| **Author, Year, Country****Groups, N Enrollment/****N Final** | **Age at Intake****Mean months±SD** | **Measure** | **Baseline Score, Mean±SD** | **Follow-Up Score, Mean±SD** | **Analytic Data** |
| --- | --- | --- | --- | --- | --- |
| **RCTs** |
| Dawson et al, 20121, 2 US**IG:** ESDM, 24/24**CG:** Eclectic therapy, 24/21Quality: Good | **IG:** 23.9 ± 4.0**CG:** 23.1 ± 3.9  | VABS Socialization | **IG:** 73.8 ± 7.7**CG:** 72.4 ± 9.4**IG/CG:** *P* = 0.594 | At 2 years:**IG:** 69.2 ± 11.6**CG:** 63.1 ± 9.3**IG/CG:** *P* = 0.263 | No baseline group differences in any of the VABS domain scoresSignificant group X Time differences in all reported VABS domain scores except socialization |
| Communication | **IG:** 68.4 ± 7.6)**CG:** 69.6 ± 7.3)**IG/CG:** *P* = 0.577 | **IG:** 82.1 ± 21.8**CG:** 69.4 ± 15.8**IG/CG:** *P* = 0.015 |
| Composite score | **IG:** 69.5 ± 5.7**CG:** 69.9 ± 7.3**IG/CG:** *P* = 0.844 | **IG:** 68.7 ± 15.9**CG:** 59.1 ± 8.8**IG/CG:** *P* = 0.011 |
| Daily living skills  | **IG:** 87.3 ± 11.4**CG:** 86.8 ± 10.0**IG/CG:** *P* = 0.381 | **IG:** 64.7 ± 12.4**CG:** 58.0 ± 8.1**IG/CG:** *P* = 0.013 |
| Motor skills  | **IG:** 70.9 ± 6.2**CG:** 72.5 ± 6.5**IG/CG:** *P* = 0.862 | **IG:** 77.4 ± 19.8**CG:** 64.1 ± 12.3**IG/CG:** *P* = 0.009 |
| Sallows et al. 20053**IG:** Clinic directed UCLA/Lovaas-based early intensive intervention, 13/13**CG:** Parent-directed UCLA/Lovaas-based early intensive intervention, 10/10**Ga:** Rapid learners by Early Learning Measure **Gb:** Moderate learners by Early Learning Measure Quality: Good | **IG:** 33.23 ± 3.89**CG:** 34.20 ± 5.06 | VABS Communication  | **IG:** 57.46 ± 4.97**CG:** 63.20 ± 5.58**Ga:** 60.82 ± 4.02**Gb:** 59.17 ± 7.22 | **IG:** 73.69 ± 32.32**CG:** 81.40 ± 24.33**Ga:** 105.09 ± 12.83**Gb:** 51.33 ± 10.94 Teacher rated:**Ga:** 94.44 ± 13.97**Gb:** 58.58 ± 7.90 | No significant differences between groups (IG/CG) at pre- or posttest.Combining children in both groups (IG+ CG), pretest to posttest gains were significant for Vineland Communication, F (1, 21)= 7.57, p<0.05, Vineland Socialization, F (1, 21)=10.30, p<0.01Ga showed significant gains in all areas measured: Communication, F (1, 21)=147.07, p<0.01, Daily Living Skills (F (1,21)=20.50, p<,01), Socialization, F (1, 21)=42.89, p<0.01Applied Behavior Composite, F (1, 21) = 54.17, p< .01Significant group differences (Ga vs. Gb) in the Teacher ratings of Communication (t=6.84, p<0.01) and Socialization (t=4.60, p<0.01)  |
| Daily living skills | **IG:** 63.92 ± 5.53**CG:** 64.20 ± 3.68**Ga:** 66.45 ± 4.25**Gb:** 61.83 ± 4.20 | **IG:** 66.23 ± 25.95**CG:** 64.20 ± 12.42**Ga:** 82.27 ± 16.34 **Gb:** 49.83 ± 10.61  |
