



Supplementary Fig. 1 Comparison of outside autism-related therapy intensity among all 72 GuessWhat users and the 19-person comparison group. Sixty-two (86%) GuessWhat players and 18 (95%) non-players received some form of outside therapy. Six (8%) GuessWhat users and two (11%) comparison participants did not provide information on therapy intensity.

Supplementary Table S1 Change in all parent-reported survey scores by user group. Results include 72 families who played *GuessWhat* and a comparison group of 19 who did play *GuessWhat* but who completed all other procedures. Reductions in SRS-2 and increases in VABS-II scores indicate improvement

Measure	Mean change from pre-test to post-test (SD)							
	All treated players	p-Value	Users treated with ≥28 sessions	p-Value	Users with 4-wk treatment consistency	p-Value	Comparison group	p-Value
SRS-2 T-scores								
Awareness	-1.86 (SD = 6.74)	0.01 ^a	-4.42 (SD = 7.52)	0.03 ^a	-1.62 (SD = 6.71)	0.22	-4.93 (SD = 8.28)	0.14
Cognition	-3.42 (SD = 5.13)	<0.001 ^c	-2.94 (SD = 7.67)	0.13	-1.77 (SD = 6.10)	0.02 ^a	-1.89 (SD = 6.4)	0.23
Communication	-3.61 (SD = 6.01)	<0.001 ^c	-4.00 (SD = 5.57)	0.009 ^b	-3.69 (SD = 4.05)	0.04 ^a	-3.85 (SD = 7.29)	0.15
Motivation	-3.17 (SD = 7.19)	<0.001 ^c	-1.30 (SD = 6.85)	0.45	-0.38 (SD = 8.71)	0.07	-1.4 (SD = 7.33)	0.63
RRB	-3.18 (SD = 7.53)	<0.001 ^c	-4.48 (SD = 7.63)	0.03 ^a	-3.54 (SD = 7.03)	0.11	-3.72 (SD = 10.22)	0.14
Total	-3.97 (SD = 4.92)	<0.001^c	-3.82 (SD = 5.70)	0.01^a	-2.85 (SD = 4.56)	0.03^a	-4.71 (SD = 7.92)	0.10
VABS-II V-scores								
Receptive communication	0.61 (SD = 2.34)	0.003 ^b	1.53 (SD = 1.74)	0.002 ^b	1.00 (SD = 1.63)	0.35	-0.52 (SD = 2.15)	0.45
Expressive communication	0.69 (SD = 2.03)	0.16	0.77 (SD = 2.31)	0.19	0.85 (SD = 1.28)	0.61	0.5 (SD = 2.67)	0.43
Socialization relationships	0.76 (SD = 2.13)	0.06	0.19 (SD = 1.46)	0.73	1.08 (SD = 2.02)	0.61	0.16 (SD = 2.73)	0.57
Socialization play	0.84 (SD = 2.67)	0.005 ^b	-0.05 (SD = 2.7)	0.28	1.54 (SD = 2.3)	0.51	0.21 (SD = 3.24)	1.00
Socialization adaptive	0.47 (SD = 2.02)	0.019 ^a	0.53 (SD = 1.97)	0.29	0.77 (SD = 2.13)	0.49	1.17 (SD = 2.36)	0.31
Socialization standard score	5.27 (SD = 9.29)	0.002^b	6.21 (SD = 8.13)	0.11	5.46 (SD = 6.75)	0.58	-1.61 (SD = 12.37)	0.62

^ap < 0.05.

^bp < 0.01.

^cp < 0.001 between cohorts from a two-tailed paired sample t-test.