

Annotated Bibliography for Virtual Reality Art Therapy (VRAT)

Pia Behmuaras

Introduction:

How might we carry the methods of art-making for self-expression and healing to into the transformative world of technology? VR offers a new realm that blends physical tools with a constructed reality. It is a computer engineered experience that allows users to view, move around in, and sometimes interact with a simulated environment. With art therapy in VR, patients engage themselves in an immersive space where they can physically become part of their work, art has a malleable scale, and shifting perspectives is easier than ever. Although VR does not offer the tactile aspects of art therapy, it provides instant immersion and integration of different mediums into a creative space. VRAT could especially speak to multimedia artists and younger patients who were born into the universe of VR/immersive technology and are familiar with the medium. Additionally, VR can be of great interest to adults who enjoy video games and fantasy worlds. However, studies show that anyone can thrive in VRAT as long as they have the appropriate guidance.

For this project, I would like to bridge my experiences in art therapy, VR art, and VR therapy to create an annotated bibliography of studies and resources for art therapists considering integrating VR into their practice. All of the resources are free, although the VR apps do need hardware (mainly headsets) to power them. In this annotated bibliography, I aim to bring together popular, academic, and professional sources for a comprehensive understanding of VRAT that helps heal, evolve, and transform both therapists and the clients. The popular sources that I included either draw on the academic sources, or act as resources to educate and share information on different areas of VR art and therapy. The academic

sources have a large breadth of interconnected and independent research that illuminate the possibilities in VRAT. Compiled, the sources reflect the physical, mental, and philosophical aspects of transformation through VRAT.

Popular Sources:

Drexel University. "Is virtual reality the next big thing in art therapy?." ScienceDaily.

12 November 2019. <www.sciencedaily.com/releases/2019/11/191112130407.htm>.

This source is a succinct article on a study of VRAT, potential resources, and participant experiences. It is based on a Drexel University study on 17 participants in physical rehabilitation facilities. The article states that although the practice made the participants feel excited and energized, some physical rehabilitation patients found the VR experience to be disorienting or intangible. This shows that physiological wellness may be something to consider before suggesting VRAT. The article presents a good overview of the methods and results of the study, but the small sample size should be taken into account in considering their results.

Harris, M. (n.d.). Gravity sketch 1.5, Oculus medium, and other incredible tools that let you paint, model and sculpt in VR. Retrieved March 17, 2021, from

<https://www.digitalartsonline.co.uk/features/hacking-maker/7-best-tools-for-painting-3d-modelling-sculpting-in-vr/>

This is a popular source that illustrates the excitement about 3D art tools in virtual reality. It seems to address artists and technology enthusiasts of all kinds. The resource spreads the word about the possibilities of VR to a broad audience. Articles and blog

posts like this can serve as inspiration for therapists and help gauge what kinds of platforms spark the most public attention.

ImmerseUK. (n.d.). Is Immersive Tech the Tonic We've Been Waiting for? Retrieved March 17, 2021, from <https://www.immerseuk.org/news/is-immersive-tech-the-tonic-weve-been-waiting-for/>

This article highlights how the healthcare industry has been taking advantage of VR in the past few years. The author talks about how the “virtual revolution” that was predicted has not happened yet, but that the healthcare industry has been working hard to incorporate it in their practices. It is a great resource for therapists in the UK as it talks about how the NHS places a lot of value on the technology and has links to events in the UK, although they are currently being held online. The authors also call for establishing guidelines on the usage of immersive technologies, an important area to look into before experimenting with VR and health.

TEDxTalks (Director). (2018, November 21). Can virtual Reality change your Mind? | Thong Nguyen | TEDx Minneapolis [Video file]. Retrieved March 17, 2021, from https://www.youtube.com/watch?v=eFHj8OVC1_s

In this TED talk, Thong Nguyen describes the endless possibilities and captivating aspects of VR. Nguyen talks about presence, perspective shifts, and embodiment. It is a great video to introduce the impacts of VR therapy and discusses some of the experiments in VR and mental health. It is a humorous and engaging talk that features many videos of different uses of VR. Nguyen paints a picture in which VR is a device to test out possible futures for oneself, and also walk in the shoes of others.

Virtual reality in art therapy. (n.d.). Retrieved March 17, 2021, from <https://arttherapyblog.sva.edu/?p=2831>

In this short article, the author takes a critical stance on industrialization but praises its occupational use. The video of choice is very colorful and can give art therapists ideas for their sessions. The article has a very illustrative tone and talks about how therapists can now use both high-end and more affordable products to enhance their practice. The blog offers other short articles about art therapy and updates on the School of Visual Arts in New York City.

