

Cross-Cultural Adaptation of the KONTAKT Social Skills Group Training Program for Children and Adolescents with high-functioning Autism Spectrum Disorder: A feasibility Study

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Abstract

Background: Social skills group training is an intervention method that has demonstrated moderate evidence of improvement among children and adolescents with autism spectrum disorder (ASD). KONTAKT is a manualized social skills group training program that was developed in Germany and that has demonstrated preliminary evidence of positive effect. In this study, we describe its adaptation to Scandinavian settings.

Objective: The aim of this study was to evaluate the clinical feasibility of the Swedish version of KONTAKT. The program was piloted in two outpatient departments in Stockholm County.

Method: A convergent mixed-method approach that involved both quantitative (ratings scales for ASD, clinical severity, and adaptive functioning) and qualitative (semi-structured interviewing) evaluation was applied. Twenty-two children and adolescents with high-functioning ASD between the ages of 8 and 17 years and their parents were enrolled in a one-group trial and completed assessments before and after KONTAKT training.

Results: The quantitative evaluation showed improvements in social communication and global everyday functioning; the qualitative evaluations yielded general treatment satisfaction. Twenty of the 22 enrolled adolescents (91%) completed the training.

Conclusions: These findings suggest that the Swedish adaptation of KONTAKT is feasible for Scandinavian clinical settings. It is currently being examined for efficacy and effectiveness in the largest multicenter randomized controlled trial of social skills group training in patients with ASD that has ever been undertaken (NCT01854346).

Keywords: intervention; therapy, feasibility; psychiatry; autism spectrum disorder; Asperger syndrome

Introduction

Autism spectrum disorder (ASD) is a neurodevelopmental disorder that is characterized by limited social communication and interaction skills in addition to restricted, repetitive, and stereotyped interests; it leads to functional impairment (1). ASD is considered to be incurable, but it is treatable to varying degrees to prevent worse outcomes (2). There is general consensus that the ASD diagnoses in the *International Statistical Classification of Diseases and Related Health Problems, 10th Revision (ICD-10)*, include

Childhood autism (F84.0), Atypical autism (F84.1), Asperger syndrome (F84.5), and Pervasive developmental disorder, unspecified (F84.9) under the umbrella term of Pervasive developmental disorder (3); a similar classification was used in the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (4). In the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (1), these single diagnoses have been merged into one ASD concept under the umbrella concept of Neurodevelopmental disorder. Although it has not been

formally defined, “high-functioning ASD” is typically described as ASD without qualitative intellectual disability (i.e., an intelligence quotient of more than 70); this definition is applied in the current study.

Social skills group training (SSGT) is an increasingly used intervention for patients with ASD (5, 6). Recent systematic reviews have indicated moderate scientific support for SSGT, despite the need for large-scale randomized controlled trials to assess its effectiveness (5, 7). Clinical guidelines published by the Division of Child and Adolescent Psychiatry (8) and other clinical organizations in Stockholm County include the use of SSGT for the treatment of ASD, but they also point out the partly mixed evidence that supports its use and the apparent shortage of SSGT studies of ASD in clinical settings in Sweden. Indeed, a publication bias exists with regard to the application of SSGT for the treatment of ASD, because the vast majority of published research has originated from the United States. Intercultural adaptations of manual-based SSGT are few. To the best of the authors’ knowledge, the PEERS program (9), which was developed in the United States and adapted to the Korean condition (10), is one of the rare examples for which cross-cultural adaptations exist (11). To date, as far as we are aware, no manualized SSGT for ASD has been published or evaluated in a Scandinavian clinical setting. Furthermore, in general, few studies of SSGT have applied both quantitative and qualitative methods to explore its feasibility and impact; mixed methods are increasingly recommended to address health care issues (12-14), because qualitative research can present a more complete picture of quantitative findings (15). In the current pilot study, we applied a convergent mixed-method approach to a pilot manualized SSGT study in Scandinavia.

