Table 1.

Reference	Program	Intervention (Dosage)	Comparison Groups (Diagnosis, Sample Size, Mean Age (SD) years, Percent Male)	Main Findings	Effect Size (Significant Group x Time)
(Laugeson et al., 2011)	Traditional PEERS®	GSSI: Parent-assisted, in-person social skills group with 14 weekly sessions (90 min each)	Treatment (ASD, N=14, 15.0 (1.0), 85.7%M) vs. DTC (ASD, N=14, 14.3 (1.4), 78.6%M)	PEERS group showed significant improvement on social skills (pSSRS), social responsiveness (pSRS), number of get-togethers; gains maintained at 14-week follow up	Between Groups: pSSRP Social Skills Scale ($d=0.6969^{+}$); pSRS ($d=0.6525^{+}$); QPQ-P/A: ($d=0.6094^{+}$)
(Schohl et al., 2013)	PEERS® Replication	GSSI: Parent-assisted, in-person social skills groups with 14 weekly sessions (90 min each)	Treatment (ASD, N=29, 14.00 (1.28), 82.8%M) vs. DTC (ASD, N=29, 13.31 (1.65), 89.7%M)	PEERS group showed significant improvement on social anxiety, core autistic symptoms, problem behaviors, PEERS concepts and friendship skills	Between Groups: Combined adolescent and parent outcome variables ($d=0.9663^{*}$)
(Matthews et al., 2018)	PEERS® with Peers (PwP)	GSSI: Peer-mediated PEERS vs. Traditional PEERS vs. Delayed Treatment Control (DTC) in community setting with additional 4-month follow up	Traditional PEERS (ASD, N=10, 15.10 (1.29), 80.0%M) vs. PwP (ASD, N=12, 15.17 (1.27), 83.33%M) vs. DTC (ASD, N=12, 15.42 (1.08), 83.33%M)	Significant effect of study group on pSRS Total T-scores, SSIS Social Skills, Problem Behavior subscale scores, TASSK scores, SIAS scores, R-UCLA scores, QSQ-P/A; PwP group showed modest advantage in social skills knowledge and social functioning relative to Traditional PEERS	T1-T2: Groups (PEERS, PwP, DTC): Social Cognition Measures ($\eta_p^2=0.50^{*}$); QSQ-P/A ($\eta_p^2=0.22^{+}$); PwP vs. DTC: pSSIS Social Skills ($d=1.48^{*}$); pSSIS Problem Behaviors: ($d=1.08^{*}$) T1-T3: Groups (PEERS, PwP, DTC) Social Cognition Measures ($\eta_p^2=0.44^{*}$)
(Rabin et al., 2018)	PEERS® Hebrew Version	GSSI: Hebrew translation/adaptation of traditional PEERS with cross-cultural validation and 4-month follow up	Treatment (ASD, N=20, 14.03 (1.83), 95.0%M) vs. DTC (ASD, N=21, 13.95 (1.72), 95.24%M)	PEERS group showed significant improvement on social-skills, number of social encounters, self-confidence and responsibility, and ASD symptoms compared to DTC; most adolescent gains maintained at follow up	T1-T2: Between Groups: CASS scores ($\eta^2=0.45^{*}$); Combined adolescent measures ($\eta^2=0.67^{*}$); Combined teacher measures ($\eta^2=0.86^{*}$)
(Shum et al., 2018)	PEERS® Chinese Version	GSSI: Chinese translation/adaptation of traditional PEERS with cross-cultural validation	Treatment (ASD, N=33, 13.42 (0.94), 84.85%M) vs. DTC (ASD, N=22, 13.55 (1.00), 72.73%M)	PEERS group showed significant improvements in social skills knowledge and social functioning with medium to large effect sizes	T1-T2: Between Groups: pSRS scores ($\eta_p^2=0.13^{+}$); TASSK scores ($\eta_p^2=0.36^{*}$)
(Yoo et al., 2014)	PEERS® Korean Version	GSSI: Korean translation/adaptation of traditional PEERS with cross-cultural validation	Treatment (ASD, N=23, 14.04 (1.64), 91.3%M) vs. DTC (ASD, N=24, 13.54 (1.50), 95.8%M)	PEERS group showed significant improvements in social skills knowledge, interpersonal skills, and play/leisure skills, as well as a decrease in depressive symptoms and ASD symptoms	T1-T2: Between Groups: ADOS Social Interaction ($d=1.03^{*}$); ADOS Language and Communication ($d=0.85^{*}$); EHWA-VABS: Interpersonal ($d=1.07^{*}$); TASSK-R ($d=1.18^{*}$)
(White et al., 2012)	MASSI	GSSI: Manual-based, modular therapy, 13 sessions of individual therapy+parent coaching (60 min each) and 7 sessions of group therapy/skills practice (75 min each)	Treatment (ASD+Anx, N=15, 14.0, 73%M) vs. Wait-list Control (ASD+Anx, N=15, 15.0, 80%M)	MASSI group showed significant improvement on pSRS total score and superiority to wait-list. PARS and CASI-Anx did not significantly change within and between groups.	Between Groups: pSRS ($d=1.03^{*}$); CASI-Anx (d=0.30); PARS: (d=0.32)
(Ireri et al., 2019)	MASSI-Kenya	GSSI: school-based MASSI + 20 additional sessions focused on skills practice	Treatment (ASD, N=20, 70%M) vs. TAU (ASD, N=20, 65%M); Only reported Ns for age groups (Age Range: 5-21yrs)	MASSI group showed significantly reduced ASD social impairment severity and anxiety and superiority to control on both outcomes.	Between Groups: CASI ($\eta^2=0.067^{+}$; pSRS-2: $\eta^2=0.093^{+}$)

