

Table B.1: Legend cross references of the results table after coding

<b>Applied technology:</b> (1)Immersive VR/AR, (2)Robot,		
(3)Screen-based Application (a: Serious game, b:Virtual avatar, c:Video modeling, d:Other)		
<b>Domain:</b> (1)Therapy and treatment, (2)Healthcare education, (3)Business, (4)Military,		
(5)General purpose, (6)other.		
<b>Target group:</b> (1)Illness (Autism and behavior disorder patients, etc.), (2)Healthcare professional,		
(3)General population, (4)other.		
<b>Level of autonomy:</b> (1)Wizard of Oz, (2)Adaptive script, (3)Fixed script, (4)Other.		
<b>Target social skills:</b> (1)Negotiation, (2)Public speaking/presenting, (3)Job Interviews,		
(4)communication, (5)eye gaze movement/eye contact, (6)facial expression,		
(7)emotion/facial recognition and body language recognition,		
(8)teamwork/shared decision making, (9)Social scenario handling, (A) Other.		
<b>Functions:</b> (1)Briefing, (2)Goal setting, (3)Scheduling, (4)Role playing,		
(5)Modeling, (6)Self-Observation, (7)Monitoring, (8)Real-time guidance,		
(9)Imparting knowledge and providing instructions,(A)Learning by doing,		
(B)Encouragement, praise and rewarding, (C)Performance feedback and reflection,		
(D)Learning assessment (user side), (E)Debriefing		
<b>Assessment:</b> (1)Self-report, (2)Behavioural observations, (3)Biophysiological measurement, (4)other.		
<b>Experimental design:</b> (1)Yes, compared to absence of intervention),		
(2) Yes, compared to some other intervention, (3)Yes, compared to TTD person, (4)No, single group		
<b>Outcome:</b>		
+ significantly positive	@post	
N improve but not significant	*Pre-post	
- negative		

Table B.2: Characteristic of technology-supported social skills training systems

Author	Year of development of origin	Region	Applied tech	Domain	Target group	LOA *	Target social skill	Functions	N*	Sessions	Duration	Assessment	Follow-up	Ex design*	Outcome
Ali et al.	2015	North America	3b	3	1	1	4,5,6	4,7,A,C	23(24)	2	10	1	NA	1	N*
Razavi et al.	2016	North America	3b	3	1	2	4,5,6	4,7,A,C	5	2	10	1	NA	4	N@
Andrade et al.	2010	North America	3b	2	2	4	A	4,A	8	NA	NA	1	NA	4	N@
Blankendaal and Bosse	2018	Europe	1	3	3	2	A	4,7,A,C	12	1	2	3	NA	4	—@
Bouchard et al.	2017	North America	1	1	1	3	A	4,A	39(20)	14	60	1,2	NA	2	*++
Kandalaf et al.	2012	North America	3b	1	1	4	4	4,A,C	8	10	60	1	2 weeks	4	*+
Didebbani et al.	2016	North America	3b	1	1	4	4	4,A,C	30	10	60	1	NA	4	*+
Anderson et al.	2003	North America	1	1	3	3	2	4,A	2	4	NA	1	8 months	4	*N
Sanchez et al.	2014	North America	3a	3	3	3	4,9	9,A,B,C	19(17)	NA	90	1	NA	1	*++
Sanchez et al.	2017	North America	3a	3	3	3	4,9	9,A,B,C	33(36)	9	25	1	NA	1	*++
Adery et al.	2018	North America	3a	1	1	2	5,7,9	4,8,A,B,C	16	10	NA	1	NA	4	*++
Carnell et al.	2015	North America	3b	2	2	3	A	4,5,A	22	3	15	1,2	NA	4	N*
Rutten et al.	2000*	Europe	3d	1	1	3	9	4,5,9,A	6	1	NA	2	NA	4	*++
Hochhauser et al.	2015	Asia	3c	1	1	3	A	4,5,9,A	21	1	40	1	NA	4	@++
Ali et al.	2018	North America	3b	3	3	1	4,5,6	9,A,B,C	25	1	NA	1,2	NA	4	*+
Tanaka et al.	2016	Asia	3b	3	3	4	2,6	6,9,A,C	18	1	NA	2	NA	4	*++
Tanaka et al.	2016	Asia	3b	3	3	4	2,6	6,9,A,C	24(12)	1	50	2	NA	2	*+

Note, \*LOA = Level of autonomy, \*Ex design = Experimental design, N\*: inside () is the number of participants in the control group if applicable.