The objective of this study was to examine the feasibility of the Swedish version of KONTAKT. KONTAKT is an SSGT for children and adolescents with high-functioning ASD that was originally developed for clinical child and adolescent psychiatry in Germany (16) and that has recently been adapted to the Swedish language and culture (17). More precisely, we sought to investigate the Swedish adaptation in terms of the preliminary quantitative effects of the treatment on everyday functioning and symptom severity with the use of standardized scales and by qualitatively exploring the participants’ experiences of the training via semi-structured individual interviews. This convergent mixed-method approach (13, 14) was applied in two different obligatory clinical care settings.

Method

Centers

The intervention was piloted in two different clinical outpatient settings in Stockholm County: the Child and Adolescent Psychiatry Stockholm (Swedish acronym: BUP) outpatient unit of Södertälje (BUP-Södertälje) and the Habilitation and Health outpatient unit for children and adolescents with Asperger syndrome (Asperger Center). The pilot study at BUP-Södertälje was conducted between February and December 2011, and the evaluation at the Asperger Center was conducted between February and October 2013. BUP-Södertälje is an obligatory care unit within BUP Stockholm, the largest child and adolescent mental health care service provider in Sweden. BUP Stockholm has about 1000 employees and treats 25,000 patients annually; it provides 170,000 annual visits at 17 outpatient clinics (four of which offer more intensive treatment), two inpatient clinics, and five specialized units that focus on certain groups of behavior problems (e.g., self-injury) and that provide highly specific care (e.g., neurofeedback). In accordance with local health care policies, BUP typically serves complex cases of ASD (i.e., ASD plus a comorbid condition). The Asperger Center for children and adolescents is a unit that receives 800 referrals annually and that has a total of 4000 families registered to receive services. It is part of Habilitation and Health Stockholm, which comprises 15,000 registered patients; it provides 130,000 visits per year and employs 750 individuals. The Asperger Center is obliged to treat patients with ASD, with the aim of increasing adaptive functioning skills independent of any comorbidity.

Participants

Twenty-two children and adolescents with ASD (i.e., ICD-10 diagnoses F84.0, F84.1, F84.5, and F84.9) between the ages of 8 and 17 years ($M = 12.3$ years; $SD = 2.4$) were enrolled, and $n = 20$ completed the study. The inclusion and exclusion criteria are given in Table 1. Participants had prior ICD-10 (3) clinical consensus diagnoses of ASD made on the basis of the comprehensive neuropsychiatric assessment procedures outlined in the guidelines of the Division of Child and Adolescent Psychiatry Stockholm (8); they had also been assessed with the Wechsler Intelligence Scale for Children, Fourth Edition (WISC-IV) (18), and the Autism Diagnostic Observation Schedule (19). All participants had intelligence quotients of at least 70.

Participants at BUP-Södertälje were clinically referred outpatients ($n = 8$) between the ages of 8 and 17 years (Mean [M] = 12.5 years; standard deviation [SD] = 3.1 years) who had at least one psychiatric comorbidity, such as attention-

deficit/hyperactivity disorder (ICD-10 diagnoses F90.0 and F98.8), an anxiety disorder (F40, F41, and F43), or a mood disorder (F32 and F33). Participants at the Asperger Center ($n = 12$) were between the ages of 10 and 15 years ($M = 12.1$ years; $SD = 2.2$ years) and recruited from the patient population of the Asperger Center (Table 2). Participants recruited from both clinical sites were required to exhibit fluent Swedish language skills and to express explicit motivation to join the pilot study. One parent of each participant ($n = 20$) was included in the qualitative evaluation, which involved a semi-structured interview after treatment (20).

The trainers who conducted the KONTAKT training for the purposes of this study were clinicians with long-standing experience working with children and adolescents with ASD. By profession, they were two clinical psychologists, one social worker, and one occupational therapist. All received regular supervision of four hours per month throughout the pilot evaluation.