(Freitag et al., 2016)	SOSTA-FRA	GSSI: Manualized, group-based, CBT social skills program delivered in group format over 12 sessions (90 min each) and 3 parent-training sessions. Includes computer-based teaching methods.	Treatment (ASD, N=101, 12.7 (2.5), 95.2%M) vs. TAU (ASD, N=108, 12.9 (2.6), 92.6%M)	SOSTA-FRA group showed significant improvement on pSRS total score and superiority to treatment as usual. Effects maintained at 3-month follow-up. Higher IQ associated with greater reduction in pSRS.	Between Groups: pSRS: (η_p^2=0.35*)
(Choque-Olsson et al., 2017)	SSGT (KONTAKT)	GSSI: Manualized, group-based, CBT social skills program delivered in group format over 12 weekly sessions (60 min each for children; 90 min each for adolescents)	Treatment + Standard Care (ASD, N=150, 12.05 (2.61), 71% M) vs. Standard Care (ASD, N=146, 11.59 (2.66), 69%M)	pSRS total scores decreased for both groups with no between-group difference at post-treatment and 3-month follow-up. Larger change observed in SSGT for adolescents and females.	Between Groups: pSRS: (η_p^2=0.13$^+$) at post-treatment; pSRS: (η_p^2=0.16$^+$) at 3-month follow-up
(Jonsson et al., 2018)	SSGT (KONTAKT)	GSSI: Extended version of SSGT involving 24 weekly sessions (60 min each for children, 90 min each for adolescents)	Treatment + Standard Care (ASD, N=23, 13.04 (2.58), 78% M) vs. Standard Care (ASD, N=27, 12.63 (2.83), 63%M)	SSGT group showed significantly larger reduction in pSRS-2 total scores at post-treatment and 3-month follow-up.	Between Groups: pSRS-2 (η_p^2=0.76*) at post-treatment, (η_p^2=0.82*) at 3-month follow-up
(DaWalt et al., 2017)	Transitioning Together	GSSI: Manualized, multi-family group psychoeducation: 2 individual family joining sessions (60 min each), 8 weekly parent and teen group sessions (90 min each)	Treatment (ASD, N=16, 15.56 (0.73), 81%M) vs. Wait-list Control (ASD, N=25, 15.36 (1.19), 76%M)	Treatment group showed significant increase in social interactions	Between Groups: Frequency of Social Interactions (d=0.7368$^+$)
(Vernon et al., 2017)	START	Experiential-Based: Immersive socialization intervention with 20 weekly sessions (90 min each)	Treatment (ASD, N=16, 13.25 (1.48), 75%M) vs. Wait-list Control (ASD, N=19, 13.64 (1.47), 63.6%M)	Group × Time differences between START and wait-list groups on pSRS-2 and pSMCS; post-intervention pSSIS scores after adjusting for pre-intervention pSSIS scores	Between Groups: pSRS-2 (η_p^2=0.189$^+$); pSMCS (η_p^2=0.28*); post-intervention adolescent SSIS (η_p^2=0.207$^+$)
(Strickland et al., 2013)	JobTIPS	Experiential-Based: Internet accessed transition to employment training program with ToM-based guidance, video models, visual supports, and virtual reality practice sessions (1 week); Pre-Post-Training mock job interviews	Treatment (ASD, N= 11, 18.21 (1.03), 100%M) vs. Non-treatment Control (ASD, N=11, 17.66 (1.27), 100%M)	JobTIPS group demonstrated significantly more effective verbal content skills than those control group	Between Groups: Content Scale (η^2=0.47*)
(Hochhauser et al., 2017)	CONTACT	Experiential-Based: 6 weekly (60 min each) sessions (participant pairs w/ moderator) using computer application with video modeling and self-modeling to improve conflict negotiation skills	Treatment (ASD, N= 36, 15.5 (1.53), 88.9%M) vs. Non-treatment Control (ASD, N=25, 16.7 (1.53), 92.0%M)	CONTACT group showed significant improvements on conflict resolution measures	Between Groups: ConflicTalk: Problem-Focus (η_p^2=0.14$^+$); FFNS Total Score (η_p^2=0.15$^+$)
(Olivar-Parra et al., 2011)	Referential Communication Training Program	Experiential-Based: 4 weekly training sessions (30-45 min each) including modeling with and without exchanging roles, creating a social cognitive conflict, and giving visual and verbal feedback	Treatment (ASD, N= 10, 15.4 (4.55), 80.0%M) vs. Non-treatment Control (ASD, N=10, 13.11 (3.73), 60.0%M)	Treatment group improved significantly on message complexity post-training but gains not maintained at 3-week follow-up.	Between Groups: Message Complexity (d=1.14*)