Table B.3: Characteristic of technology-supported social skills training systems

Author	Year of development	Region of origin	Applied tech	Domain	Target group	LOA*	Target social skill	Functions	N*	Sessions	Duration	Assessment	Follow-up	Ex design*	Outcome
Wong and Zhong	2016	Asia	2	1	1	3	4,5	9,A,B	4(4)	5	30	1,2	NA	2	*++
Bernardini et al.	2012	Europe	3b	1	1	2	4	4,9,A,B	19	NA	NA	2	NA	4	N*
Pence et al.	2013	North America	3b	2	2	1	A	4,A,C	21	1	NA	1	NA	4	*+
Azahari et al.	2017	Asia	3d	1	1	3	4,7	5,9	12	1	NA	2	NA	4	N@
Gilroy et al.	2018	Europe	3d	1	1	3	4	4,9,A	17(18)	NA	15	2	NA	2	*+
Haferkamp et al.	2009*	Europe	3a	4	4	3	4,8	4,A	10	4	30-45	1	NA	4	N@
Daetwyler et al.	2010	North America	3c	2	2	3	4,A	4,5,9,A,C	33(19)	NA	NA	1	NA	1	*N
Utami et al.	2017	North America	2	1	3	1	4,A	5,9,A,C	32	1	30	1,2	30 days	4	*++
Thomas et al.	1997	North America	3a	4	3	3	1,4,9	4,5,6	324	1	50	1	NA	4	*+
Cheong et al.	2015	Europe	3a	3	3	3	1,4,9	A,4	32	6	15	1	NA	4	N@
Gratch et al.	2015	North America	3b	3	3	1	1	4,A	226	1	NA	1	NA	4	N@
Margalit et al.	1995	Asia	3a	1	1	3	9,A	3,4,6,9,A	38(35)	24	60	1,4	NA	1	*++
Bryson et al.	1999	North America	3a	4	3	3	A	1,4,5,9,A,B,C	90	NA	NA	2	6 months	1	*++
Chollet et al.	2015	North America	3d	3	3	1	2	4,7,A	30(15)	4	5	1,2	NA	1	*+
Hopkins et al.	2011	North America	3a	1	1	3	5,7	5,9,B	24(25)	12	10 to 25	2	NA	1	*++
Rice et al.	2015	North America	3a	1	1	3	5,7	5,9,B	16(15)	10	25	2	NA	1	*+
Real et al.	2017	North America	1	2	2	3	A	4,A	24(21)	1	NA	4	NA	1	*+
Hoque et al.	2013	North America	3b	3	3	2	3	4,A,C	60(30)	1	60	1,2	NA	2	*++

Note, \*LOA = Level of autonomy, \*Ex design = Experimental design, N\*, inside () is the number of participants in the control group if applicable.

