<table>
<thead>
<tr>
<th>Study</th>
<th>Year</th>
<th>Country</th>
<th>Clinical Sample</th>
<th>Age</th>
<th>N</th>
<th>Treatment conditions</th>
<th>No of sessions</th>
<th>Main Findings</th>
<th>Strengths</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pelissolo et al</td>
<td>2012</td>
<td>France</td>
<td>Panic disorder with agoraphobia</td>
<td>Mean age 44.1</td>
<td>92</td>
<td>VRET, CBT</td>
<td>12 weekly sessions of 60’</td>
<td>Reduction in fear in both treatment groups. No difference between the groups but more effective than waiting list. Maintained at Follow-up</td>
<td>Large sample size</td>
<td>Relatively large drop-out rate (27%) in both groups</td>
</tr>
<tr>
<td>Malbos et al</td>
<td>2013</td>
<td>Australia</td>
<td>Panic disorder with agoraphobia</td>
<td>Mean age 37</td>
<td>19</td>
<td>VRET only, VRET + CBT</td>
<td>10 weekly sessions of 90’</td>
<td>Mood, anxiety, fear and avoidance improved in both groups. No difference between the groups but more effective than waiting list. Maintained at Follow-up</td>
<td>Duration of treatment Follow-up</td>
<td>Small sample size, No control group</td>
</tr>
<tr>
<td>Meyerbroeker et al</td>
<td>2013</td>
<td>The Netherlands</td>
<td>Panic disorder with agoraphobia</td>
<td>Mean age not stated</td>
<td>55</td>
<td>VRET+CBT, Exposure +CBT + Waiting list</td>
<td>10 weekly sessions of 60’</td>
<td>Reduction in panic disorder severity in both treatment groups. No difference between the groups but more effective than waiting list.</td>
<td>Severely impaired patients</td>
<td>Relatively small sample size, Relatively large drop-out rate (32%) in both groups</td>
</tr>
<tr>
<td>Penate-Castro et</td>
<td>2013</td>
<td>Spain</td>
<td>Agoraphobia with or without panic disorder</td>
<td>Mean age not stated</td>
<td>60</td>
<td>CBT + medication</td>
<td>11 weekly sessions of 60’</td>
<td>Reduction in agoraphobia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study</td>
<td>Year</td>
<td>Country</td>
<td>Disorder</td>
<td>Mean age</td>
<td>Age range</td>
<td>Intervention</td>
<td>Duration</td>
<td>Follow-up</td>
<td>Results</td>
<td></td>
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</tr>
<tr>
<td>Pitti et al</td>
<td>2015</td>
<td>Spain</td>
<td>Agoraphobia with or without panic disorder</td>
<td>99 (70 females, 29 males)</td>
<td>Age range not stated</td>
<td>CBT + medication; VRET + CBT + med; Medication only</td>
<td>11 weekly session of 30' - 45'</td>
<td>6 months Follow-up</td>
<td>Reduction in agoraphobia severity in all three groups. VRET + CBT + med. had slightly better results at Follow-up.</td>
<td></td>
</tr>
<tr>
<td>Safir et al</td>
<td>2012</td>
<td>Israel</td>
<td>Public Speaking Anxiety</td>
<td>88 (70 females, 18 males)</td>
<td>Age range not stated</td>
<td>VRET + CBT; CBT Waiting list</td>
<td>12 weekly sessions of 60'</td>
<td>12 months Follow-up</td>
<td>The reduction in public speaking anxiety in both groups reported in Wallach et al 2009 was maintained at Follow-up.</td>
<td></td>
</tr>
<tr>
<td>Anderson et al</td>
<td>2013</td>
<td>USA</td>
<td>Social Anxiety Disorder</td>
<td>97 (60 females, 37 males)</td>
<td>Age range 19 to 69</td>
<td>VRET Exposure group therapy Waiting list</td>
<td>8 weekly sessions</td>
<td>12 months Follow-up</td>
<td>Reduction in social anxiety in both groups. Maintained at Follow-up</td>
<td></td>
</tr>
</tbody>
</table>

**Fear of flying**

- Pitti et al 2015 Spain Agoraphobia with or without panic disorder
  - Mean age 99 (70 females, 29 males)
  - Age range not stated
  - CBT + medication; VRET + CBT + med; Medication only
  - 11 weekly session 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
- Safir et al 2012 Israel Public Speaking Anxiety
  - Mean age 88 (70 females, 18 males)
  - Age range not stated
  - 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.
- Anderson et al 2013 USA Social Anxiety Disorder
  - Mean age 97 (60 females, 37 males)
  - Age range 19 to 69
  - VRET Exposure group therapy Waiting list
  - 8 weekly sessions
  - 12 months Follow-up
  - Reduction in social anxiety in both groups. Maintained at Follow-up