| Composite | **IG:** 59.54 ± 5.31**CG:** 60.90 ± 5.94**Ga:** 61.73 ± 4.59**Gb:** 58.67 ± 6.09 | **IG:** 69.00 ± 28.04**CG:** 66.70 ± 14.68**Ga:** 88.64 ± 15.68 **Gb:** 49.08 ± 7.76  |
| Socialization | **IG:** 58.38 ± 6.17**CG:** 60.30 ± 5.76**Ga:** 61.55 ± 6.58**Gb:** 57.08 ± 4.63 | **IG:** 73.92 ± 23.49**CG:** 68.90 ± 10.11**Ga:** 87.73 ± 14.94**Gb:** 57.08 ± 6.40Socialization teacher rated:**Ga:** 89.89 ± 18.36**Gb:** 61.58 ± 6.02 |
| Smith et al. 20004US**IG:** UCLA/Lovaas-based intervention, 15/15**CG:** Parent training from Lovaas manual, 13/13Quality: Fair | **IG:** 36.07 ± 6.00**CG:** 35.77 ± 5.77 | VABSComposite | **IG:** 63.4 ± 9.35**CG:** 58.5 ± 16.58 | **IG:** 61.19 ± 29.72**CG:** 58.50 ± 16.58 | No statistically significant group difference in any of the VABS measures both at intake and after treatment |
| Communication | **IG:** 58.20 ± 5.56**CG:** 62.00 ± 6.11 | **IG:** 67.87 ± 30.08**CG:** 60.77 ± 17.26 |
| Socialization | **IG:** 62.4 ± 7.82**CG:** 69.15 ± 8.75 | **IG:** 66.33 ± 24.78**CG:** 68.92 ± 16.94 |
| Daily living Skills | **IG:** 69.93 ± 8.37**CG:** 70.62 ± 11.50 | **IG:** 62.33 ± 25.76**CG:** 63.00 ± 16.97 |
| **Non-randomized trials**  |
| Peters-Scheffer et al. 20135Netherlands**IG:** Low intensity Lovaas-based intervention+specialized preschool, 20/20**CG:** Eclectic therapy, 20/20Quality: Good | **IG+CG:** 62.52 ± 16.96 | Adaptive behaviorComposite | **IG:** 18.35 (3.41) **CG:** 19.82 (4.71) | **IG:** 37.35 (13.05) **CG:** 26.71 (9.84), d=1.74, p<0.001 | Both groups made significant gains in total adaptive skills (F (1.40, 44.70) = 59.47; p < .001), but in the treatment group the gains were significantly larger (F (1.40, 44.70) = 13.58; p < .001). |
| Communication | **IG:** 23.94 (7.64) **CG:** 24.35 (9.80) | **IG:** 43.71 (17.68) **CG:** 32.35 (14.56), d=1.41 |
| Daily living skills | **IG:** 20.82 (6.12) **CG:** 23.00 (9.26)  | **IG:** 39.29 (11.13) **CG:** 29.71 (12.15), d=1.62 |
| Socialization  | **IG:** 19.76 (3.36) **CG:** 22.88 (5.79) | **IG:** 39.35 (10.58) **CG:** 29.71 (9.99), d=2.61 |
| Peters-Scheffer et al. 20106Netherlands**IG:** Specialized preschool +UCLA/ Lovaas-based intervention, 12/12**CG:** Eclectic therapy, 22/22Quality: Fair | **IG:** 53.5 ± 5.52**CG:** 52.95 ± 11.14 | VABS Composite | **IG:** 20.83 ± 6.69 **CG:** 19.18 ± 4.14 | **IG:** 31.75 ± 10.96**CG:** 22.05 ± 7.47  | At pre-treatment, no significant group differences in any domain scoreBoth groups made gains after treatment but gains were larger in the IG group. Composite: F (1,32)=15.68, p<0.01Communication: F (1,32)=6.48, p=0.02Daily Living: F (1,32)=13.17, P<0.01Socialization: F (1,32)=44.86, p<0.01 |
| Communication | **IG:** 26.92 ± 12.12 **CG:** 25.00 ± 10.00 | **IG:** 39.42 ± 15.39**CG:** 29.95 ± 13.39 |
