



What's the Evidence?

Improving social skills of young adults with autism

Key Findings

- Group social skills training and Cognitive Behavioural Therapy (CBT) may improve social skills of young adults with autism – more rigorous trials are needed to confirm improvements suggested by parents in published trials.
- There is little evidence for the effectiveness of CBT for reducing social anxiety in young adults, but there is some evidence to support the use of CBT with younger children with autism and anxiety.
- NICE guidelines recommend both social skills training for young adults with autism, and an adapted version of CBT for young adults with autism and anxiety.

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What were we asked?

A parent of a young adult with autism asked us to look at the evidence for interventions that support young adults with autism to interact with others and make friends independently. She was concerned about her child's social isolation. Young adults with autism are at increased risk of social isolation for various reasons including:

- Lack of interest in socialising with others
- Social anxiety
- Lack of skills to initiate and sustain social interactions and friendships
- Lack of confidence socialising with others
- Environments that may be overwhelming
- People and practices that are not inclusive
- Misunderstanding the intentions of people joking and using sarcasm and teasing, bullying or taking advantage

What did we do?

We turned the request into a [PICO](#) question: What interventions for young adults with autism are effective at improving social skills and/or reducing social anxiety?

Population: Young adults aged 15 to 25 years with autism who communicate at levels I & II of the Autism Classification of Functioning ¹

Intervention: *Any intervention*

Control: *Any control group*

Outcomes: Improved social skills or reduced social anxiety

We searched for research trials of therapies that aim to improve social skills or reduce social anxiety. The search included trials with young adults with autism who are able to communicate with others for social purposes, but may have some problems sustaining interactions.

We did not include studies with:

- Young adults with autism who have more severe communication difficulties and/or other medical conditions.
- Interventions for general anxiety – we only included those targeting social anxiety and/or social skills.

- Interventions targeting attitudes and behaviours of peers. A [PenCRU review](#) has previously identified interventions that improve attitudes towards disabled children through direct and extended contact with disabled children. ²

We searched NHS Evidence, the Cochrane Library, TRIP, NICE, and the PubMed databases, and brought the information together in this summary. Experts in autism and members of our Family Faculty reviewed the accuracy and accessibility of the summary.

What did we find?

We found two different interventions for young adults with autism that have been evaluated using [randomised controlled trials](#):

- Social skills training
- Cognitive Behavioural Therapy (CBT) targeting social skills and/or social anxiety.

We found two further programmes which are currently being evaluated in randomised control trials, for which the results are not yet available: KONTAKT is a social skills training programme developed in Sweden, ³ and a LEGO based therapy in the UK. ⁴

Social skills training

Impaired social skills are core characteristics of autism, and so there are many programmes targeting skills such as recognising emotions and taking on board others' perspectives. However, most of these programmes are designed for younger children. [Systematic reviews](#) that have looked at social skills programmes for a wide age range of children with autism show some evidence to support their use with younger children, but more research is needed to draw robust conclusions. ^{5,6}

Group based social skills programmes are recommended by [NICE](#) for both adults ⁷ and young people ⁸ with autism. There are very few social skills programmes targeting

young adults that have been evaluated in a randomised controlled trial. We found one programme in the USA, the Program for the Education and Enrichment of Relational Skills ([PEERS](#)), which:

- Targets conversation skills; choosing appropriate friends; using humour; organising social activities; dating; and handling peer pressure, arguments, rejection, teasing and bullying.
- Uses a variety of teaching and learning methods, including information sharing, modelling, role play, performance feedback and home work.
- Delivers group training for one to two hours a week over a period of 10 to 14 weeks.
- Is 'parent assisted' - parents play an important role within the intervention and attend training alongside young adults.

Several trials have evaluated the PEERS programme with participants aged 11 to 17 years ⁹⁻¹³ and 18 to 24 years. ^{14,15} Trials compared parents' ratings of social skills of young adults attending the programmes with a control group who did not participate. Those in the control group were offered the PEERS programme subsequently. Trials were all small, with each trial comparing between 9 and 29 individuals with autism attending the programme with equivalent numbers in control groups.

Improvements were observed in:

- Parents' ratings of their child's social skills immediately after the programmes ^{9-11,14,15}; these were sustained 3 months after the programme ceased. ^{10,12,15}
- Increased knowledge of social skills up to 3 months after the programme. ^{9,10,14,15}
- Decreased self-reported social loneliness in young adults aged 18 to 23 years. ¹⁴

- Decreased social anxiety¹¹ and depression¹² in young adults aged 11 to 18 years.
- Increased number of hosted get-togethers^{9-11,14} and invited get-togethers.^{11,14,15}
- In an artificial scenario with their peers, there was increased expressiveness and overall quality of interaction as rated by independent observers who were blind to the treatment group.¹³

No changes were observed in:

- Friendship quality.¹¹
- Other aspects of the quality of young adults' interactions, such as gestures and social anxiety.¹³

Teachers' observations of young adults' social skills and behaviours were inconclusive due to the low number of teachers returning their reports to researchers.^{10,11}

What do we think about PEERS?