**Social Anxiety Disorder and Public Speaking Anxiety**

- Pitti et al 2015 Spain Agoraphobia with or without panic disorder
  - Mean age 99 (70 females, 29 males)
  - Age range not stated
  - CBT + medication; VRET + CBT + med; Medication only
  - 11 weekly session 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
- Safir et al 2012 Israel Public Speaking Anxiety
  - Mean age 88 (70 females, 18 males)
  - Age range not stated
  - 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.
- Anderson et al 2013 USA Social Anxiety Disorder
  - Mean age 97 (60 females, 37 males)
  - Age range 19 to 69
  - VRET Exposure group therapy Waiting list
  - 8 weekly sessions
  - 12 months Follow-up
  - Reduction in social anxiety in both groups. Maintained at Follow-up

**Fear of flying**

- Pitti et al 2015 Spain Agoraphobia with or without panic disorder
  - Mean age 99 (70 females, 29 males)
  - Age range not stated
  - CBT + medication; VRET + CBT + med; Medication only
  - 11 weekly session of 30' - 45'
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  - Reduction in agoraphobia severity in all three groups. VRET + CBT + med. had slightly better results at Follow-up
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  - Mean age 88 (70 females, 18 males)
  - Age range not stated
  - VRET + CBT; CBT Waiting list
  - 12 weekly sessions of 60'
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  - The reduction in public speaking anxiety in both groups reported in Wallach et al 2009 was maintained at Follow-up.
- Anderson et al 2013 USA Social Anxiety Disorder
  - Mean age 97 (60 females, 37 males)
  - Age range 19 to 69
  - VRET Exposure group therapy Waiting list
  - 8 weekly sessions
  - 12 months Follow-up
  - Reduction in social anxiety in both groups. Maintained at Follow-up
<table>
<thead>
<tr>
<th>Study</th>
<th>Year</th>
<th>Country</th>
<th>Condition</th>
<th>Mean age</th>
<th>Age range</th>
<th>Treatment</th>
<th>Sessions</th>
<th>Follow-up</th>
<th>Results</th>
<th>Sample size</th>
<th>Drop-out rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mayerbroeker et al.</td>
<td>2012</td>
<td>Netherlands</td>
<td>Fear of flying</td>
<td>67</td>
<td>18 to 65</td>
<td>VRET + Yohimbine Hydrochloride (YHO)</td>
<td>4 weekly</td>
<td></td>
<td>Fear of flying reduction in both groups. No evidence that YHO enhanced outcome</td>
<td>Large</td>
<td></td>
</tr>
<tr>
<td>Rus-Calafell et al.</td>
<td>2013</td>
<td>Spain</td>
<td>Fear of flying</td>
<td>15</td>
<td>18 to 65</td>
<td>VRET + Placebo</td>
<td>8 sessions</td>
<td>6 month</td>
<td>Fear of flying reduction in both groups, but VRET showed better results. Maintained at Follow-up</td>
<td>Follow-up</td>
<td></td>
</tr>
<tr>
<td>Spider phobia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Small</td>
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</tr>
<tr>
<td>Shiban et al</td>
<td>2013</td>
<td>Germany</td>
<td>Spider phobia</td>
<td>30</td>
<td>18 to 58</td>
<td>VRET+ in four different scenarios VRET+ in a single scenario</td>
<td>2</td>
<td></td>
<td>Fear of spiders was reduced in both groups. Multiple context reduced renewal effect.</td>
<td>Small</td>
<td>Only one session. No control condition</td>
</tr>
<tr>
<td>Shiban et al</td>
<td>2015a</td>
<td>Germany</td>
<td>Spider phobia</td>
<td>32</td>
<td>18 to 60</td>
<td>VRET+ Reactivation stimulus+ in vivo exposure VRET+ Control stimulus+ in vivo exposure</td>
<td>4</td>
<td>6 month</td>
<td>Fear of spiders was reduced in both groups. Reactivation stimulus did not attenuate fear. Fear reduction maintained at Follow-up</td>
<td>Follow-up</td>
<td>Small sample size. Both groups had VRET and in vivo</td>
</tr>
<tr>
<td>Shiban et al</td>
<td>2015b</td>
<td>Germany</td>
<td>Spider phobia</td>
<td>58</td>
<td>18 to 65</td>
<td>VR single stimulus and single context</td>
<td>2</td>
<td></td>
<td>Fear of spiders was reduced in all groups, but was more pronounced in the multiple</td>
<td>Follow-up</td>
<td>Relatively small sample size for four conditions.</td>
</tr>
<tr>
<td>More than one phobia</td>
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<tr>
<td><strong>Moldovan &amp; David</strong> 2014 USA</td>
<td>Social Phobia N=15 Flying phobia N= 9 Acrophobia N=8</td>
<td>Mean age rot stated</td>
<td>32 (15 females, 17 males)</td>
<td>VRET+CBT Waiting list</td>
<td>1 session of 60’</td>
<td>No differences found between the two groups</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Age range for recruitment over 18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No active control condition. Small sample size. Only one session.</td>
<td></td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Management of Psychological Stress</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gaggioli et al</strong> 2014 Italy</td>
</tr>
<tr>
<td>Age range not stated</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Eating disorders</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Marco et al</strong> 2013 Spain</td>
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</table>
**Post Traumatic Stress Disorder (PTSD)**

