitment procedure for the Back2School pilot study is as follows:

1. The Back 2 School team in the communal service go through referrals to find students that can be relevant for inclusion to the pilot project.
2. Administrative personnel from the communal service send out information about the pilot students to relevant youths and families, together with other information concerning their referral to the service. In the information-brochure the contact information for setting up an information meeting about the B2S pilot project is provided. The families are encouraged to contact the service to set up an information meeting within a week from the time when they received the information.
3. If the family haven´t contacted the service within 10 days, they will be assigned the communal service´s ordinary measures.
4. When the family contact the communal service to schedule an information meeting the service find a time and place for the meeting with the family. Information regarding the project and consent is not presented on the telephone.
5. In the information meeting with the family the B2S team from the communal service present the B2S program, and the procedures for the pilot project.
6. The family get the “Informed consent to participate in the B2S – pilot study" (“Samtykkeskriv for deltakelse i B2S-pilotstudie”) and are asked to contact the service within a week if they wish to consent to participate in the project.
7. When the informed consent is signed the student and caregivers receive the collection of questionnaires (T1) on paper, together with scheme for registering school absence to the youth and to the parents.
8. When the T1-qestionnaires from the youth and both parents are returned to the B2S team they are archived in the communal service secure journal system.
9. The parents sign the communal service consent scheme to allow cooperation with the school.
10. When the consent to contact/cooperate with the school is signed, the B2S team contact the school to inform about the B2S, and to hand out the T1 questionnaire to the main teacher.
11. The B2S-teams of the communal services collect the questionnaires, and the person-identifiable information is removed (name and date of birth are removed). The questionnaires are sent to the local project coordinator for that region. To calculate scores according to standardized norms information regarding gender and age must be provided for each individual.

Assessment

All data collection and assessment within the pilot study are obtained for two main aims: 1) To inform treatment planning and adjustment of the intervention when implementing the B2S program with each individual youth and family, and 2) To answer the research questions of the pilot study.

At inclusion to the pilot study, the youth, parents and teachers immediately start to register school absence (primary outcome) daily on paper form. The Back2School team send the T1 collection of questionnaires on paper forms to the families by post or the questionnaires are handed to the families when they sign the informed consent to participate in the pilot study. Youth aged ≤ 11 years fill out the questionnaire themselves. Children aged ≥ 10 years fill out the questionnaire with the aid from the B2S counsellor/team. The absence registration forms and the collection of questionnaires at T1 from the youth and the parents are collected by the B2S team at the pre-meeting interviews. Collection of T1 questionnaires from the school is sent by post and collected by the B2S team at the first school meeting. Two weeks prior to the last meeting (T2), the collection of T2 questionnaires is sent in paper form to the youth, the parents and the school. T2 assessments are collected by the B2S team at the last session of the program (T2). Assessment from the school is collected by the B2S team at the last school meeting (T2) or at the booster session with the school. The paper forms from the T1 and T2 assessments are handed over to the regional project manager in the next supervision session after the data has been collected from the families and schools.

Measures:

Primary outcome measures

The primary outcome measure is school absence data registered on paper-form on a daily basis by teachers, parents' and youths 2 weeks prior to initiation of the program (T1), 2 weeks prior to the finalization of the program (T2) and 2 weeks prior to the 3-month follow-up meetings (T3). We use a revised version of the absence register form included in the Back 2 School manual (see appendix 1). The informants register presence/absence session by session during their school day, including a remark on presence according to their individual schedule. The forms from all informants are handed in to the B2S counsellor.

Informants start recording absence data for the baseline phase immediately after signing the informed consent. Absence data will be recorded in days and hours absent from school. In addition, official school record absence data is recorded retrospectively during a period of 2 weeks prior to initiation of the program (T1), 2 weeks prior to the finalization of the program (T2) and 2 weeks prior to the 3-month follow-up meetings (T3).

Secondary outcome measures:

Secondary outcomes measure changes in psychological wellbeing, quality of life, and issues related to difficulties attending school. Secondary measures are repeated at baseline and at termination of the program (T2).