TABLE 1. Inclusion and Exclusion Criteria

Center	Inclusion Criteria	Exclusion Criteria
BUP-Södertälje	High-functioning ASD (ICD-10 F84.0, F84.1, F84.5, and F84.9) IQ >85 according to WISC-IV Psychiatric comorbidity: ADHD (ICD-10 F90.0 and F98.8), anxiety syndrome (ICD-10 F40, F41, and F43), or depression (ICD-10 F32 and F33) Fluent in Swedish Motivated to participate in the project	Self-injurious behavior, conduct disorder (ICD-10 F91), borderline personality disorder (ICD-10 F60.3), and schizophrenia (ICD-10 F20 through F29)
Asperger Center	ASD (ICD-10 F84.0, F84.1, F84.5, and F84.9) IQ >70 according to WISC-IV Fluent in Swedish Motivated to participate in the project	Other psychiatric diagnoses, such as ADHD (ICD-10 F90.0 and F98.8), anxiety syndrome (ICD-10 F40, F41, and F43), or depression (ICD-10 F32 and F33) <10 or >16 years old

Note. ADHD, Attention-deficit/hyperactivity disorder; ASD, autism spectrum disorder; BUP, Child and Adolescent Psychiatry; ICD-10, International Statistical Classification of Diseases and Related Health Problems, 10th Revision; IQ, intelligence quotient; WISC-IV, Wechsler Intelligence Scale for Children, Fourth Edition.

TABLE 2. Characteristics of the Sample Population

	BUP-Södertälje	Asperger Center
Sex	4 male, 4 female	8 male, 4 female
Age	Mean, 12.5 years (SD, 3.1 years)	Mean, 12.1 years (SD, 2.2 years)
ASD diagnoses		
Childhood autism	$n = 0$	$n = 0$
Atypical autism	$n = 1$	$n = 0$
Asperger syndrome	$n = 2$	$n = 8$
Pervasive developmental disorder	$n = 5$	$n = 4$
Comorbidity		
ADHD (ICD-10 F90.0 and F98.8)	$n = 7$	—
Anxiety (ICD-10 F40, F41, and F43)	$n = 4$	—
Depression (ICD-10 F32 and F33)	$n = 2$	—

Note. ADHD, Attention-deficit/hyperactivity disorder; ASD, autism spectrum disorder; BUP, Child and Adolescent Psychiatry; ICD-10, International Statistical Classification of Diseases and Related Health Problems, 10th Revision.

The study was approved by the local ethics committee in Stockholm, Sweden (2011/557-31/5), and all participants and their caregivers provided informed consent before participation began.

The KONTAKT Program

KONTAKT is a manualized, structured SSGT program for children and adolescents with high-functioning ASD that was developed in Germany (16). The original open uncontrolled one-group evaluation study (21) included a total of 17 children and adolescents with high-functioning ASD between the ages of 9.3 and 20.3 years. The results, which were based on quantitative measures and statistics, showed moderate to large positive treatment effects on social skills and everyday functioning according to expert, parent, and teacher ratings on standardized scales. The authors concluded that the findings were promising but that larger-sized controlled studies were needed to draw firm conclusions about KONTAKT's utility. The KONTAKT program focuses on initiating social overtures, developing conversation skills, understanding social rules and relationships, identifying and interpreting verbal and non-verbal social signals, managing conflicts, and developing coping strategies in an effort to help affected individuals to improve their self-confidence. The teaching formats include conveying common social rules and norms; providing conflict-solving strategies; offering group discussions, social play, and emotion-processing training (22); role-playing; group activities; homework assignments; and individual behavioral analysis (Table 3). The KONTAKT program is based on the principles of cognitive behavioral therapy, observational learning, and behavioral activation; parent involvement and teacher cooperation are also embedded into the KONTAKT program. Participants are assigned to groups for either children (8 to 12 years old) or adolescents (13 to 17 years old). The groups meet weekly, with 60 minutes of training provided for children and 90 minutes offered for adolescents. The groups consist of four to six participants and two trainers.

Before the current study, the German KONTAKT manual was translated into Swedish by a group of professional translators and experienced Swedish clinicians who work in child and adolescent psychiatry. One of the authors and developers of the original German KONTAKT program, who is bilingual and who has cross-cultural clinical competence for both Swedish and German settings, participated in the process of developing the Swedish adaptation; this author ensured the comparability between the original and the adaptation and authorized the final Swedish version. The adaptation accounted for culture-specific traditions,

expressions, and clinical concepts, and it sought to maximize practicability for Swedish clinical practice (17).