Table B.4: Characteristic of technology-supported social skills training systems

Author	Year of development	Region of origin	Applied tech	Domain	Target group	LOA *	Target social skill	Functions	N*	Sessions	Duration	Assessment	Follow-up	Ex design *	Outcome
Stupar-Rutenfrans et al.	2017	Europe	1	3	3	3	2	A	35	3	5	1	1 month	4	*+
Boccanfuso et al.	2011	North America	2	1	1	3	4,7	5,9,A,B	4	1	NA	4	NA	4	N@
Kava et al.	2017	North America	3b	2	2	3	4,9	A,4	12	1	NA	1	NA	4	*-
Margalit et al.	1990	Asia	3d	1	1	3	A	4,A,C	12	10	45	1,2	NA	4	*+
Weisel et al.	1993	Asia	3d	1	1	3	4,9	4,A,C	3	30	40	1,2	NA	4	*+
Schneider et al.	2016	Europe	3d	3	3	3	2	4,A,C	9	2	NA	2	NA	4	*+
Halan et al.	2015	North America	3b	2	2	3	A	4,A	24	NA	NA	2	NA	4	*+
Damian et al.	2015	Europe	3a	3	3	3	3,5,6	4,7,9,A,C	10(10)	1	15	2	1 day	2	*++
Chukoskie et al.	2018	North America	3a	1	1	3	5	A	6	40	30	2	NA	4	*+
Menendez et al.	2015	Brazil	3d	2	2	4	4	4,A,C	31	1	NA	1	NA	4	+@
Cláudio et al.	2016	Europe	3b	2	2	3	A	4,9,A,C	52	1	NA	1	NA	4	+@
Real et al.	2017	North America	1	2	2	3	4	4,A	24	1	15	1	1 month	4	N@
Humm et al.	2014	North America	3b	1	1	2	3	4,8,9,A,C	64(32)	5	120	1,2	NA	1	*+
Smith et al.	2014	North America	3b	1	1	2	3	4,8,9,A,C	25(12)	20	30	1,2	2 weeks	1	*+
Smith et al.	2014	North America	3b	1	1	2	3	4,8,9,A,C	16(10)	5	120	1,2	2 weeks	1	*+
Smith et al.	2015	North America	3b	1	1	2	3	4,8,9,A,C	23(10)	5	30	1,2	NA	1	*+
Smith et al.	2017	North America	3b	1	1	2	3	4,8,9,A,C	14(11)	5	20	1,2	6 months	1	N
Kothgassner et al.	2012	Europe	1	1	3	3	2	4,A	25(25)	1	15	1	NA	1	*+

Note, \*LOA = Level of autonomy, \*Ex design = Experimental design, N\*: inside () is the number of participants in the control group if applicable.

Table B.5: Characteristic of technology-supported social skills training systems

Author	Year of development	Region of origin	Applied tech	Domain	Target group	LOA*	Target social skill	Functions	N*	Sessions	Duration	Assessment	Follow-up	Ex design*	Outcome
Ding et al.	2017	Europe	1	3	3	3	1	4,9,B,C	8	3	30	1	2 weeks	4	*++
Broekens et al.	2012	Europe	1	3	3	3	1	4,5,9,A	28(14)	5	10	1	NA	1	*++
Lorenzo et al.	2016	Europe	3b	1	1	3	6,7	4,5,9,A	20(20)	40	35	2	NA	2	*++
Amat et al.	2018	North America	3b	1	1	2	5	8,A,C	3	NA	NA	4	NA	4	N@
Zheng et al.	2017	North America	3d	1	1	4	5	A,B	20	NA	NA	NA	NA	4	N@
Bernardini et al.	2013	Europe	3a	1	1	2	4	4,5,9,A	29	3	15	2	NA	4	*N
Bernardini et al.	2013	Europe	3a	1	1	2	4	4,5,9,A	19	NA	15	2	NA	4	*+
Milne et al.	2010	Australia	3b	1	1	3	4,7	8,9,A,C	14	NA	15	1	NA	4	*+
Tanaka et al.	2017	Asia	3b	3	3	3	2,6	6,9,A,C	10	1	50	2	3 months	4	*+
Johnsen et al.	2005	North America	3b	2	2	3	A	4,9,A,C	7	1	10	1	NA	4	N@
Serret et al.	2014	Europe	3a	1	1	3	7	5,A,B	33	8	60	1	NA	4	*+
Aysina et al.	2016	Europe	3d	3	3	3	3	9,A,C	16(12)	5	NA	1,2	1 week	2	*+
Amaral et al.	2018	Europe	1	1	1	3	5	9,A,C	15	7	NA	2	6 months	4	*+
Zhao et al.	2018	North America	3a	1	1	3	4,8	9,A,B	12	1	NA	1,4	NA	4	*+
Yun et al.	2015	Asia	2	1	1	2	5,A	9,A,B	6	1	NA	2	NA	4	*N
Han et al.	2018	Asia	2	1	1	3	7	5,A	4	1	NA	2	NA	4	N@
Lindenmayer et al.	2013	North America	3d	1	1	3	7	5,9,A,B	32(27)	12	60	2	NA	2	*+
Strickland et al.	2013	North America	3b	1	1	3	3	4,5,9,A	11(11)	NA	NA	2	NA	1	*N
Uzuegbunam et al.	2017	North America	3c	1	1	3	4,5	4,5,6,9,A,B	3	NA	15	2	NA	4	*N

