Exercise in Virtual Reality

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Virtual reality can allow people to exceed their regular performance in exercise routines by suppressing their private body consciousness. The article, “Virtual Reality Can Improve Performance during Exercise," advocated for physically training in virtual reality. Through a controlled experiment on how people exercised in actual reality compared to virtual reality, they concluded that virtual reality improved performance in working out by allowing individuals to go for a longer duration, and experience less pain throughout the workout [5].

The study itself was interesting, but it didn’t operate with time as a controlled variable. They should also expand on their premise and hypothesize on what imagery has the most effect within virtual reality. They also didn’t mention the many possible applications for virtual reality if as they mentioned, virtual reality actually does cause people to leave behind their private body consciousness. Overall, the article describes a decent premise at a shallow level, and looking at more articles will display the real consequences of this study.

	Control Condition	**VR Condition**	***t*(10) Value**	***P***
A. All patients, n = 11, mean scores (SD)				
Worst Pain	7.6 (1.9)	5.1 (2.6)	2.92	0.015
Unpleasant	6.7 (1.6)	4.1 (2.8)	2.84	0.017
Time	7.6 (3.1)	3.6 (2.5)	5.24	< 0.001
Fun	0.9 (1.6)	3.8 (3.3)	2.95	0.015
	Control Condition	**VR Condition**	***t*(5) Value**	***P***
B. Patients with presence > 3.4, n = 6, mean scores (SD)				
Worst Pain	7.2 (1.7)	3.7 (2.1)	2.92	< 0.05
Unpleasant	6.5 (1.2)	2.5 (1.6)	5.48	0.003
Time	6.7 (3.6)	2.3 (1.6)	3.53	0.017
Fun	1.5 (2.0)	5.7 (3.2)	2.64	< 0.05
	Control Condition	**VR Condition**	***t*(4) Value**	***P***
C. Patients with presence < 3.4, n = 5, mean scores (SD)				
Worst Pain	8.1 (2.1)	6.8 (2.2)	1.38	0.24 NS
Unpleasant	6.9 (2.0)	6.0 (2.7)	< 1 NS	NS
Time	8.8 (2.2)	5.2 (2.5)	3.88	< 0.05
Fun	0.2 (0.5)	1.6 (1.5)	1.87	0.14 NS

For all statistical comparisons reported in this study the $\alpha = 0.05$.

[2]

Private body consciousness is the awareness of one's own body, and people who know their body well usually feel more pain when doing activities such as exercising. Other articles have additionally confirmed that virtual reality reduces pain experienced in general, from burns to painful oral conditions. As seen in the image above, people's illusions of entering a virtual reality fueled a large reduction in pain sensitivity for burn patients. Patients felt much less pain when they enter the virtual reality compared to others who were left alone or just distracted by other entertainments, such as movies [2]. Those who felt more immersed in the virtual reality also tended to feel much less pain when they dive, going from what they called excruciating pain to mild pain [2]. Another case involving two individuals experiencing pain regarding a dental infection showed that distractions were marginally better than no treatment, while virtual reality took their pain levels down to almost nothing [3]. It seems as if taking away the patients relationship with their own body through virtual reality relieves them of their suffering.

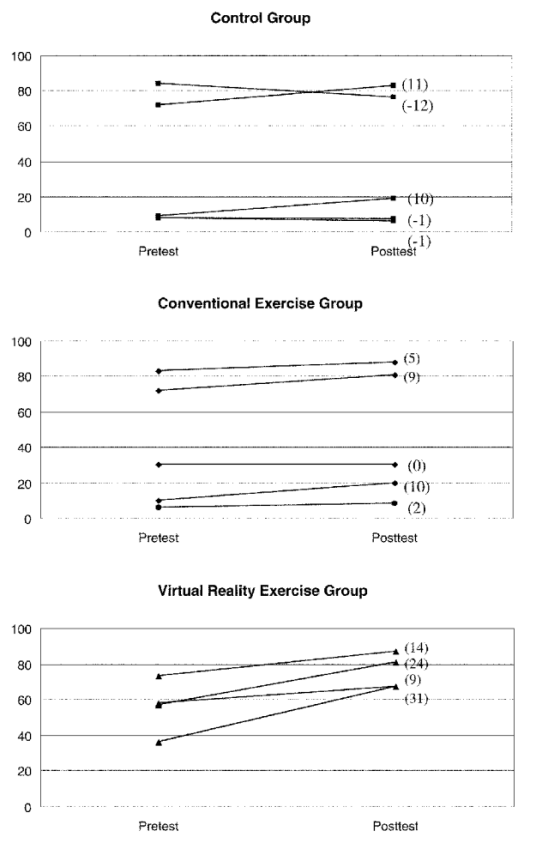

FIG. 2 Pretest and posttest values for individuals in each of three groups: control, conventional exercise, and virtual reality exercise.

[4]

First off, this study lends itself directly to the application of using virtual reality as a part of an exercise routine, allowing people to be motivated to work out indoors and on their personal time. There are already similar applications out there in their testing stages. One such effort is an attempt to use virtual reality in physical rehabilitation, allowing patients to go through their exercises at the office, at home, or anywhere else they can enter the virtual world [4]. Another study focused on helping stroke victims develop their sense of balance with virtual reality exercises, demonstrating how removing private body consciousness from the equation could improve adaptability in motor functions and recovery [3]. Other potential applications involve giving people the confidence they need to actually go out and exercise or being developed as a highly effective painkiller. Any sort of physical training could be done in virtual reality to enhance performance by removing body consciousness. There's massive potential in this study, if only we continue researching and thinking up potential applications of the technology.

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