Scholarly Articles:

Hacmun, I., Regev, D., & Salomon, R. (2018). The principles of art therapy in virtual reality. *Frontiers in Psychology*, 9. doi:10.3389/fpsyg.2018.02082

In their paper eloquently introducing art therapy in VR, Hacmun, Regev, and Salomon take the perspective that VR has shown very big advancements in the past years. The article talks about the novel opportunities that VR presents as well as some challenges with the medium. The authors highlight how VR enables the modification of physical laws and its benefits in therapy. Their information about headsets needs a small update since wireless headsets are dominating the market in 2021 and their writing is based on a smaller range of motion. They do however mention the possibility of haptic feedback for tactile modification in the future, something that is still being worked on. Do not forget to look into their 8 amazing videos demonstrating VRAT from the perspective of the therapist and the client in different modalities.

Hacmun, I., Regev, D., & Salomon, R. (2021). Artistic creation in virtual reality for art therapy: A qualitative study with expert art therapists. *The Arts in Psychotherapy*, 72, 101745. doi:10.1016/j.aip.2020.101745

This study features 7 art therapists who were immersed in the world of Tilt Brush for the first time to create their own artworks. The experience was then followed up with interviews. Even though most participants expressed hesitation about the medium, they all described it as a fun and powerful experience. The emphasized positive aspects were that it was empowering, flexible, and engaging. In contrast, most of them remarked that it disrupt the therapist-client relationship and lacks tactile qualities. The article covers most aspects of VRAT that is subject to debate, from its target population to the relevance of the technology.

Kaimal, G., Carroll-Haskins, K., Ramakrishnan, A., Magsamen, S., Arslanbek, A., & Herres, J. (2020). Outcomes of visual self-expression in virtual reality on psychosocial well-being with the inclusion of a fragrance stimulus: A pilot mixed-methods study. *Frontiers in Psychology*, 11. doi:10.3389/fpsyg.2020.589461

This study combines the smell of a Japanese flowery citrus fruit called Yuzu with the experience of art therapy in VR. The participants of the study span a large age range, different races, and sexes. There are 6 measures of self-reporting used to attain the study results. Their data indicates that pairing a pleasing fragrance with the experience in VRAT significantly reduces negative affect in participants. This study can act as a guide to reducing distress in the novel environment of VR and side effects such as motion sickness and anxiety.

Shamri Zeevi, L. (2021). Making art therapy virtual: Integrating virtual reality into art therapy with adolescents. *Frontiers in Psychology*, 12. doi:10.3389/fpsyg.2021.584943

This resource is particularly helpful because it is very recent and considers adolescents' current interactions with digital media, includes case studies, and discusses the components of VRAT. It is also critical because it touches upon ethics and technologies used to create VRAT experiences. The article describes the technical advantages of VR, the main segments of a VRAT session, and how the therapist can guide the client while they are in the experience. It has photos of works created by adolescents that demonstrate the wide range of activities that can be offered in VRAT.

Professional Resources:

Hatsumi. (n.d.). Retrieved March 16, 2021, from <https://www.hatsumivr.com/>

Hatsumi is a service that focuses mainly on chronic pain and uses the technique of body mapping in VR. In this practice, participants are asked to reflect on their entire body and illustrate the sensations they feel on a representation of their corporeal frame. Hatsumi also offers events and conferences on creative VR therapies.

NewPathVR. (n.d.). VR & AI solutions for psychological and emotional wellness. Retrieved March 16, 2021, from <https://newpathvr.com/>

NewPathVR is a company that promotes “wellness through transformative technology”(NewPathVR, 2021). They work on a variety of projects that include VR, AI. Many of their projects have companion apps that make them more accessible to the general population. The NewPathVR team also publishes blog posts, hosts events, and conducts VRAT trainings to organizations and individual practitioners.

Virtual reality art therapy. (n.d.). Retrieved March 16, 2021, from <https://www.virtualrealityarttherapy.com/>

This resource not only acts as a service that offers group VRAT but also offers “consultations for art therapists to integrate VR into their own practice.” (Hatsumi, 2021) They have a blog, links to Facebook groups to connect with VR communities, and conduct workshops at a variety of companies. VR therapist Jeff Lohrius says that they are “using computers to deliver a spiritual, world healing message”(Lohrius, 2021).

