Virtual reality enhances wellbeing in seniors.

Visual is a media and technology company creating virtual and augmented reality experiences that enhance healthy and happy living. In 2017, Visual launched WellnessVR - a virtual lifelong learning and enrichment platform, designed specifically for our seniors. WellnessVR is offered to residential senior living communities and administered by staff or trained volunteers.

In summer 2017, we partnered up with Ebenezer Senior Living – Minneapolis Campus to study the impact of virtual reality for relaxation and overall wellbeing across two senior living communities, over two months. The results of our pre/post evaluation of VR exposure show that virtual reality can help our elderly to maintain a high level of positive emotion and relaxation. Participants reported positive stimulation and therapeutic sensation, and appraised VR as one of their preferred activities for even evading dementia.

“Therapeutically, it takes us out of our cocoon, makes us with the rest of the world.”
The aim of this study was to evaluate the effect of exposure to virtual reality experiences on seniors’ state of wellbeing. This design is widely used in behavioral research and the measurement of pre-treatment and post-treatment change allows assessment of the impact of exposure to VR. 25 participants joined the study and they were required to be English speaking, independent, competent decision makers, who are cognitively intact, and visually acute with or without vision aids.

The participants were exposed to 7-11 minute long virtual reality content (nature, travel, and performances) twice per week and for four weeks. They were asked to complete a pre and post exposure assessment before the first treatment and following the final treatment. The assessment was composed of three sections measuring the participants’ state of wellbeing, reactions to VR exposure, and their self-reported scores for a Life Engagement Test that is validated and reliable, and known to work well with seniors.
The VR experience for study participants was unanimously good, with 100% of participants reporting they enjoyed the VR experience. The VR experience also strongly impacted participants’ positive affective state, with 96% of participants reporting the VR experience helped them feel happier, 97% reporting it helped them feel more relaxed, and 98% reporting it helped them feel more positive. The VR experience also helped alleviate worry for our participants, with 94% of respondents reporting the VR experience helped them feel less worried.

96% felt happier
97% felt more relaxed
98% felt more positive
94% felt less worried

The most startling finding is what may be assumed to be the spill-over effect of the VR experience to other aspects of participants lives: the benefit of engagement in other activities is significantly more improved after participants have been engaged in a four-week exposure to VR.
We compared the VR experience to other activities participants engage in on a regular basis, such as attending religious services, socializing with neighbors or engaging in the arts. Although these activities generally improve how participants feel, the positive affect of these activities is significantly higher for participants when combined with VR exposure.

The carry-over effects from the VR experience to other areas of life are strongly suggestive of a more long-term benefit of VR as well as the role of VR exposure to participants overall well-being. For instance, prior to VR exposure, 65% of participants report that spending time with friends or family improved how they felt a lot or some, almost 95% of participants report the same improvement following the 4 week exposure to VR (p=0.0333).

In addition to a qualitative improvement in the quality of time spent with friends or family following VR exposure, a quantitative difference is also present, with the frequency of social interaction dramatically increasing post-VR exposure. The frequency of social interactions 2-3 times a day increased from 30.4% of participants pre-VR to 45.8% of participants post VR, and the percentage of participants who socialized everyday increased from 34.8% to 50% post-VR (p=0.0285).
Use of VR is related to a reduction in the impacts of nervousness on participants. Prior to any VR exposure, 54.5% of participants report having trouble with nervousness, while only 36% of participants report this trouble after the 4-week exposure to VR (p=0.0822).

VR also seems to be related to a reduction in trouble with depression, with 18.2% of respondents feeling sad or depressed prior to VR exposure, and only 4% reporting same following 4-weeks of VR exposure. While this trend is emerging, our sample size is too small to attain statistical significance.

Participants also self-reported their overall life engagement on a Life Engagement Test. While we have observed some positive trends, the small sample size precludes the findings attaining statistical significance. We expect the trends to reach statistical significance for a larger set of participants, over a longer period of exposure and alongside the advancement of virtual reality content and experiences.

“When you live on the 20th floor of this building you don’t get a lot of opportunities to think about going boat riding - so that’s cool.”
In a focus group, a subset of participants reported that they found the VR experience more realistic and immersive than what they had originally expected. They expressed that they would like to continue with the VR program and that they prefer to experience it on average 15-30 minutes per week.

The administrators frequently observed and reported gestures of deep astonishment, enjoyment, excitement, and nostalgia. Ebenezer staff also articulated their surprise about the social aspects of the experience where they observed the participants treating their common VR involvement similar to that of a book club, and nicknamed the program: “The VR Club.”

Participants displayed very high levels of engagement and motivation, during the 7-11 minutes long sessions which suggests that VR can provide an important new medium to support and enhance adherence to other wellbeing programs and treatments.
Visual, Inc. is a media and technology company creating virtual and augmented reality experiences that enhance healthy and happy living. Our flagship product, WellnessVR, is a mobile VR platform that reduces anxiety and promotes wellbeing for seniors and patients in recovery. WellnessVR is a subscription-based program for mobile Gear VR headsets that fuses Visual’s proprietary video delivery system with immersive 360° video from around the world. Currently, WellnessVR offers four tracks for virtual reality experiences: relaxation, guided mediation, travel, arts & culture.

Since 2014, we’ve created VR experiences for dental practices, orchestras, NBA teams, newspapers, non-profits, health organizations, and Fortune 500 companies. As a full-service VR company, Visual has the following capabilities in creating VR-based healthcare products: 360° video production and post-production, 3D modeling and animation, and cross-platform VR app development.