Note, \*LOA = Level of autonomy, \*Ex design = Experimental design, N\*, inside () is the number of participants in the control group if applicable.

Table B.6: Characteristic of technology-supported social skills training systems

Author	Year of development of origin	Region	Applied tech	Domain	Target group	LOA *	Target social skill	Functions	N*	Sessions	Duration	Assessment	Follow-up	Ex design*	Outcome
Lui et al.	2015	Asia	3d	3	3	3	2	9,A,C	20	1	NA	1	NA	4	N@
Nazligul et al.	2017	Asia	1	3	3	3	2	4,A	6	1	30	1	NA	4	*+
Milne et al.	2018	Australia	3b	1	1	3	4	9,B,C	16(16)	9	10	1	8 weeks	1	*+
Romero et al.	2017	North America	3c	1	1	4	6,7	5,9,B	4	NA	15	1,2	4 weeks	4	*N
So et al.	2018	Asia	2	1	1	4	A	5,9	15(15)	4	30	2	2 weeks	1	*+
Yun et al.	2014	Asia	2	1	1	3	4,5	9,A,B	6	1	NA	2	NA	4	N@
Yun et al.	2017	Asia	2	1	1	3	4,5	9,A,B	8(7)	8	NA	2	NA	1	*+
Bell et al.	2011	North America	3d	1	1	3	3	4,6,9,A	10	2	15	1	NA	4	N@
Boujarwah et al.	2010	North America	3d	1	1	3	9	9,B	8	3	NA	2	NA	4	N@
Fletcher-Watson et al.	2016	Europe	3a	1	1	3	4	9,B	27(27)	NA	NA	2	6 months	1	_*
Weiss et al.	2011	Asia	3d	1	1	3	4	4,6,9,A,D	12	1	NA	1	NA	4	N@
Weiss et al.	2011	Asia	3a	1	1	3	8,A	9,A	8	1	NA	1	NA	4	N@
Kron et al.	2017	North America	3b	2	2	3	4	4,9,C	210(211)	NA	20	1,2	NA	2	@+
Cheng et al.	2012	Asia	3d	1	1	3	A	9,A,B	3	12	30	2	12 days	4	*+
Rus-Calafell et al.	2014	Europe	3b	1	1	3	4,7,9	4,A	12	16	30	1,2	4 months	4	*+
Ke et al.	2013	North America	3a	1	1	3	4,7,9	4,A	4	6	60	1,2	NA	4	*+
Yuan et al.	2018	Asia	1	1	1	3	A	A	72	1	60	1	NA	4	*+
Mitchell et al.	2011	North America	3d	2	2	1	A	4,A	13	2	240	1	NA	4	*+
Hussainy et al.	2012	Australia	3d	2	2	3	4,A	4	200	4	180	1	NA	4	N@
Simões et al.	2018	Europe	1	1	1	3	9	4,9,A	10(10)	3	20	2,3	NA	3	*N

Note, \*LOA = Level of autonomy, \*Ex design = Experimental design, N\*: inside () is the number of participants in the control group if applicable.

