

Second Life

A real life
experience



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What is Secondlife?

Second Life is a three dimensional environment where people exist in the form of avatars, they interact with others, can explore many different places including art installations, forests and parks and underwater worlds, places to hang out, play games, dance, and listen to live music and live DJ's, experience immersive activities and take part in roleplay stories and communities. It



has its own currency (Linden Dollars) which has an exchange rate on the stock market. You can work and earn money in Second Life, which can be exchanged for real money. There are a few people who have made 6 figure incomes from trading solely in Second Life.



Avatars within Second Life can be human, animal, vegetable, mineral, or any combination and are fully customisable. Your avatar can walk, run, use transport and fly - and to get from one place to another quickly, the avatar teleports.

How big is this world? To give an idea of the size of Second Life here are some interesting statistics:

As of 24th July 2015:

- Total number of regions in Second Life: 25,301
- Total land mass: 1,030.3 miles²
- Monthly Rental Income: \$4,728,000
- There are 42,764,361 total residents and at any one time there can be up to 70,000 concurrent users online.

To put this into perspective though, Facebook has 1,441,000,000 monthly active users. If Facebook were a country, it would be the same size as China, the most populated country in the world (and China....doesn't use Facebook).

Communication in Second Life has several options - local chat (visible to those within the immediate vicinity), IM (private message), voice (unencrypted), and the ability to leave a sort of email in the form of messages to those offline.

Why do people frequent this virtual world and what do they do there?

People enter Second Life for many different reasons....and they stay there...or leave there...for many different reasons. Some people see it as a game but most residents of Second Life see it as a social network with more. They make very real friends, lovers and enemies. They experience very real emotions, traumas and loss.

For the disabled, Second Life can give a person a new lease of life and a connection to a world outside of their home. For the lonely, the socially anxious, and those that may feel trapped in a real life that doesn't fulfil them for whatever reason, Second Life can provide a unique opportunity to experience social interaction and friendship.

I entered Second Life in 2007 and have now been a resident there for 8 years. Initially, like many people I found it difficult to engage with and was left feeling confused about its purpose and failed to see the point. In 2009, as part of a funded project to research the potential of virtual world as an education tool, I entered Second Life for the first time with a real purpose. We researched with colleagues from The Open University, and other colleges and universities from the far corners of the world, we learned much and very soon Second Life took on new meaning for me.

Consider for a moment, if you've ever read any of the Narnia stories. What would you give to walk through the wardrobe and enter a strange new world full of fantasy, new experiences and new people?

People find love in Second Life. People experience great loss in Second Life. They experience joy and laughter, pain and suffering, abuse and hate. These are not virtual



emotions. The person behind the screen is very real and they experience very real feelings.

The experiences in Second Life can be very intense. They are incredibly focused and as a result time tends to

moves faster in Second Life than it does in the real world. People share secrets and desires far sooner than they might otherwise and relationships often move faster than they might in real life.

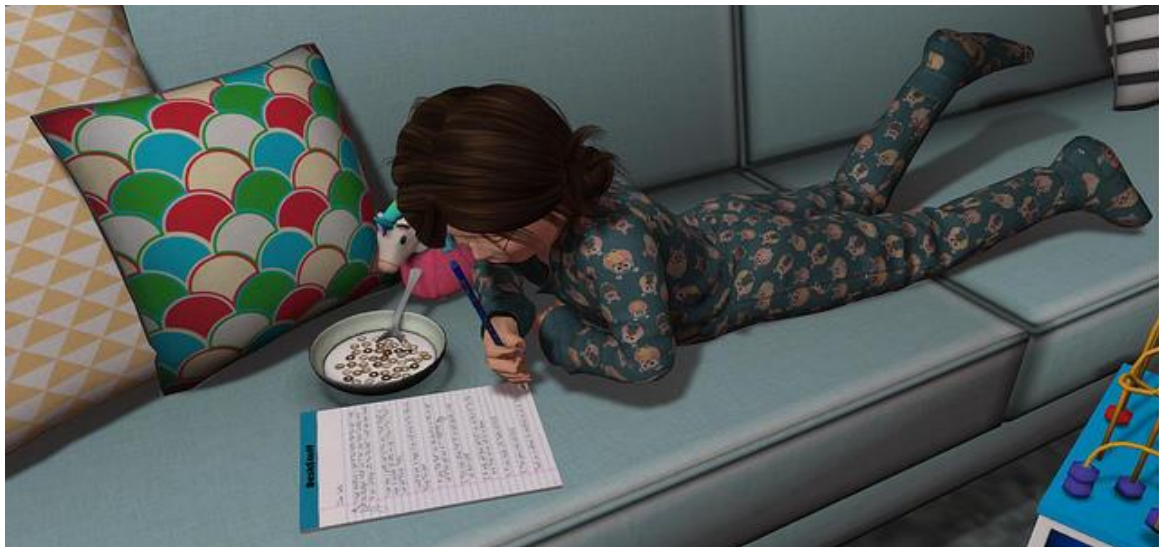
The therapeutic relevance of Second Life.