There is some evidence PEERS leads to short-term improvements in young adults' knowledge of social skills and parents' ratings of social skills and behaviours. PEERS may also reduce feelings of loneliness, social anxiety and depression as rated by parents and improve quality of interactions with peers in a clinic setting.

That said, these were all small trials, and small studies often overestimate the effectiveness of interventions. The parents' ratings of their child's social skills and behaviours should be treated cautiously as parents' observations may have been biased. Parents will have known that their children were attending the programmes and so may have paid more attention to their child's behaviours and, unwittingly, exaggerated improvements.

Cognitive behavioural therapy (CBT) for young adults with autism

CBT is a psychological therapy that helps people become more aware of how they think, feel and act so that they can change their thoughts and behaviours.

NICE recommends that young adults with autism and anxiety engage in group or individual CBT.⁸ A systematic review supports the use of CBT for reducing anxiety in children with autism aged 8 to 16 years.¹⁶ NICE guidelines and the systematic review do not recommend CBT for social anxiety.

We found two randomised controlled trials evaluating group-based CBT targeting social skills and/or social anxiety for young adults with autism:

- Social Skills Training Autism- Frankfurt (SOSTA- FRA)¹⁷ – group CBT tested with 8 to 19 year olds with autism in Germany. It targeted social skills such as group rules, nonverbal cues, expression of feelings, understanding another person's perspective, conversation skills and dealing with difficult social situations. 101 people participating in 12 weekly, 90 minute, group CBT sessions were compared with 108 people who continued their treatment as usual.
- Multimodal Anxiety and Social Skills Intervention (MASSI) programme¹⁸ - CBT tested with 12 to 17 year olds with autism and anxiety. It targeted co-occurring anxiety and social disability through up to 13 individual therapy sessions, 7 group sessions and parent coaching. The trial compared 15 people participating in the programme with 15 people who continued treatment as usual.

Trials of both of these programmes reported improvements in parents' ratings of social skills and behaviours. The trial of MASSI points towards some reductions in social

anxiety, but the study was too small to be confident in the results.

A systematic review did not find any randomised controlled trials investigating the use of CBT for treating social anxiety specifically, without social skills training.¹⁹ The review identified four case studies, all indicating benefits of CBT for the treatment of social anxiety, but these studies provide low quality evidence of effectiveness.

What do we think about CBT for social anxiety and/or social skills?

There is some evidence to suggest that the SOSTA-FRA and MASSI programmes are effective to improve social skills as rated by parents. The trial of SOSTA-FRA was larger and so provides more robust evidence for improving social skills.

The MASSI trial may overestimate improvements in social skills due to its small size. Parents and teachers in both trials knew the participants were receiving the therapy, and so their ratings of improvements in social skills may be biased, therefore results should be treated with caution.

MASSI shows limited evidence for reducing social anxiety. Larger trials are needed to draw conclusions about their effectiveness of CBT for treating social anxiety and to investigate whether CBT targeting social anxiety should be delivered alongside social skills training.

Accessing social skills training and CBT for social anxiety

The availability of both group social skills training and CBT for young adults with autism varies across the UK.

- Social skills training is typically provided by local charities and voluntary organisations, special schools and day services. The National Autistic Society provides an [Autism Services Directory](#) which lists local services for children and adults with autism.

- CBT can be accessed through the NHS, usually via GP referral to child or adult mental health services.

Our Conclusions:

- Group social skills training and CBT may improve social skills of young adults with autism. Further trials with more rigorous methodology are needed to check whether improvements in social skills are overestimated due to the small size of many of the trials, and the assessors knowing that a young adult has taken part in a programme.
- There is little evidence for the effectiveness of CBT programmes for reducing social anxiety in young adults. Trials of interventions have tended to focus on children in middle childhood, rather than young adults and support the use of CBT for the treatment of anxiety generally. Further research is needed to understand how CBT can most effectively be delivered to improve social anxiety for young adults with autism.
- Most trials compared young adults attending programmes with those who were not attending programmes, so it is unclear which elements of the different programmes are most influential to bring about improvements.
- Currently there is no evidence about the impact of these interventions on young adults' social interactions, friendships and social isolation in the longer term.
- NICE guidelines recommend considering both social skills training programmes for young adults with autism and an adapted version of CBT for young adults with autism and anxiety.

Signposts to other information

The National Autistic Society:

<http://www.autism.org.uk/socialskills>

PEERS social skills programme (USA):

<https://www.semel.ucla.edu/peers>

Note: the views expressed here are those of the Peninsula Cerebra Research Unit (PenCRU) at the University of Exeter Medical School and do not represent the views of the Cerebra charity, or any other parties mentioned. We strongly recommend seeking medical advice before undertaking any treatments/therapies not prescribed within the NHS.

We welcome feedback – please email us at pencru@exeter.ac.uk if you have any comments or questions.

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