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Study	Year	Country	Clinical Sample	Age	N	Treatment conditions	No of sessions	Main Findings	Strengths	Limitations
Agoraphobia with or without panic disorder										
Pelissolo et al	2012	France	Panic disorder with agoraphobia	Mean age 44.1 Age range 24 to 72	92 (62 females, 30 males)	VRET CBT Waiting List	12 weekly sessions of 60' 6 and 12 month Follow-up	Reduction in fear in both treatment groups. No difference between the groups but more effective than waiting list Maintained at Follow-up	Large sample size	Relatively large drop-out rate (27%) in both groups
Malbos et al	2013	Australia	Panic disorder with agoraphobia	Mean age 37 Age range not stated	19 (12 females, 9 males)	VRET only VRET + CBT	10 weekly sessions of 90' 3 month Follow-up	Mood, anxiety, fear and avoidance improved in both groups. No difference between the groups Maintained at Follow-up	Duration of treatment Follow-up	Small sample size No control group
Meyerbroeker et al	2013	The Netherlands	Panic disorder with agoraphobia	Mean age not stated Age range for recruitment 18-65	55 (not stated)	VRET+CBT Exposure +CBT Waiting list	10 weekly sessions of 60'	Reduction in panic disorder severity in both treatment groups. No difference between the groups but more effective than waiting list	Severely impaired patients	Relatively small sample size Relatively large drop-out rate (32%) in both groups
Baron-Cohen et al	2013	Spain	Agoraphobia with or without panic disorder	Mean age not stated	50	CBT + medication Waiting list	11 weekly sessions of 60'	Reduction in agoraphobia severity in both treatment groups. No difference between the groups but more effective than waiting list	Severely impaired patients	Relatively large drop-out rate (32%) in both groups

				60		Medication only	6 months Follow-up	groups but more effective than medication alone. Maintained at Follow-up		(50%).
Pitti et al	2015	Spain	Agoraphobia with or without panic disorder	Mean age 39 Age range not stated	99 (70 females, 29 males)	CBT + medication VRET + CBT + med. Medication only	11 weekly sessions of 30'-45' 6 months Follow-up	Reduction in agoraphobia severity in all three groups. VRET+CBT+med. had slightly better results at Follow-up	Severely impaired patients	Relatively large drop-out rate
Social Anxiety Disorder and Public Speaking Anxiety										
Safir et al	2012	Israel	Public Speaking Anxiety	Mean age 27 Age range not stated	88 (70 females, 18 males)	VRET+CBT CBT Waiting list	12 weekly sessions of 60' 12 months Follow-up	The reduction in public speaking anxiety in both groups reported in Wallach et al 2009 was maintained at Follow-up.	Large sample size Long Follow-up	Most participants were young female students.
Anderson et al	2013	USA	Social Anxiety Disorder	Mean age 39 Age range 19 to 69	97 (60 females, 37 males)	VRET Exposure group therapy Waiting list	8 weekly sessions 12 months Follow-up	Reduction in social anxiety in both groups. Maintained at Follow-up	Large sample size Long Follow-up	Exposure involved public speaking in a group which may not be the same as social anxiety disorder
Fear of flying										

Mayerbroeker et al	2012	The Netherlands	Fear of flying	Mean age not stated Age range for recruitment 18 to 65	67 (not stated)	VRET + Yohimbine Hydrochloride (YHO) VRET + Placebo	4 weekly sessions of 60'	Fear of flying reduction in both groups. No evidence that YHO enhanced outcome	Large sample size	Relatively large drop-out rate (27%) in both groups
Rus-Calafell et al.	2013	Spain	Fear of flying	Mean age 37 Age range for recruitment 18 to 65	15 (13 females, 2 males)	VRET Imaginal exposure	8 sessions twice a week of 60' to 75' 6 month Follow-up	Fear of flying reduction in both groups, but VRET showed better results. Maintained at Follow-up	Follow-up	Small sample size
Spider phobia										
Shiban et al	2013	Germany	Spider phobia	Mean age 28 Age range 18 to 58	30 (not stated)	VRET+ in four different scenarios VRET+ in a single scenario	2 sessions	Fear of spiders was reduced in both groups. Multiple context reduced renewal effect.		Small sample size. Only one session. No control condition
Shiban et al	2015a	Germany	Spider phobia	Mean age 31 Age range 18 to 60	32 (not stated)	VRET+ Reactivation stimulus+ in vivo exposure VRET+ Control stimulus+ in vivo exposure	4 sessions twice a week 6 month Follow-up	Fear of spiders was reduced in both groups. Reactivation stimulus did not attenuate fear. Fear reduction maintained at Follow-up	Follow-up	Small sample size. Both groups had VRET and in vivo
Shiban et al	2015b	Germany	Spider phobia	Mean age 23	58 (49 females, 8 males, 1	VR single stimulus and single context	2 sessions	Fear of spiders was reduced in all groups, but was more pronounced in the multiple	Follow-up	Relatively small sample size for four conditions.