<table>
<thead>
<tr>
<th>Study</th>
<th>Year</th>
<th>Country</th>
<th>Participants</th>
<th>Intervention</th>
<th>Follow-up</th>
<th>Summary</th>
<th>Comments</th>
</tr>
</thead>
</table>
| Rothbaum et al  | 2014 | USA     | War veterans with PTSD | Mean age 35  
Age range 22 to 55  
(156, 8 females, 148 males) | 156       | 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) | 25        | 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) | 33        | 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 |
<table>
<thead>
<tr>
<th>Schizophrenia</th>
<th>Study</th>
<th>Location</th>
<th>Mean age</th>
<th>Age range</th>
<th>Training Type</th>
<th>Duration</th>
<th>Follow-up</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rus-Calafell et al</td>
<td>2013</td>
<td>Spain</td>
<td>38 to 42</td>
<td>18-55</td>
<td>VR social skills training</td>
<td>16 weekly sessions of 60'</td>
<td>6 month Follow-up</td>
<td>Social cognition and functioning improved with the VR social skills training. Reduction of negative symptoms. Maintained at follow-up</td>
</tr>
<tr>
<td>Tsang &amp; Man</td>
<td>2013</td>
<td>Hong Kong</td>
<td>40</td>
<td>18-55</td>
<td>Prevocational training + VR vocational training</td>
<td>Prevocation al training of 180 minutes each day. 10 sessions twice a week of 30'</td>
<td>Follow-up</td>
<td>Both training were associated with an improvement of cognitive functioning. The VR group showed better results.</td>
</tr>
<tr>
<td>Smith et al</td>
<td>2015</td>
<td>USA</td>
<td>40</td>
<td>18-55</td>
<td>VR job interview training</td>
<td>10 sessions of 60' over 5 to 10 days</td>
<td>Follow-up</td>
<td>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</td>
</tr>
</tbody>
</table>

Confidence: High
<table>
<thead>
<tr>
<th>Author(s) *</th>
<th>Year</th>
<th>Country</th>
<th>Condition</th>
<th>Age Range</th>
<th>Training</th>
<th>Treatment</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smith et al.</td>
<td>2014</td>
<td>USA</td>
<td>Schizophrenia, Bipolar Depression</td>
<td>Mean age not stated, Age range for recruitment 18 to 65</td>
<td>37 (not stated)</td>
<td>Treatment as usual</td>
<td>Role-play job interview was better in VR job interview training group. High attendance. Found to be easy to use. Increased confidence. Small sample size.</td>
</tr>
<tr>
<td>Smith et al.</td>
<td>2014</td>
<td>USA</td>
<td>Autism</td>
<td>Mean age 23, Age range for recruitment 18 to 31</td>
<td>26 (6 females, 20 males)</td>
<td>VR job interview training</td>
<td>Role-play job interview was better in VR job interview training group. High attendance. Found to be easy to use. Increased confidence. Small sample size.</td>
</tr>
<tr>
<td>Smith &amp; Bell</td>
<td>2015</td>
<td>USA</td>
<td>Autism</td>
<td>As above</td>
<td>23 (3 females, 20 males)</td>
<td>VR job interview training</td>
<td>At 6 months Follow-up participants in the VR groups had higher odds of receiving a job offer. Follow-up As above</td>
</tr>
</tbody>
</table>

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.