The overall structure and content of the original KONTAKT manual and program were largely maintained. However, some culturally sensitive adaptations were made. For instance, the Swedish version enhanced cognitive behavioral therapy principles as they applied to some of the elements of the KONTAKT program. In particular, the homework assignments were tailored to reflect the participants' own hierarchy of treatment goals; rather than giving similar homework to the participants, as originally conceptualized. Another adaptation concerned the introduction of the Swedish tradition of "fika" into the middle of each training session; this is a coffee break or snack time that is an integral part of Swedish social culture. For KONTAKT participants, this break offers a chance for social communication to occur in a less structured (but relatively sheltered) situation. At the same time, the Swedish version reduced the number of group excursions, which were used by the original KONTAKT program to allow participants to practice social communication in less structured environments. The original version also made use of response-cost systems for unwanted behaviors by using token economies, whereas only positive reinforcement was applied in the Swedish version.

Outcome Assessments and Feasibility

Quantitative Measures Before and After Treatment

Developmental Disabilities Modification of the Children's Global Assessment Scale (DD-CGAS). The DD-CGAS is an instrument used by clinicians to rate patients' global adaptive functioning. The scale ranges from 1, which indicates an extremely and consistently reduced ability, to 100, which indicates extremely good functioning in all areas of life (e.g., at home, at school, in social relationships). Scores of less than 70 on the DD-CGAS indicate clinically relevant atypical functioning. It is a version of the standard CGAS that has been modified to better fit children and adolescents with ASD. The scale has been translated into Swedish, and it was evaluated in Swedish settings (23). The intraclass correlation coefficient (ICC) for experienced clinicians is .75. In this study, the DD-CGAS was scored by the trainers who conducted the KONTAKT training.

The Ohio State University (OSU) Autism Clinical Global Impression – Severity (OSU Aut CGI-S). The OSU Aut CGI-S is a clinician-based rating scale that is used to estimate the current severity of general psychopathology. The global clinical impression of ASD and other symptom severity is rated on a 7-point scale, with 7 indicating extremely severe

symptomatology and 1 indicating no sign of clinical symptomatology. The OSU Aut CGI-S is a modified version of the standard CGI scale that was created to better fit the needs of individuals with ASD. It has been translated into Swedish, and it was evaluated in

Swedish settings (23). For this tool, the ICC for experienced clinicians is .72. The OSU Aut CGI-S was rated by the KONTAKT trainers in this pilot study.

TABLE 3. KONTAKT Session Structure and Content

Structure and Content	Original German Version	Swedish Adaptation
Opening the session	Warm-up activity; contact initiation; promotion of interaction among group members, such as promoting eye contact (e.g., "Say hello to each other," "Give an account of an experience from the past few days and of one's mood at the beginning of the session," "I pass the word to...")	Same as in the German version
Homework assignment follow up	Homework from the previous session is discussed; the participants will have completed a common homework assignment, and reinforcement and feedback are provided; troubleshooting occurs, if necessary	Same as in the German version, except the homework assignments are individualized according to each participant's own treatment goals
Group exercise	Role-playing: practical solutions and strategies for difficult social situations Social interaction games: basic interaction and communication games, cooperation, recognition of non-verbal signals, eye contact (e.g., "spin the bottle") Affect recognition: Frankfurt Test of Facial Affect Recognition, recognition and interpretation of facial expressions, emotional thermometer	Same as in the German version
Unstructured activity	Group activities (e.g., cinema or café visit, baking cookies) to develop group coherence and foster social interaction in less structured situations	Snack time, with same objective as in the German version
Group discussion	Exchanging of experiences and practicing social cognition and social relationships; examples of discussion topics include "What is autism spectrum disorder?" "How can I tell what somebody else is feeling?" "How do I initiate a conversation?"	Same as in the German version
Homework assignment	Generalizing skills to everyday situations, learning to cope with difficult situations, trying out alternative coping behaviors (e.g., "Make an appointment with a classmate")	Same as in the German version, except the homework assignments are individualized according to each participant's own treatment goals
Closing the session	Recap of the day; discussion of what has been good or less good; participants give suggestions for improvement and take turns as they did during the session opening; the session is evaluated, and interaction among group members is promoted	Same as in the German version

Social Responsiveness Scale (SRS).