There are many ways in which Second Life and other avatar-based platforms have been used with therapeutic value.

There are a significant number of adults who will choose to explore Second Life using a child avatar. Most of the time the reasons for this are genuine and not pathological, although there have been instances of inappropriate interactions with child avatars.

There are laws that prohibit certain (though not all) *types* of virtual child pornography, and others that specifically prohibit *obscene* virtual child pornography. There is plenty of room for speculation and debate over this specific topic but it would be outside the scope of this paper.

The more positive reasons for having a child avatar have real and significant therapeutic relevance. Discovering and exploring childhood trauma is one.



Picture by [Marianne McCann](#) and used under Licence of Creative Commons

Case Study – Exploring Childhood Trauma:

John (*assigned name*) had been spending time in Second Life as a young girl avatar, Ayya. John is in his late twenties/early 30's, has a fiancée, a job and no children. He is spending increasingly more time in Second Life and his fiancée is becoming concerned about the increased secrecy of his time there. She knows that he has a young girl avatar and she struggles to understand what he is “getting” from these activities.

John spends time in Second Life with other child avatars, playing, exploring, playing music and chatting. Ayya is very popular in Second Life but he is recognising that she is increasingly looking for more excitement, is rarely satisfied, and goes through phases where she becomes angry and aggressive towards others in-world, behaving in a way that is inviting her suspension from Second Life by it's creators.

Tensions increase between John and his fiancée and John decides that in order to save his relationship he will stop his Second Life as Ayya. It's a very hard decision for him and a very emotional separation - in fact he essentially kills Ayya, deleting her account after some difficult goodbyes to friends he had made there with her. Sadly, these efforts were not enough to save his relationship and John and his fiancée split up.

As soon as John's fiancée leaves, John feel compelled to return to Second Life and he quickly re-joins - this time as a young boy. He describes that the whole experience that he had with Ayya, had freed something inside him to be his authentic self. He was able to recognise memories from his childhood that he had been repressing for many, many years. He was able to admit to himself and others for the first time ever that he had been sexually abused as a child.

This new awareness helped John to consider what role Ayya had played in his exploration of his inner self, discovery of hidden childhood memories and the

experiences that he had been blocking out for so long. This has enabled John to start work on healing the effects of those early life traumatic experiences.

Whilst Second Life wasn't the only thing that might have helped John discover these things about himself, one could certainly speculate that John's Second Life usage was in fact a catalyst for a therapeutic pathway of discovery, awareness and healing.

You can see this real life story in the documentary Life 2.0 found here on Youtube:

<https://www.youtube.com/watch?v=aUwD7u7wwcY>

Case Study - Parkinson's:

Fran is 86 and has Parkinson's Disease. Fran and her daughter are regular users of Second Life and have developed a location in-world called "Creations for Parkinsons". There are lots of recreational activities for people to do including virtual horseback riding, dancing, Tai Chi, swimming, walks in the country and under-ocean caves. Fran's daughter talks about how creating in Second Life enables a cognitive shift that takes her back to being a child, discovering, exploring and building.

Fran's condition results in a reduction of dopamine as the cells that create the endorphin die due to the disease. Taking part in the activities in Second Life helps Fran with this aspect. As she enjoys the activities and interactions in-world this stimulates dopamine production in the brain.

There are opportunities for Fran to receive peer support in voice-enabled discussion groups. People are often found to have less inhibition when speaking from within their avatars and it has been reported widely how this medium can help people to feel that

they can be their authentic selves. Fran feels that her avatar is her true self - the self that is not restricted by disease and old age.

Fran's observations of her avatar may also be helping with her physical mobility in real life. It is speculated that the mirror neurons that are very active in the brain when we are children and learning about the world around us are triggered and activated in a similar way when a person observes their avatar taking part in virtual physical activities.

Fran believes Second Life could be her fountain of youth. It certainly appears to be having a very positive effect on her mental and physical state.

See Fran's story here on Youtube: <https://youtu.be/nyiiWxNguGo>

Other ways that avatars and virtual worlds are being used therapeutically

Autism: Avatars have proved to be a useful tool for researchers aiming to understand autism and other medical conditions that affect many people. Being able to map a child's movements onto an avatar projection allows them to monitor movement and whether growth hormones are having a positive effect on a person's ability to learn, move and communicate better. In being unable to sense how bodily movements match thought patterns, people with autism react better to seeing avatars react with their movements than being able to process such things in the non-virtual world.

Another aspect of using virtual reality for people on this spectrum is social training. The Centre for Brain Health in Dallas, Texas, have worked on a successful project which simulates anxiety provoking scenarios for clients who, with the guidance of a therapist, practice what to do in those settings to resolve them and therefore decrease the often debilitating effects of their anxiety.