Software:

Different than drawing or painting, VR needs some training and getting used to in order to reap the full benefits of the media. It is therefore important to ask about the participant’s experience with VR and dedicate enough time to introduce new hardware and software. Here is a list of software that is free, beginner-friendly, and awe-inspiring.

Intone. (n.d.). Retrieved March 16, 2021, from <https://www.wearvr.com/apps/intone>

Intone VR is a user-friendly tool for incorporating voice into VRAT. It generates mesmerizing three-dimensional visuals as a reaction to the user’s voice and encourages immersed noise-making. It is unfortunately only available for the Oculus Rift. Intone is great for exploring the auditory realm while being immersed in brand new surroundings that truly promote singing.

Kodon on Steam. (n.d.). Retrieved March 16, 2021, from <https://store.steampowered.com/app/479010/Kodon/>

Kodon is a 3D modeling and sculpting software available for the HTC Vive, Oculus Rift, Valve Index, and Windows Mixed Reality. Similar to clay, the material presented is easily malleable and scalable to the user's wishes. You can also create sculptures by moving your controllers through space. It has a clean design and is less distracting/stimulating than other VR art platforms.

Kingspray graffiti VR on Steam. (n.d.). Retrieved March 16, 2021, from https://store.steampowered.com/app/471660/Kingspray_Graffiti_VR/

Unlike drawing or sculpting, it is in the roots of graffiti to move your whole body. This software replicates the fun experience of painting on walls with vibrant colors. You can bring graffiti into a safe environment, and let clients experiment with the realistically rendered medium without having to worry about the wall or the chemicals involved. As a plus, it offers up to 4 players so therapists and multiple patients can participate at the same time. It is available for HTC Vive, Oculus Rift, and Valve Index.

Tilt brush. (n.d.). Retrieved March 15, 2021, from <https://www.tiltbrush.com/>

Tilt Brush is the industry-standard 3D painting software, available for the HTC Vive, Oculus Quest, Oculus Rift, PlayStation VR, Valve Index, and Windows Mixed Reality. It allows users to select interactive brushes, colors, and backgrounds and allows recordings of the projects. The user can walk around and view their 3D paintings for an immersed experience.

Testimonies:

Interaction with Rene Yanez's art through Virtual Reality [Video file]. (2020, January 03).

Retrieved March 16, 2021, from <https://www.youtube.com/watch?v=p2yGBcINbVk>

Faced with terminal cancer, multimedia artist and activist René Yañez joined a program to do art therapy in VR. The program found inspiring results in a collaboration with NewPathVR and The Luggage Store Gallery, where visitors could put on a headset and interact with the artist's creations using Tilt Brush. The designs were then made into a video displayed at his memorial service that enabled all his close ones to experience his work. Yañez says the process served as a "celebration of life", and the project touched his family as well as the artistic community deeply.

Interactive VR projects like this could also be used in group settings.

Conclusion:

In a VRAT session, the therapist's role making patients feel "comfortable, grounded, and safe" (Lohrius, 2020) in novel environments, as well as engaging them in curiosity and play. The goal of the practice is to create shapes from abstract emotions and project them into the virtual space. These projections can then be saved, recorded, or discarded according to the agreement between the therapist and the client. At the end of an art therapy session in VR, therapists and patients observe the visual result of the process, summarize the experience with its pros and cons, and sometimes come up with "homework" or takeaways to bring insights from the session into the clients' daily life (Lohrius, 2020). This way, the memorable experience can have transformational impact in the patients' daily life.

As I looked through the sources on VRAT, I realized a lot of new research was published on art therapy in VR in the recent years. When it came to the popular sources, however, there was less material available online for VRAT. I assume that this is due to the novel nature of the field and VR's common association with video games and entertainment. Most of the blog posts that I found on VRAT were on professional websites like the articles I included under professional resources. The broader headings of VR therapy, VR art, and art therapy had much more content available. Overall, the number of services that are available for VRAT was overwhelming and inspiring. Considering that art therapy has adopted photography, film, animation and digital manipulation in the recent years, I think that VRAT will become a large success soon. Hopefully, it will also help bridge a gap in technology access between patients of different socioeconomic backgrounds.

I hope that this annotated bibliography can serve as a resource to clinicians, therapists, counselors, and healthcare practitioners to launch into the exciting world of VR.