The SRS is a 65-item parent-report questionnaire (24) that assesses autism traits in children and adolescents between the ages of 4 and 18 years. It is rated using a 3-point Likert scale, and its items compose five subscales: social awareness, social cognition, social communication, social motivation, and autistic mannerisms. Total scores range from 0 to 195, with increasing values indicating the increasing severity of autistic traits. The expected scores of individuals with ASD are approximately 100; they are around 25 for those who have experienced typical development (25).

Qualitative Interviews with Participants and Parents after Intervention

Semi-structured interviews that addressed how the participants (n = 20) and their caregivers (n = 20) experienced the SSGT KONTAKT program were

conducted by the KONTAKT trainers after the last session and lasted an average of 45 minutes. Previous to the study an interview guide was developed by the clinicians who conducted the training to explore what it is like to experience the KONTAKT program (20). The interviews inquired about how the patients and their parents valued KONTAKT, what the potential gains and drawbacks of the training were, what the participants might have learned from the intervention, what was experienced as good or less good, and whether the participants had any recommendations for treatment improvement.

Analyses

Feasibility was evaluated by comparing the number of individuals who completed the training with the number of participants originally enrolled, and reasons for dropout were explored. In addition, verbal data from the semi-structured interviews were

analyzed for meaningful comments associated with feasibility and outcomes using a thematic analysis approach (26). The interviews were transcribed by the trainers, and another researcher identified the themes and grouped them into subthemes. Quantitative treatment outcome as determined by

rating scales and questionnaires was analyzed with the use of non-parametric two-tailed Wilcoxon Signed Rank tests for paired independent samples after adopting an alpha level of 5%. Analyses were conducted separately for each participating center.

TABLE 4. Qualitative Interview Results: Themes and Examples Related to the Participants

Themes	Children and Adolescents at BUP-Södertälje	Parents of Children and Adolescents at BUP-Södertälje	Children and Adolescents at Asperger Center	Parents of Children and Adolescents at Asperger Center
Better self-awareness and obtaining new abilities	"I have more information about [my] diagnosis" (A) "Emotional thermometer was good" (A)	"She has become better to ask when she doesn't understand sarcasm and irony" (P)	"I learned some interesting things about myself" (C)	"He is less anxious when something changes" (P)
Better social skills	"I'm more confident, I ask when I didn't understand what the others mean" (C)	"It has been an experience for him to go to KONTAKT, he is more positive to go to a new school and to meet new people now" (P) "She has become more expressive and can explain why she feels sad or angry" (P) "He is more positive and can express his thoughts and feelings more than he could before" (P) "Now, she tells us about how the day has been in school" (P)	"It has become much easier to get in touch now" (A) "I thought it was fun to be here! It made sense because I have learned to talk to more people"(C)	"She has become more positive and talks about when things go wrong" (P)
Self-confidence	"I have managed to call a relative" (A)	"He is less worried regarding new events and uncertainty" (P) "She does not get angry or explosive as before" (P)	"It made me feel better about myself, and I'm a bit more confident" (A) "It has helped me to avoid fights better and I feel more confident" (A)	"He has become more secure when he meets new people"(P)
Sense of connection and cohesion	"Being in a group where others have the same diagnosis has helped him much" (A)	"She does not feel alone anymore" (P) "He is now motivated to make contact with other people"(P)	"It was great to go in this group and meet others with [autism spectrum disorder] and know that they have the same problem" (A)	"He now dares to get in touch with new people and he feels more confident" (P)
Positive effects in everyday life	"I can control my anger even though I often get angry and feel anger" (A)	"He is able to take the bus alone from the school to the therapy sessions" (P) "He helps me more now at home" (P) "Telephone contact with [my child] works better now" (P)	"I constantly used to think about how I am as a person, and after KONTAKT, it has opened many new doors for me" (A)	"I think it has become less trouble" (P)

Note. (A), Adolescent; BUP, Child and Adolescent Psychiatry; (C), child; (P), parent.

Results

Feasibility and Qualitative Findings

With regard to feasibility, 20 of 22 enrolled participants (91%) completed the study. Two adolescents dropped out of the project. The first one did not show up for the training, even though the proband had accepted the invitation to participate. No reason could be ascertained for this individual's dropping out. The second one dropped out during training because the proband's clinical symptomatology turned out to be too severe to allow this patient to function within the context of SSGT.