Schizophrenia: There has been extensive work in the use of avatars for treating schizophrenic patients who experience auditory hallucinations (hear voices).

Researchers have piloted the use of an avatar system that enables people with schizophrenia to control the voice of their hallucinations. The computer-based system could provide quick and effective therapy that is far more successful than current pharmaceutical treatments, helping to reduce the frequency and severity of episodes of schizophrenia. Results have been very promising and the team has now received a £1.3 million Translation Award from the Wellcome Trust to refine the system and conduct a larger scale, randomised study to evaluate this novel approach to schizophrenia therapy which will be conducted at King's College London Institute of Psychiatry.



PTSD: It would be a fair assumption that Post-Traumatic Stress Disorder (PTSD) might potentially be unsuitable for treating by recreation in virtual worlds, simply because of the risk of re-traumatisation. However, studies have shown that those affected by war, terrorist attack and other atrocities have their conditions improved by immersion in a recreation of the environments in which they first suffered emotional trauma.

The theory around treatment of PTSD using virtual environment is about desensitisation and control, and MRI scans of patients within these programmes have show that the brain can actually be rewired to cope with the intrusive thoughts and memories.

There is a whole region dedicated to PTSD in Second Life providing support and resources for those suffering with, or supporting someone with the condition.

You can see a walkthrough of this here on Youtube: <https://youtu.be/DFtZgKSVPc4>

Grief therapy: Virtual worlds have been used in a variety of ways to work with grief, from the relatively harmless "parking" of sadness to the dramatic recreation of the dead person via an avatar to create a better ending to a once-living relationship.

Some people find that virtual worlds can be used to "house" the dead person until such a time comes when the immediate hurt of bereavement has passed. For example, building a virtual house in a nice environment that the dead person would have liked, or recreating the home they once lived in. This can be populated with items as reminders of happy memories - the smoking pipe in the ashtray, for example - or a particular painting they were fond of. Being able to walk virtually around such a house can invoke memories and comfort the bereaved.

A more controversial use of virtual worlds to address bereavement is VRIT - Virtual Reality Immersion Therapy. The therapist, using photos and other resources from when the person was alive, is able to recreate the deceased as an avatar for the client to work with.

Occupational Therapy

Just like with Fran's case, the phenomenon of mirroring activities has been seen in other cases too, for example amputees learning to perform tasks in Second Life are finding that the experience is transferred in some ways and helps them to achieve the same experiences in real life. An example would be getting in and out of the car. You can see work being done with occupational therapy in Second Life by an organisation called "Virtual Ability" here on Youtube:

<https://youtu.be/igl4X8vI0js>



The Proteus Effect

The Proteus effect is something that we researched significantly when exploring how virtual worlds could be used as a teaching tool. Nick Yee, who now works for Ubisoft (a large gaming company) studied this in great depth as part of his PhD and continues to study this and other gaming behaviours and social paradigms.

Put simply, the Proteus Effect is the effect of transformed self-representation on behavior. Behaviours adopted in-world will be transferable to real life. This is often seen in the media as a negative thing with violence often being attributed to game play but it's not quite as simple as a one way flow from avatar to person. There has to be input from the person to start the process. The avatar has no life of it's own so it can only exist as the creation of the it's human driver - and how a person designs their avatar will have an immediate and profound effect on how they perceive their alter ego and themselves.

An example would be somebody becoming friendlier in an attractive avatar and more aggressive in an avatar designed to be more threatening or unpleasant.

The process is more of a loop of change and development. The avatar may be tapping into parts of the person's hidden fantasies, thoughts or repressed experiences. These traits and behaviours are allowed to flourish within the confidence and safety of being behind the avatar and behind a screen; In turn the behaviours seen in the avatar can and do transfer back to the person in real life.

What is even more fascinating is that this effect happens almost instantaneously. Not over a matter of weeks or months but within minutes.

Roleplay

Avatars are great for roleplay within a safe environment. Even the simplest of avatar forms can help a person to explore feelings, memories, situations, and relationships from their existing and new perspectives.

ProReal is working closely with NHS Mental Health partners to use avatars therapeutically to help people to work through issues affecting their lives.

You can see some examples of the work by ProReal here on Youtube:

<https://youtu.be/4tdH8hJmnC4>





Useful resources:

Second Life Website: www.secondlife.com

Pro Real Website: <http://www.proreal.co.uk/>

Nick Yee's paper on The Proteus Effect: <http://stanford.io/1H2560g>

Online Therapy Institute: <http://onlinetherapyinstitute.com/>

Article about avatar use with Schizophrenia:

<http://www.medscape.com/viewarticle/827797>

This handout is available to view online with live links for convenient browsing:

<http://bit.ly/julia-DCCP-2015>