The Strengths and Difficulties Questionnaire (SDQ-C/P/T): The SDQ (Goodman, 1997) is a 25- item screening instrument covering emotional, behavioural and social difficulties, peer relations, prosocial behavior, as well as five questions regarding functional impairment in children and adolescents (2 – 17 years of age). Both the self-report version (from age 11), and the parent- and teacher- report versions will be used. The SDQ is a well-established and widely used measure with acceptable to good psychometric properties (Goodman, 2001; H. Kornør & Heyerdahl, 2013; H. Heyerdahl Kornør, S., 2014; H. & Heyerdahl Kornør, S., 2017)

The Spence Children's Anxiety Scale (SCAS C/P) (Spence, 1998): The SCAS is a self-report and parent reported rating scale with 38 items (child version includes additional six positive filler items) regarding symptoms of anxiety rated on a 4-point scale. SCAS consists of six subscales: social phobia (six items), panic disorder and agoraphobia (nine items), generalized anxiety disorder (six items), obsessive–

compulsive disorder (six items), separation anxiety disorder (six items), and fear of physical injury /simple phobia (five items). Both the youth (SCAS-C) and the parent version (SCAS-P) will be used. SCAS has demonstrated good psychometric properties internationally as well as in previous Scandinavian intervention studies (Arendt, Hougaard, & Thastum, 2014; Haugland *et al.*, 2020; Nauta et al., 2004; Wergeland *et. al,* 2014).

The Mood and Feelings Questionnaire (MFQ C/P) (Angold et al., 1995; Costello & Angold, 1988): The MFQ is a 33-item screening tool for depression in youths aged 6 to 19 years. In the pilot study we use the short version of the MFQ with 13 items. The MFQ includes a youth (MFQ-C) and a parent version (MFQ-P). The MFQ is valid in identifying children presenting with major depressive episodes, and the MFQ-C and the MFQ-P used in combination augment this validity (Daviss et al., 2006). The Norwegian version of the MFQ has shown good psychometric properties (Richter, 2013).

The Self-efficacy Questionnaire for School Situations (SEQ-SS) *(Heyne, 1998)* was developed to assess the expectations of school-refusing youth concerning self-efficacy. The SEQ-SS consists of 12 items, and 2 sub-scales: Academic/Social Stress and Separation/Discipline Stress. Evaluation of the SEQ-SS has shown good psychometric properties (Heyne et al., 1998). The SEQ-SS is being translated into Norwegian by the research group as part of the pilot study.

The Self-efficacy Questionnaire Responding to School Attendance Problems (SEQ-RSAP) (Heyne, Maric, & Westenberg, 2007) was developed to assess parents' self-efficacy regarding helping their child to attend school regularly and without difficulty (Heyne et al., 2007). The psychometric properties of the SEQ-RSAP have in a preliminary study showed promising convergent validity and good temporal stability (Lavooi, 2010). The SEQ- RSAP is being translated into Norwegian by the research group as part of the pilot study.

Om å bli mobbet (Olweus, 1992): The youths' personal experience of being bullied. Bullying will be defined as "a student is being bullied when he or she is exposed repeatedly over time to negative and hurtful actions on the part of one or more students. It is difficult for the student being bullied to defend himself or herself. Bullying may take place frequently or infrequently. Bullying can be verbal (e.g., name-calling, threats), physical (e.g., hitting) or psychological (e.g., rumors, shunning/exclusion). It is bullying when someone is teasing repeatedly in a mean or hurtful way" (Olweus, 1993).

School Refusal Assessment Scale-Revised - Child (SRAS-R) (Kearney, 2006) was designed to evaluate the relative strength of four functional conditions of school refusal in youths; (1) avoid stimuli that provoke negative affectivity, (2) escape aversive social and/or evaluative situations, (3) pursue attention from significant others, and/or (4) pursue tangible re-enforcers outside of school. The SRAS-R-C consists of a child and parent version. The scale indicates the strength of the four functional conditions of school refusal in youths' and is rated by both youth and parent. The SRAS-R has been translated into Norwegian by Trude Havik, Jo Magne Ingul and Arne Kodal.