| Daily living skills | **IG:** 23.83 ± 7.28 **CG:** 20.14 ± 4.68 | **IG:** 33.25 ± 9.04 **CG:** 23.23 ± 7.70 |
| Socialization | **IG:** 20.75 ± 4.54 **CG:** 24.64 ± 8.18 | **IG:** 34.08 ± 8.14 **CG:** 25.14 ± 7.21 |
| Hayward et al. 20097, 8UK**IG:** Intensive clinic-based UCLA/Lovaas-based intervention, 23/20**CG:** Intensive parent-managed treatment, 21/19Quality: Fair | **IG:** 35.7 ± 6.2**CG:** 34.4 ± 5.7 | VABS composite score | **IG:** 62.3 ± 6.8**CG:** 65.1 ± 10.4 **IG+CG:** 63.5 ± 8.8 | **IG:** 68.4 ± 14.5**CG:** 72.5 ± 17.3 **IG+CG:** 69.9 ±15.9 | No significant group differences in composite measure both at intake and at follow-upCombining both groups, (IG+CG): Mean change scores:Composite score=6.4, p<0.001 Communication: 7.6, p<0.01Daily Living:1.8, p=nsSocialization: 5.0, p<0.05Motor: 6.0 , p<0.05 |
| Reed et al. 20079UK**IG:** High intensity intervention, 14/14 **IGa:** High intensity with focus on Lovaas techniques, 4/4**IGb:** High intensity with focus on verbal behavior, 5/5**IGc:** High intensity with focus on CABAS methods, 5/5**CG:** Low intensity intervention in home-based direct teaching sessions, 13/13Quality: Fair | **IG:** 42.9 (14.8)**IGa:** 47.5 (13.5)**IGb:** 38.0 (9.9)**IGc:** 44.2 (20.5)**CG**: 40.8 (5.6) | VABS compositescore | **IG:** 59.3 ± 10.1**IGa:** 59.8 ± 16.7**IGb:** 58.2 ± 6.5**IGc:** 60.0 ± 8.6**CG:** 56.5 ± 4.4 | VABS composite gain score **IG:** NR**IGa:** t<1, ES=0.03**IGb:** t<1, ES=0.18**IGc:** t(4)=1.07, ES=0.53**CG:** NR | Nonsignificant group differences in adaptive behavior, F (2,11)=2.99, p<0.07 |
| Eikeseth et al. 200210, 11Norway**IG:** UCLA/Lovaas-based intervention, 13/13**CG:** Eclectic therapy, 12/12 Quality: Fair | **IG:** 66.31 ± 14.71**CG:** 65 ± 10.95 | VABS Communication  | **IG:** 58.23 ± 9.21**CG:** 63.17 ± 16.11 | **IG:** 73.93 ± 16.55**CG:** 61.58 ± 13.37  | No group difference at intake on any of the VABS scoresMean change scores significantly different between groups for communication (p<0.01) and composite scores (p<0.05) |
| Daily living skills |  **IG:** 56.92 ± 9.8**CG:** 57.00 ± 15.92 | **IG:** 66.15 ± 16.55**CG:** 62.5 ± 10.97 |
| Composite | **IG:** 55.77 ± 8.96**CG:** 60.00 ± 13.2 | **IG:** 67 ± 16.3**CG:** 60.17 ± 11.69  |
| Socialization | **IG:** 59.92 ± 7.19**CG:** 62.17 ± 10.32 | **IG:** 59.92 ± 7.19**CG:** 70.67 ± 13.66 |
| **Prospective cohort studies**  |
| Eldevik et al. 201212Norway**IG:** Preschool-based early intensive intervention, 31/31**CG:** Eclectic therapy, 12/12Quality: Fair | **IG:** 42.2 ± 9.0**CG:** 46.2 ± 12.4 | VABSAdaptive behavior composite | **IG:** 62.5 ± 8.2 (46-77)**CG:** 58.9 ± 7.8 (50-73) | **IG:** 68.4 ± 12.6 (46-97)**CG:** 59.6 ± 11.8 (47-83) | CG made significantly larger gains on Composite scores, F (1,39)=4.74, p=0.036, Communication, F (1,38)=4.82, p=0.034 and socialization, F (1,38)=7.79, p<0.008Daily living skills were not different between groups, F (1,38)=2.91, p=0.094Standardized mean difference effect size for change in compact score=0.73 (95%CI: 0.05-1.36) |