Findings Related to Participants

The semi-structured interviews revealed that the majority of the participants from both BUP-

Södertälje and the Asperger Center expressed satisfaction after participating in the group training. The themes identified in the verbal data from the interviews with participants and their parents included "Better self-awareness and obtaining new abilities," "Better social skills," "Self-confidence," "Sense of connection and cohesion," and "Positive effects in everyday life." Most participants stated that they had learned new skills and gained new insights related to social communication and that their self-confidence had improved. Several participants expressed that they had become better at making social overtures, which was consistent with their individual treatment goals. Two participants noticed positive effects in everyday life and found it rewarding to meet other people with ASD during the

KONTAKT program. One participant said that she had become better at describing her emotions both at home and at school by using the “emotional thermometer” device discussed in the KONTAKT training. Parents stated that they had received helpful support and novel knowledge from the trainers that helped them to better help and interact with their children. Several parents felt that the treatment had enhanced their awareness of the difficulties that their children face and helped them to better understand how their children are perceived in different environments. See Table 4 for an overview of the verbal results.

With regard to the KONTAKT homework assignments, the majority of the parents stated that their children had problems grasping the objectives. The parents reported that some homework assignments had been difficult to implement, whereas the child and adolescent patients themselves said that it had been difficult to set their own treatment goals. Many of the enrolled patients decided to complete their homework assignments while they were at school, which made it difficult for trainers and parents to evaluate the assignments or support their implementation. The majority of parents mentioned that they had difficulty motivating their children to practice social skills in situations outside of the KONTAKT training environment.

TABLE 5. Qualitative Interview Results Related to Parents

Themes	Parents of Children and Adolescents at BUP-Södertälje	Parents of Children and Adolescents at Asperger Center
Share experiences with other parents	“It was very important to meet other parents”	“To hear other parents in the same situation was good”
Tool to help the child	“We parents have been given some tools to help him better”	“They taught us how we can support and help her when she locks herself up”
Better understanding	“We are now more able to understand better difficult situations”	“We have learned to see her needs”

Note. BUP, Child and Adolescent Psychiatry

TABLE 6. Means and Standard Deviations With Repeated Measurements and the Results of Non-parametric Wilcoxon Signed-Rank Tests

	BUP-Södertälje (n = 8) [†]				Asperger Center (n = 12)			
	Mean	SD	z	p value	Mean	SD	z	p value
DD-CGAS Pre	61.7	3.8	2.5	.01*	65.5	5.2	2.8	.004*
DD-CGAS Post	67.70	5.6			71.3	5.2		
OSU Aut CGI-S Pre	4.5	0.5	2.5	.01*	4.0	0.8	2.7	.008*
OSU Aut CGI-S Post	2.8	0.6			2.3	0.5		
SRS Pre	60.9	28.4	1.2	.24	94.5	19.1	.00	1.00
SRS Post	58.1	24.7			94.6	19.3		

Note. [†]Autism spectrum disorder plus psychiatric comorbidity.

*Significant results.

BUP, Child and Adolescent Psychiatry; DD-CGAS, Developmental Disabilities Modification of the Children’s Global Assessment Scale; OSU Aut CGI-S, Autism Clinical Global Impression – Severity; SD, standard deviation; SRS, Social Responsiveness Scale.

Findings Related to Parents

With regard to the themes derived from the semi-structured interviews related to the parents’ issues, this study identified the following: “Share experiences with other parents,” “Tool to help the child,” and “Better understanding.” Parents felt that it was valuable to share experiences with each other at the parent meetings, but they also wanted more hands-on advice from the trainers about how to respond to their children’s behaviors. One parent

explicitly requested more KONTAKT training for the child beyond the regular duration of the program as well as additional parent sessions (Table 5).