The Family Assessment Device (FAD) (Epstein, Baldwin, & Bishop, 1983) was developed to assess dimensions of family function. It consists of three subscales, with 60 statements describing various aspects of family functioning. FAD is designed to be completed by family members over the age of 12 years and has been evaluated as a good measure of the overall family functioning, with excellent psychometric properties (Epstein et al., 1983; Miller, Ryan, Keitner, Bishop, & Epstein, 2000). The translation into Norwegian was done by professor Anne Mari Sund (NTNU). In the pilot study we use the general functioning scale with 12 items. This short version has been utilized independently in Norwegian studies.

KIDSCREEN-27 (Ravens-Sieberer, 2006) is a 27-item scale used to assess generic health-related quality of life. The KIDSCREEN comes in a child version and a parent proxy-version. The scale has five dimensions: Physical Well-Being, Psychological Well-Being, Autonomy & Parents, Peers & Social Support and School Environment. Internal consistency values (Cronbach's Alpha) range between .79 (Physical Well-being) and .84 (Psychological Well-being) for the different dimensions for the self-report versions. Item intraclass correlation (ICC) between self-reported scores and scores from parents filling out the KIDSCREEN-27 proxy-version ranging from 0.44 (Social Support & Peers) and .61 (Physical Well-Being) (Haraldstad & Richter, 2014). In Norway a study (Andersen et al., 2016) has documented good reliability and validity.

Other measures:

Background information: Participating families will complete a background information questionnaire regarding family demographics, youth's school and SA problems, and youth's previous and ongoing treatment. Information regarding the experience of collaboration between the family and the school will be collected from both parents and teachers. *Socio-economic data* related to various background characteristics about children and parents will also be recorded from the parents.

Evaluation of the service: The Norwegian version of the Experience of Service Questionnaire (ESQ) is used at postintervention (T2) to assess youth and parent satisfaction with the B2S intervention (Attride-Stirling, 2002). Separate versions of the ESQ will be administered to youth and parents (both 12 items), including open questions for qualitative feedback.

In Table 1, an overview of measures, respondents and assessment points are presented.

Table 2: Overview of measures, respondents, and assessment point

Measures		Respondent	Time		
Primary outcome measure:			T1	T2	T3
School absence – youth reported		Y	X	X	X
School absence - parent-reported		P	X	X	X
School absence - teacher-reported		T	X	X	X
Secondary outcome measures:					
SDQ		Y, P, T	X	X	
About bullying		Y	X	X	
FAD		Y, P	X	X	
SCAS		Y, P	X	X	
SMFQ		Y, P	X	X	
Kid screen		Y, P	X	X	
SEQ-SS		Y	X	X	
SEQ-RSAP		P	X	X	
Other measures:					
Background information		P, T	X		
School and family collaboration		P, T	X	X	
SRAS-R		Y, P	X		
ESQ		Y, P		X	

The intervention and its delivery

Content

We will use the Danish version of the revised manual developed within the B2S study in Aarhus. The B2S program consists of a 3 to 3,5 -hour initial clinical assessment, a clinical conference, 11 sessions where the youth and/or parent are attending, and a booster session after three months including youth and parent. The B2S manual comprise four school meetings with the child, parents, school staff and therapists present. In the Norwegian pilot study, we will add an extended school module to the B2S-program which is further described below. In Figure 1, the outline of the program is presented.