| Communication | **IG:** 61.9 ± 10.2 (48-89)**CG:** 60.0 ± 9.6 (49-81) | **IG:** 70.5 ± 16.9 (42-114)**CG:** 60.0 ± 14.5 (42-84) |
| Daily Living | **IG:** 69.9 ± 10.8 (48-89)**CG:** 64.8 ± 10.6 (54-91) | **IG:** 72.0 ± 12.9 (47-93) **CG:** 63.2 ± 14.2 (48-95) |
| Socialization | **IG:** 63.3 ± 9.8 (49-97)**CG:** 63.1 ± 8.9 (53-82) | **IG:** 69.1 ± 12.0 (49-90) **CG:** 60.8 ± 8.6 (41-80) |
| Eikeseth et al. 201213Norway/Sweden**IG:** Early intensive intervention, 35/13-15 depending on outcome **CG:** Eclectic therapy, 24/NRQuality: Fair | IG: 3.9 ± 0.9 yearsCG: 4.4 ± 1.2 years | VABS-Total | **IG:** 67.0 ± 10.3**CG:** 63.6 ± 8.1 | **IG:** 75.3 ± 12.0**CG:** 64.0 ± 12.5 | No baseline group differencesAt 1 year follow-up, IG scored significantly higher on all VABS scales as compared to CG (p<0.05)Effect sizes for VABS :Total (composite) = 0.92, Communication = 1.08, ADL=0.71Socialization = 0.75, Motor = 0.70 |
| Communication | **IG:** 67.1 ± 14.0**CG:** 65.5 ± 14.2 | **IG:** 81.3 ± 16.9**CG:** 63.6 ± 16.0 |
| Activities of daily living | **IG:** 71.8 ± 12.8**CG:** 67.5 ± 10.9 | **IG:** 78.3 ± 14.4**CG:** 68.0 ± 14.8 |
| Motor Skills | **IG:** 75.9 ± 12.8**CG:** 72.5 ± 10.6 | **IG:** 80.6 ± 10.6**CG:** 71.8 ± 14.4 |
| Itzchak et al. 201114, 15Israel**IG:** ABA-based approach, 45/45**CG:** Eclectic approach, 33/33Quality: Fair | **IG:** 25.1 ± 3.9**CG:** 26.0 ± 4.6 | VABS-Socialization standard score | **IG:** 67.8 ± 7.7**CG:** 70.7 ±7.7 | **IG:** 69.6 ± 12.4**CG:** 77.4 ± 14.4 | No significant difference between the 2 groups in VABS scores.IG+CG:Significant predictors of VABS scores at 1 year follow-up were baseline MSEL-verbal (p<0001) maternal age (p<0.01) and autism severity X baseline MSEL-Verbal (p<0.05)  |
| VABS-Communication standard score | **IG:** 67.0 ± 7.8**CG:** 69.5 ± 10.7 | **IG:** 72.9 ± 14.7**CG:** 78.8 ± 16.2 |
| VABS Composite score | **IG:** 66.2 ± 9.6 (49-75)**CG:** 68.6 ± 6.3 (59-81)**IG+CG**: 67.4 ± 6.4 | **IG:** NR**CG:** NR**IG+CG**: 68.9 ± 13.0 |
| VABS-Daily Living standard score | **IG:** 67.7 ± 7.0**CG:** 69.4 ± 6.0 | **IG:** 67.8 ± 10.9**CG:** 73.0 ± 14.6 |
| VABS-Motor skills standard score | **IG:** 86.2 ± 11.4**CG:** 88.1 ± 11.0 | **IG:** 72.0 ± 12.9**CG:** 84.5 ± 13.0 |