				Age range 18 to 38	not stated)	VR multiple stimuli and single context VR single stimulus and multiple contexts VR multiple stimuli and multiple scenarios	2 weeks Follow-up	context condition. Only the multiple stimuli, single context condition had long term effect on fear attenuation at follow-up		
More than one phobia										
Moldovan & David	2014	USA	Social Phobia N=15 Flying phobia N= 9 Acrophobia N=8	Mean age rot stated Age range for recruitment over 18	32 (15 females, 17 males)	VRET+CBT Waiting list	1 session of 60'	No differences found between the two groups		No active control condition. Small sample size. Only one session.
Management of Psychological Stress										
Gaggioli et al	2014	Italy	Teacher and Nurses exposed to high levels of psychological stress	Mean age 39 to 46 Age range not stated	121 (73 females, 48 males)	VRET + VR relaxation + biofeedback + cognitive restructuring Imaginal Exposure + imaginal relaxation + diary + cognitive restructuring Waiting list	10 sessions twice a week of 60'	Perceived stress, and coping skills improved in both treatments. VR group showed a decrease in anxiety and larger improvements in perceived stress and coping skills.	Large sample size.	No follow-up
Eating disorders										
Marco et al	2013	Spain	Eating disorders	Mean age 22 Age range 1 to 40	34 all females	CBT CBT + VR	15 CBT group sessions 8 individual	Body image improved in both groups, but VR was more efficient and accelerated changes regarding body image and eating disorder psychopathology. Maintained at Follow-up	Follow-up	Relatively small sample size

							CBT +VR			
							12 months Follow-up			
Post Traumatic Stress Disorder (PTSD)										
Rothbaum et al	2014	USA	War veterans with PTSD	Mean age 35 Age range 22 to 55	156 (8 females, 148 males)	VRET + D-cycloserine VRET + alprazolam VRET + Placebo	5 weekly sessions of 90' 6 months Follow-up	All three groups showed a reduction of PTSD after treatment Effects of D-cycloserine are inconclusive. Maintained at Follow-up	Large sample size. Use of biomarkers. Follow-up	Relatively large drop-out rate.
Difede et al	2014	USA	PTSD following the World Trade Centre attack	Mean age 43 to 47 Age range for recruitment 18 to 70	25 (6 females, 19 males)	VRET + D-cycloserine VRET + Placebo	12 weekly sessions of 90' 6 months Follow-up	Both groups showed a reduction of PTSD after treatment. D-cycloserine was associated with greater reduction of PTSD as well as improvement in sleep, depression and anger expression.	Follow-up	Small sample size.
Smith et al*	2015	USA	War veterans with PTSD	Mean age 51 Age range for recruitment 18 to 65	33 all males	VR job interview training Treatment as usual	10 sessions of 60' over 5 to 10 days	Role-play job interview was better in VR job interview training group.	High attendance. Found to be easy to use Increased	No active control condition Small sample size

									confidence	
Schizophrenia										
Rus-Calafell et al	2013	Spain	Schizophrenia	Mean age 38 to 42 Age range 18-55	32 (6 females, 16 males)	VR social skills training Treatment as usual	16 weekly sessions of 60' 6 month Follow-up	Social cognition and functioning improved with the VR social skills training. Reduction of negative symptoms. Maintained at follow-up	High treatment acceptance. Follow-up	No active control condition Small sample size
Tsang & Man	2013	Hong Kong	Schizophrenia	Mean age 40 Age range for recruitment 18 to 55	75 (42 females, 33 males)	Prevocational training + VR vocational training Prevocational training + Vocational group training Prevocational training	Prevocational training of 180 minutes each day. 10 sessions twice a week of 30'	Both training were associated with an improvement of cognitive functioning. The VR group showed better results.	Improved self-efficacy	Relatively large drop-out rate. No long term follow-up
Smith et al *	2015	USA	Schizophrenia	Mean age 40 Age range for recruitment 18 to 55	32 (12 females, 20 males)	VR job interview training Treatment as usual	10 sessions of 60' over 5 to 10 days	Role-play job interview was better in VR job interview training group. At 6 months Follow-up participants in the VR groups had higher odds of receiving a job	High attendance. Found to be easy to use Increased	No active control condition Small sample size

							6 month Follow-up	offer.	confidence	
Smith et al *	2014	USA	Schizophrenia Bipolar Depression	Mean age not stated Age range for recruitment 18 to 65	37 (not stated)	VR job interview training Treatment as usual	10 sessions of 60' over 5 to 10 days	Role-play job interview was better in VR job interview training group.	High attendance. Found to be easy to use Increased confidence	No active control condition Small sample size
Autism										
Smith et al *	2014	USA	Autism	Mean age 23 Age range for recruitment 18 to 31	26 (6 females, 20 males)	VR job interview training Treatment as usual	10 sessions of 60' over 5 to 10 days	Role-play job interview was better in VR job interview training group.	High attendance. Found to be easy to use Increased confidence	No active control condition Small sample size
Smith & Bell * Follow-up of the above study	2015	USA	Autism	As above	23 (3 females, 20 males)	VR job interview training Treatment as usual	6 month Follow-up of the above study	At 6 months Follow-up participants in the VR groups had higher odds of receiving a job offer.	Follow-up	As above

Table 1. VR: Virtual reality; VRET: Virtual reality Exposure Therapy; CBT: Cognitive Behavior Therapy

* The Studies by Smith and colleagues did not use immersive VR delivered via a head mounted display, but were delivered used a computer screen. However they were interactive and could be tailored to the participant.