Table 1: Overview of the Back2School program					
Week	**Session**	**Duration (hours)**	**Module**	**Participant**	**Session content**
1	Pre-meeting interviews	3-3,5	All	Y, P, T	Anamnestic information, information about the child's schooling, somatic complaints, motivational assessment, introduction to SMART-goals, psychopathological interview.
2	1	1	All	Y, P, T	Caseformulation, psychoeducation absenteeism, establish SMART-goals, introduction to rewards.
	2	1,5	All	P, T	Establish good routines, introduction to praise and rewards
3	3	1	All	P, T	Encourage positive behaviors in the child, promote clear and friendly requests, ignore undesirable behaviors.
	4	1	All	Y, P, T	The impact of avoidance behavior, psychoeducation about exposure, plan the graduated exposure-plan for returning to school, plan first school meeting.
4	School-meeting 1				
5	5	1	All	Y, P, T	Psychoeducation about cognitive-diamant, cognitive restructuring, and the childs main difficulty. Continue to work with graduated exposure plan for school absence.
6	6	1	All	Y, P, T	Follow-up on realistic thinking, on the school-presence ladder, and going to school. Problemsolving
			All	P, T	Parent support during exposure, positive moments with youth
7	7	1	Anxiety	Y, P, T	Safety behavior, stepladder approach to fears.
			Depression	Y, P, T	Depression vicious cycle, activity plan, pleasant activity planning, positive diary.
			Conduct	P, T	Family rules work with a token-reward system.
	School-meeting 2				
8	8				Parent behavior
		1	Anxiety	P, T	Parenting anxious children, alternative parenting behaviors, foster independence and brave behavior.
		1	Depression	P, T	Psychoeducation about depression in youth, parent support of behavioral activation
		1	Conduct	P, T	Introduction to negative consequences for negative behavior
9	9	1	Anxiety	Y, P, T	Exposure – plan and perform.
		1	Depression	Y, P, T	Behavioral activation – discussion
		1	Conduct	P, T	Prepare Family meeting with problem solving
10	10	1	All	Optional	Optional theme
12	11	1	All	Y, P, T	Proceed with the progress, identify success, what should be continued, prevent relapse, evaluation of treatment
13	School-meeting 3				
3-months	Booster-session				Evaluation of continued progress, problem solving, further needs of service
	School-meeting 4				

Clinical interview and case formulation

The intervention starts with the families attending a 3-3.5-hour clinical interview that consists of a range of structured questions. The interview aims to achieve an understanding of the youngster's school absenteeism, development, the family and social situation, and functioning in daily life. The interview also includes a structured joint youth and parent interview developed for the B2S program to assess type and degree of potential mental health problems in the youth.

Following the initial assessment, a case-formulation according to Carr (2015) is developed in cooperation between the B2S counsellor/team and family. The case formulation is based on the qualitative and quantitative information from the interviews and the baseline measures. The family and the B2S counsellor/team identify the motivational function of the child's school absenteeism, which decides which module in the program that will best fit the individual youth and his/her family. When school absenteeism is identified as motivated by positive reinforcement, CBT procedures targeting parent management and contingency management to minimize the incentives for absenteeism and augment incentives for attendance are indicated. School absenteeism identified as motivated by negative reinforcement involves CBT procedures such as cognitive restructuring, and exposure-based interventions to reduce anxious or depressive symptoms. The manual includes and targets both specific SAP related tasks, and symptom-specific modules targeting subclinical or clinical levels of anxiety, depression, or behavioural problems. During the first two weeks of the intervention, there are two weekly sessions to emphasize the importance of immediately increasing school attendance. The following 6 sessions include weekly or biweekly sessions as appropriate for each family. The conducting of the booster session is flexible regarding the timing and will be held within 3 months after the last session.

At termination of the B2S program, an evaluation of outcomes and further needs for interventions will be discussed with the families. Youths with unchanged or worsened absenteeism following the intervention, and youths with clinical levels of anxiety, depression, or behavioural disturbance will be referred for further treatment. Registration of what additional interventions or other services that are attended is recorded at T2 as well as at follow- up (T3).

Drop-out: In case of treatment dropout, both youths and parents will receive the SDQ and ESQ questionnaires. Teachers also receive the SDQ, and the ESQ if the dropout occurs after the first school meeting. The primary measure of school absence will be available for all participants, regardless of dropout. In case of drop-out, the therapist team recruit a new case in case of drop-out to maintain the goal of two completed cases for each team.

The school module: Collaborating with the school is important in the B2S and four meetings with teachers from the youth's school, the B2S counsellor/team, and parents and also a booster session 3 months after the program are included in the manual. We will add a school module developed for the pilot to include the schools from the beginning of the program to facilitate a positive school environment for the child and collaboration between the school and the family. The school module includes a pre-meeting interview with the schools in week 1 and session 1 with the school in week 2 or 3. These are in addition to the sessions described in Table 1. The counsellor/team and the school will decide whether there is a need for an additional meeting between school meetings 1 and 2.