Table B.7: Characteristic of technology-supported social skills training systems

Author	Year of development	Region of origin	Applied tech	Domain	Target group	LOA*	Target social skill	Functions	N*	Sessions	Duration	Assessment	Follow-up	Ex design*	Outcome
Bahreini et al.	2017	Europe	3a	3	3	3	4,6	4,9,A,C	25	1	120	1,2	NA	1	@+
Ke et al.	2016	North America	3a	1	1	3	8	A	3	10	90	2	NA	4	*N
Kolk et al.	2018	Europe	3d	1	1	3	4,7,8	4,9,A	22(10)	8	90	2	1 year	1	*+
Olmedo-Vizneta et al.	2017	Europe	3b	1	1	3	6,7	5,9,A	19(20)	NA	15	2	NA	3	*N
Park et al.	2011	Asia	1	1	1	3	4,6,A	4,A	46(45)	10	NA	1,2	NA	1	*+
Russo-Ponsaran et al.	2014	North America	3d	1	1	3	6,7	5,7,9,A	3	16	60	2	4 weeks	4	*+
Wong Sarver et al.	2014	North America	3b	1	1	1	9	4,A	11	NA	30	1	NA	4	N@
North et al.	2008	North America	1	1	1	3	2	4,A	30	5	15	1	NA	4	*+
Raj et al.	2017	Asia	3b	1	1	3	4,5	4,A,C	4(4)	1	60	3	NA	3	*N
Ke et al.	2018	North America	3a	1	1	3	1,4	4,9,A,B	8	16	45	2	NA	4	*+
Lin et al.	2009	Asia	3d	3	3	4	1	4,A	11(34)	NA	NA	4	NA	2	*+
Gratch et al.	2016	North America	3b	3	3	1	1	4,A	93	1	NA	1,2	NA	4	N@
Chen et al.	2014	Asia	1	1	1	4	6,7	5,A	3	7	60		2 weeks	4	N*
Hartanto et al.	2016	Europe	1	1	1	3	A	2,7,9,A, B,C	5	8	20	1	NA	4	N*
Baur et al.	2013	Europe	3b	3	3	2	3	4,A,C	6	NA	NA	1,4	NA	4	N@
Halabi et al.	2017	Asia	1	1	1	3	4	4,A	10	2	20	1	NA	4	N@
Ip et al.	2015*	Asia	1	1	1	3	A	4,A	53	28	60	1	NA	4	N*
Ip et al.	2016*	Asia	1	1	1	3	A	4,A	36(36)	28	60	1	NA	1	*+
Cheng et al.	2015	Asia	1	1	1	3	A	4,A,B	3	3	NA	1	NA	4	N*
Nazlignl et al.	2015	Asia	1	4	4	3	2	4,A	7(7)	3	10	1	NA	2	+

Note, \*LOA = Level of autonomy, \*Ex design = Experimental design, N\*, inside () is the number of participants in the control group if applicable.

Table B.8: Characteristic of technology-supported social skills training systems

Author	Year of development	Region of origin	Applied tech	Domain	Target group	LOA *	Target social skill	Functions	N*	Sessions	Duration	Assessment	Follow-up	Ex design *	Outcome
Greco et al.	2007	Europe	3a	3	3	3	1	4,9,A,C	NA	NA	NA	1,4	NA	4	N@
Stevens et al.	2006	North America	3b	2	2	3	A	4,9,A,C	20	1	NA	1	NA	4	N@
Parsons et al.	2004	Europe	3b	1	1	3	9	4,5,9,A	2	6	30	4	3 months	4	N@
Cláudio et al.	2015	Europe	3b	2	2	3	A	4,9,A,C	7	1	NA	1	NA	4	N@
Kumazaki et al.	2017	Asia	2	1	1	1	3	4,A	7(8)	3	10	1,3	NA	2	*+
Chuah et al.	2013	North America	1	2	2	1	A	1,4,9,A	22	1	NA	1	NA	4	N@
Kinsella et al.	2017	North America	3d	1	1	2	4	8,A	12	1	NA	1,4	NA	4	N@
Ku et al.	2007	Asia	3b	1	1	3	4,7,9	4,9,A	10	NA	NA	1	NA	4	__@
Escobedo et al.	2012	North America	3d	1	1	3	4,5	9,A,B,C	3	NA	NA	1,2	NA	4	*N
Kaltman et al.	2018	North America	3c	2	2	3	4,A	9A,B,C	99	1	NA	1,2	NA	1	*+

Note, \*LOA = Level of autonomy, \*Ex design = Experimental design, N\*, inside () is the number of participants in the control group if applicable.