(Silver and Oakes, 2001)	Emotion Trainer	Computer-Assisted: Multimedia computer program designed to teach users to better recognize and predict emotions in others, 10 sessions (30 min each) over 2 weeks in school setting	Experimental (ASD, N= 11, 13.9 (0.92)) vs. Lessons as Usual Controls (ASD, N=11, 14.75 (2.0)); gender not reported - participating children paired by age, gender, and school class	Experimental group improved relative to control group on Emotion Recognition Cartoons and Strange Stories, gains correlated significantly with the number of times the computer program was used	Between Groups: Emotion Recognition Cartoons ($d=0.9327^{*}$); Strange Stories ($d=1.1185^{*}$)
(Fage et al., 2018)	School+	Computer-Assisted: Assistive applications for use in mainstream classrooms and remediation applications to be used at home (15 min per day/ 5X a week); + weekly (3 months) class session (60 min each) with school aide support	Tablet-ASD (ASD, N=14, 14.26 (0.26), 100%M), Tablet-ID (ID, N=19, 14.23 (0.29), 47.4%M), Control-ASD (N=15, 14.16 (0.43) 86.7%M)	Two equipped groups exhibited significant improvements across time, with greater statistical effect for tablet-ASD compared with tablet-ID	Socio-Cognitive Functioning: Tablet-ASD ($\eta^2=0.704^{*}$), Tablet-ID ($\eta^2=0.369^{*}$)

* *Large Effect Size*: $d > 0.8$; $\eta^2 > 0.14$; $\eta_p^2 > 0.25$
$^{+}$ *Medium Effect Size*: $d > 0.5$; $\eta^2 > 0.06$; $\eta_p^2 > 0.09$

ADOS: Autism Diagnostic Observation Schedule; CASI: Childhood Anxiety Sensitivity Index; CASI-Anx: CASI-Anxiety; CASS: Contextual Assessment of Social Skills; DTC: Delayed Treatment Control; EHWA-VABS: Korean Version of the Vineland Adaptive Behavior Scale -Second Edition; FFNS: Five Factor Negotiation Scale; GSSI: Group Social Skills Intervention; MASSI: Multimodal Anxiety and Social Skills Intervention; (p)SMCS: (Parent-Rated) Social Motivation and Competencies Scale; (p)SRS(-2): (Parent-Rated) Social Responsiveness Scale (2nd Edition); (p)SSRS: (Parent-Rated) Social Skills Improvement System; PARS: Pediatric Anxiety Rating Scale; PEERS® : Program for the Education and Enrichment of Relational Skills; QSQ-P/A: Quality of Socialization Questionnaire-Parent/Adolescent; R-UCLA: Revised UCLA Loneliness Scale; SIAS: Social Interaction Anxiety Scale; SOSTA-Fra: Social Skills Training Autism-Frankfurt; SSGT: Social Skills Group Training; TASSK(-R): Test of Adolescent Social Skills (Revised); TAU: Treatment As Usual