Study organization

Main research group

UIT The Arctic University of Norway

Institutt for psykologi	Toril Sørheim Nilsen

Toril Sørheim Nilsen an associated professor in clinical psychology and is a specialist in clinical child and adolescent psychology. Nilsen did her Phd based on data from a naturalistic observational study in Child and Adolescent Mental health services focusing on change during treatment for children and adolescents with anxiety and/or depressive disorders. She has several years of clinical experience in working with youth and families that struggle with SA. She is a trained CBT therapist and have experience as a CBT supervisor.

RKBU Nord	Henriette Kyrrestad

Henriette Kyrrestad is an associate professor at Regional Centre for Child and Youth Mental Health and Child Welfare – North (RKBU North) at UiT the Arctic University of Norway. She has a PhD in Health Science and a master's degree in psychology. She has experience with effect evaluations and serve as PI for two RCT studies among adolescents.

RKBU Nord	Frode Adolfsen

Frode Adolfsen is a assiciate professor at Regional Centre for Child and Youth Mental Health and Child Welfare – North (RKBU North) at UiT the Arctic University of Norway. He has a PhD in Health science and master's degree in special education. He has experience as regional PI in the TIM and ECHO studies focusing an anxiety, depression and implementation factors in school settings.

RKBU Nord	Marte Rye

Marte Rye is an associate professor at the Regional Centre for Child and Youth Mental Health and Child Welfare – North (RKBU North), at UiT The Arctic University of Norway. She has a PhD in Health Science and is a clinical psychologist with a specialist degree in work with adults. She has experience participating in RCT studies, as well as several years' experience with clinical work and supervision.

NTNU

RKBU Midt	Jo Magne Ingul

Jo Magne Ingul has been doing research on SAP for many years. He has also led an RCT for adolescent Social Phobia in Norway and is currently the regional PI for the ECHO study. Jo Magne is a trained CBT-therapist and has worked clinically with SAP youth for 20 years.

RBUP South/East	Simon Peter Neumer

Simon-Peter Neumer is a senior researcher at the Centre for Child and Adolescent Mental Health, Eastern and Southern Norway. He has conducted several RCT studies and is a clinical psychologist with a specialist degree and expert in the use of CBT programs.

UIB

Psykologisk fakultet	Bente Storm Mowatt Haugland

Bente Storm Mowatt Haugland is a specialist in clinical psychology and is associated professor in clinical psychology. She is/has been participating as a researcher in four RCT studies, in addition to several open trials. She has been PI of a large study in school health services on indicated prevention for youth with anxiety. She is a trained CBT therapist, primarily working with internalizing problems in youth.

NORCE

RKBU Vest Kristin Gärtner Askeland

Kristin Gärtner Askeland is a psychologist and senior researcher at the Regional Centre for Child and Adolescent Mental Health and Child Welfare (RKBU), NORCE. Her research interests centre on the understanding of mental health problems and resilience in high-risk groups, and the link with SA and dropout.

UIS

Læringsmiljøsenteret Trude Havik

Trude Havik is an associate professor in educational psychology at the Norwegian Centre for Learning Environment and Behavioral Research in Education, University of Stavanger. Her PhD in special education was a study of the role of school factors in school refusal and school non-attendance. Other research fields: classroom interactions, student engagement and peer relations.

Universitetet i Aarhus Mikael Thastum

Thastum is project manager of the B2S study at the University of Aarhus and Head of the Centre for Psychological Treatment for Children and Adolescents (CEBU). Thastum have extensive experience and expertise in conducting research on treatment development and efficacy trials.

This is a research group with extended experience in running Randomized controlled trials in Norway. Professor Thastum is the author of B2S and has led the implementation and trial of the manual in Denmark. The research group has expert knowledge on SAP and many of the participants have studied the problem in multiple settings. The PI's will be the management of the study (see below); overseeing data collection, training and supervision, implementation and budget issues. Each region will form their own organization and be responsible for carrying out the daily administration described in the protocol and decided by the management.