Quantitative Findings

The outcomes of the DD-CGAS showed increased adaptive functional skills post training in the groups held at both BUP-Södertälje ($z = 2.5; p = .01$) and the Asperger Center ($z = 2.8; p = .004$). Before treatment, the average DD-CGAS scores were 61.7

(SD, 3.8) at BUP-Södertälje and 65.5 (SD, 5.2) at the Asperger Center; after treatment, they were 67.7 (SD, 5.6) and 71.3 (SD, 5.2), respectively. The OSU Aut CGI-S results showed a decrease in clinical symptomatology post training at both BUP-Södertälje ($z = 2.5; p = .01$) and the Asperger Center ($z = 2.7; p = .008$). At BUP-Södertälje, the CGI-S values dropped from $M = 4.5$ (SD, 0.5) to $M = 2.8$ (SD, 0.6); they dropped from a mean of 4.0 (SD, 0.8) to $M = 2.3$ (SD, 0.5) at the Asperger Center. Pre-post treatment values on the SRS did not change at either BUP-Södertälje ($z = 1.2; p = .24$) or the Asperger Center ($z = .00; p = 1.00$) indicating no significant changes in social communication skills following training (Table 6).

Discussion

The purpose of this study was to describe the adaptation, feasibility, and preliminary evidence of the Swedish version of KONTAKT, an SSGT that originated in Germany for children and adolescents with higher-functioning ASD. Several minor but important adaptations were made when translating the manual and adapting the program procedures to a Scandinavian clinical setting. Culture-specific preferences in addition to clinical expertise and vocabulary were taken into account to form a meaningful and culturally sensitive version of a psychological intervention method originating outside of Sweden. We applied a convergent mixed-method approach to explore both the quantitative and qualitative effects of the Swedish adaptation of SSGT, KONTAKT. This methodological approach endorsed the applicability and usefulness of the training method as indicated by, among other things, a low dropout rate (<10%) and a high level of treatment satisfaction in two different clinical settings in Stockholm for children and adolescents with ASD either with or without psychiatric comorbidity. During verbal exploration, participants reported newly acquired social communication skills, and their parents reported improved knowledge of ASD and better problem awareness. Moreover, on standardized scales, global clinical severity decreased, and the overall functional level of adaptive skills increased in the eyes of the trainers. However, the severity of the patients' autism traits did not reduce according to what was observed by their parents.

Despite the mainly positive current findings, it must be noted that this is a pilot study, with many limitations as far as the generalizability of the evidence presented here. The uncontrolled one-group design and the small sample size without blind ratings warrant humble interpretation as a result of the multiple associated risks for bias. Furthermore, the stability of the achieved changes is not known, because this study did not include any long-term

follow-up assessments. However, our data is in line with evaluation data from the original German version of KONTAKT (16), and it provides the initial evidence needed to conclude that the intercultural adaptation of KONTAKT was rather successful: enough of the basic prerequisites were fulfilled to determine that it is worthwhile to continue applying and evaluating the Swedish version of KONTAKT. With this in mind, we are currently conducting the largest ever multicenter randomized controlled trial of SSGT using the KONTAKT program in Stockholm and Örebro County in 288 children and adolescents with ASD at 14 outpatient units (NCT01854346).

In conclusion, the results of the current pilot study provide preliminary evidence in support of the Swedish adaptation of KONTAKT, and they also yield suggestions for improvement that are important to consider for the future use of this program and its implementation in clinical practice. For example, additional information about the objectives of the homework assignments was requested by both participants and their parents. Moreover, participants may require more explicit incentives to complete the homework assignments.

Clinical Significance

There is still a lack of sufficiently evidence based intervention methods for patients with ASD (5, 7). SSGT programs are popular for these patients, but there are limitations to their generalizability (27). In Sweden and Scandinavia, no manualized and evaluated SSGT programs for ASD have previously been available. The present study is the first to test the feasibility of such a program in Scandinavian clinical settings for the treatment of both pure ASD and more complex variants of ASD with multiple coexisting psychopathologies. Our results yielded promising preliminary evidence, which may stimulate more research in this field in Northern Europe and potentially lead to improved access to evidence-based services for children and adolescents with ASD in Sweden and elsewhere.

Conflicts of Interest

Sven Bölte receives royalties for the German and Swedish versions of the KONTAKT manual from Hogrefe Publishers. The other authors declare that they have no conflicts of interest regarding the publication of this paper.

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