| Cohen et al. 200616US**IG:** UCLA/Lovaas-based intervention, 21/21**CG:** Eclectic therapy, 21/21 Quality: Fair | **IG:** 30.2 ± 5.8 **CG:** 33.2 ± 3.7 | VABSCommunication | **IG:** 69.4 ± 11.8**CG:** 65.0 ± 6.8 | **IG:** NR**CG:** NR**IG/CG:** *P* < 0.05 | Groups significantly differed in VABS composite score , p<0.01 as well as in individual scores, Communication and Daily Living Skills |
| Composite | **IG:** 69.8 ± 8.1**CG:** 70.6 ± 9.6 | Mean change:**IG:** 9 (n=20) **CG:** -4 (n=20)**IG/CG:** *P* < 0.01 Children in the average range, n: **IG:** 8**CG:** 3 **IG/CG:** *P* = 0.10 |
| Daily Living skills | **IG:** 73.2 ± 9.2**CG:** 72.7 ± 12.5 | **IG:** NR**CG:** NR **IG/CG:** *P* < 0.05 |
| Social skills | **IG:** 70.3 ± 10.9**CG:** 75.1 ± 13.0 | **IG:** NR**CG:** NR**IG/CG:** *P* < 0.10 |
| Howard et al. 200517US**IG:** UCLA/Lovaas-based intervention, 37/29 **CG1:** Intensive eclectic therapy**CG2:** Non-intensive eclectic therapy**CG2+CG3:** 41/32 Quality: Fair | **IG:** 30.86 ± 5.16**CG1:** 37.44 ± 5.68**CG2:** 34.56 ± 6.53 | VABS-Composite | **IG:** 70.46 ± 11.85**CG1:** 69.81 ± 10.48**CG2:** 71.62 ± 10.47 | **IG:** 81.32 ± 11.14 **CG1:** 69.25 ± 12.91**CG2:** 68.25 ± 9.86 | Significant difference in composite scores between IG and CG1/CG2, p<0.01Significant difference in Self-help scores between IG and CG1/CG2, p<0.01 |
| Denver Developmental Screening Test II, DP-II, RIDES for Self-help | **IG:** 70.71 ± 10.14**CG1:** 68.06 ± 11.61**CG2:** 73.43 ± 10.39 | **IG:** 76.56 ± 11.59 **CG1:** 70.00 ± 11.92**CG2:** 65.19 ± 8.84 |
| **Retrospective cohort studies** |
| Flanagan et al. 201218, 19Canada**IG:** Intensive behavioral intervention, 61/61**CG:** Eclectic therapy 61/61Quality: Fair | **IG:** 42.93 ± 11.53**CG:** 42.79 ± 10.51 | VABS standard scores composite | **IG:** 55.38 ± 7.00**CG:** 55.49 ± 7.11 | **IG:** 56.34 ± 14.40**CG:** 52.19 ± 8.77 | Estimated marginal scores:**IG:** 56.96**CG:** 50.66 (p=0.008), d=0.53 |
| Ratio scoresComposite | **IG:** 30.78 ± 10.78**CG:** 30.79 ± 10.67 | **IG:** 41.77 ± 20.26**CG:** 31.15 ± 11.82 | **IG:** 40.75**CG:** 30.32 (p=0.002), d=0.63 |
| Communication | **IG:** 25.47 ± 15.81**CG:** 25.50 ± 11.97 | **IG:** 46.60 ± 29.91**CG:** 30.33 ± 16.98 | **IG:** 43.45 **CG:** 29.80 (p=0.006), d=0.56 |
| Daily Living Skills | **IG:** 42.79 ± 11.97**CG:** 42.87 ± 12.11 | **IG:** 44.83 ± 14.01**CG:** 40.03 ± 11.06 | **IG:** 45.04 **CG:** 38.80 (p=0.023), d=0.49 |
| Socialization | **IG:** 24.08 ± 9.36**CG:** 23.99 ± 11.22 | **IG:** 33.90 ± 19.04**CG:** 23.11 ± 10.85 | **IG:** 33.49 **CG:** 21.88 (p=0.001), d=0.75 |

ABA=Applied Behavior Analysis; ADL=Activities of Daily Living; CABAS=Comprehensive Application of Behavior Analyst; CG=Control Group; DP-II=Developmental Profile II; ESDM=Early Start Denver Model; IG=Intervention Group; MSEL=Mullen Scales of Early Learning; NR=Not Reported; VABS=Vineland Adaptive Behavior Scale.