National PI

Toril Sørheim Nilsen and Jo Magne Ingul

Regional PI

North: Frode Adolfsen

West: Kristin G Askeland

East/South: Simon P Neumer

Middle: Jo Magne Ingul

User representatives

User involvement is important for the evaluation of the B2S intervention. Two parents having experience with SAP have been recruited as participants in the study group. They are both members of ADHD Norge. They will take part in meetings, workshops and in piloting instruments, interviews and in discussing new elements of the intervention.

Plan for data management

All data in the pilot study is collected on paper by the B2S therapists, who hand the questionnaires to the regional project manager. The paper forms are marked with each participant`s corresponding id-number, and personal identifiable information is removed from the paper forms. The anonymized collection of paper forms (copies) from all informants at T1, T2 and T3 is sent by post to the national project manager and the data from the questionnaires are registered into the datafile of the pilot project. The data will be managed according to UiT The Arctic University of Norway's` principles and guidelines for research data management. Person identifiable information and the research data will be stored in separate files. An id-number will be the connection key between files. The PI is in contact with services at UiT to get guidance to ensure that the data will stored and processed continuously in a secure manner in accordance with the Management System for Information Security at UiT.

Ethical consideration:

Research on child and adolescent patients is one of the fields that require the most careful reflections on ethical issues. The study will be conducted in accordance with prevailing ethical standards, and approval from the Regional Ethic Committee (REK) and the Norwegian Centre for Research Data (NSD). The project will be run in line with The World Medical Association (WMA) Declaration of Helsinki. Before entering the pilot study, the families will receive oral and written information and sign an informed consent. The families will be informed that the participation in research is voluntary and that they can withdraw their consent at any point in time.

Families that do not consent to participate in the pilot study will be offered help from the same first line services, without delay, but will not be offered the B2S program. Families who consent to participate but want to withdraw from the data collection after the intervention is started will be offered to continue with the B2S program. Whenever children and youths are identified as in need of extended interventions after the B2S program, the project will provide help with necessary referrals and guiding.

Utility-risk assessments: Youths and families that are being asked to participate in the pilot study are all self-referred to first-line services within their municipality. They are selected from the referral list of the services and B2S is offered as one alternative to service as usual. The B2S program is a systematic and focused intervention involving both youths, parents/caregivers, and the school. Results from the Danish study showed that youths and caregivers involved in the B2S program reported more satisfaction with the service than youth and families receiving "treatment as usual". One risk of participating the B2S program is that it is an intensive intervention requiring motivation and effort over time from youth, caregivers, and the school. Some participants may find the B2S programme too demanding or may develop a need for other interventions (eg. Suicidality). In such instances, the team of professionals providing the service, and the project group, is responsible for helping them with referrals and guiding.

The proposed study is a preparation of a large-scale intervention study in Norway, aimed at optimizing services for youths and families that struggle with SA. Together with the B2S study in Denmark, these studies may provide clinically relevant and useful information regarding how an integrated and systematic approach for helping children and youths with problematic SA is working within the system of care. Also, knowledge regarding which adjustments and improvements are needed both for the B2S program, but also for the system of care in order to improve outcomes, may prove valuable. A multi-informant perspective, along with the use of both quantitative and qualitative methods, may give valuable insight into how psychosocial treatments for SA ought to be tailored to fit the treatment needs of this heterogeneous group.

Financing and conflicts of interest

The pilot study has no external funding, but costs are shared between the research institutions involved in the study. The researchers involved in the project contribute to the project as part of their position at the research institution. The research group declare no conflict of interest.

Measures for communication

Communication with study participants about findings and knowledge gained from the study will be prioritized throughout the project. Dissemination of results of the research will be presented in national and international research- and clinic conferences, in public media and in level 1 and 2 peer reviewed journals. One article is planned from the study summarizing the main findings, but there is potential for several publications in peer reviewed journals. The study group will follow the Vancouver rules for publication. Open access publication will have a high priority. The goal of the pilot project is to write an application for research grants for a large-scale intervention study in Norway.

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