Into the Womb -Born Again- Convergence of Virtual Reality







A VR Experience of Being Warmly Swaddled Using "Otonamaki" from Japanese Method

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Introduction

Objective



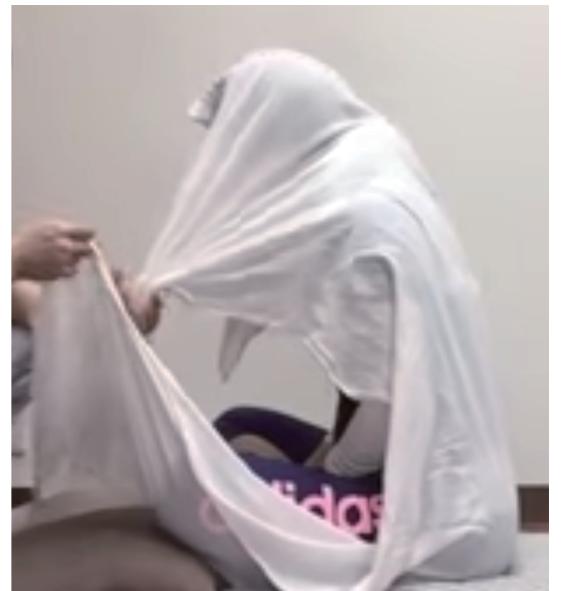
Previous system: Floating tank



Developed system: Swaddled by cloth

-Background "Okurumi" "Otonamaki"

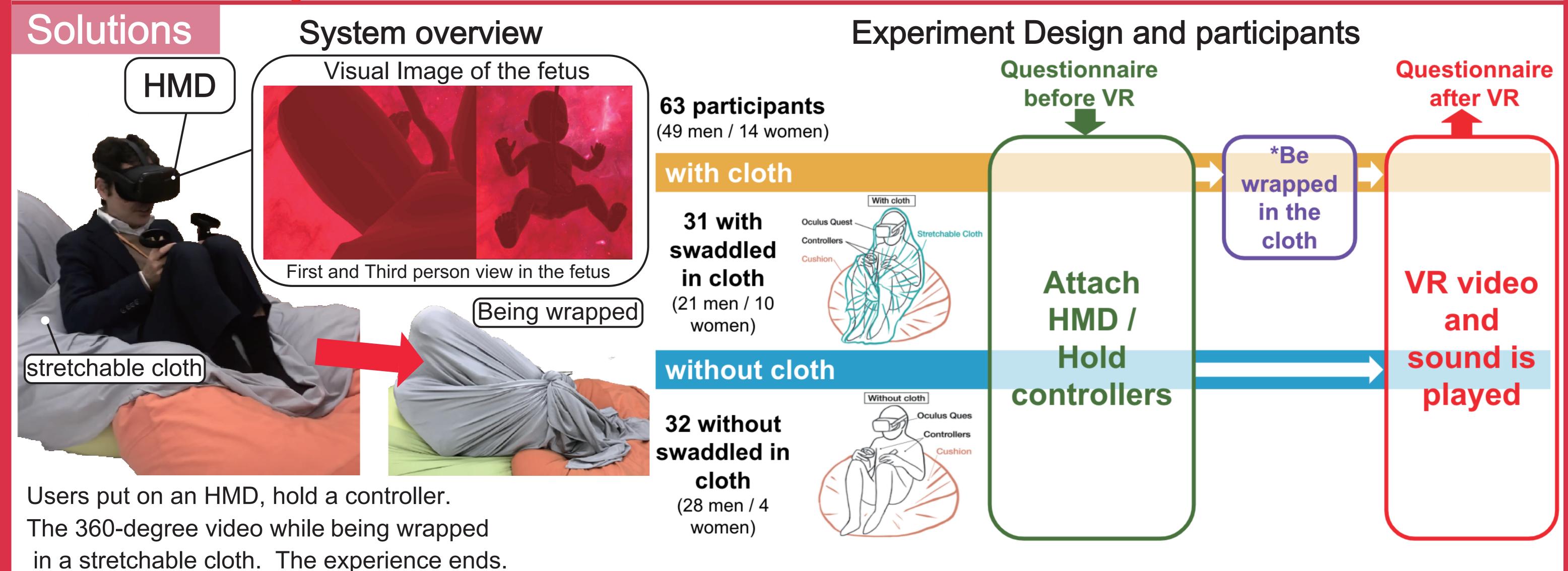




"Otonamaki" comes from "Okurumi" method. "Okurumi" is a Japanese method of calming down a baby by swaddling their whole body in cloth.

Research Question

Some relaxation methods create a sensation of returning to the fetal stage.e.g. floating tank. Using a stretching fabric, we developed simple and compact fetal VR system for relaxation. Does the stretching fabric contribute to the relaxation in our fetal VR?



Result

Question ID

- (1) I can calm down breathing.
- (2) My heart beats faster than usual.
- (3) I feel sleepy.
- (4) My vitality is full.
- (5) I feel very relaxed.
- (6) I feel very calm.

- (7) I am relieved.
- (8) I am very comfortable.
- (9) I feel at ease.
- (10) I feel nostalgic.
- (11) I am nervous.
- (12) I am worried about the future.

There were significant differences of p < .05 in particularly in "(9) I feel at ease" and "(11) I am nervous". The results showed that the VR experience

with the cloth could create relaxing effects, whereas the degree of relaxation became lower after the VR experience without the cloth. These results indicate that being swaddled when experiencing fetal VR can invoke positive emotions and reduce tension.

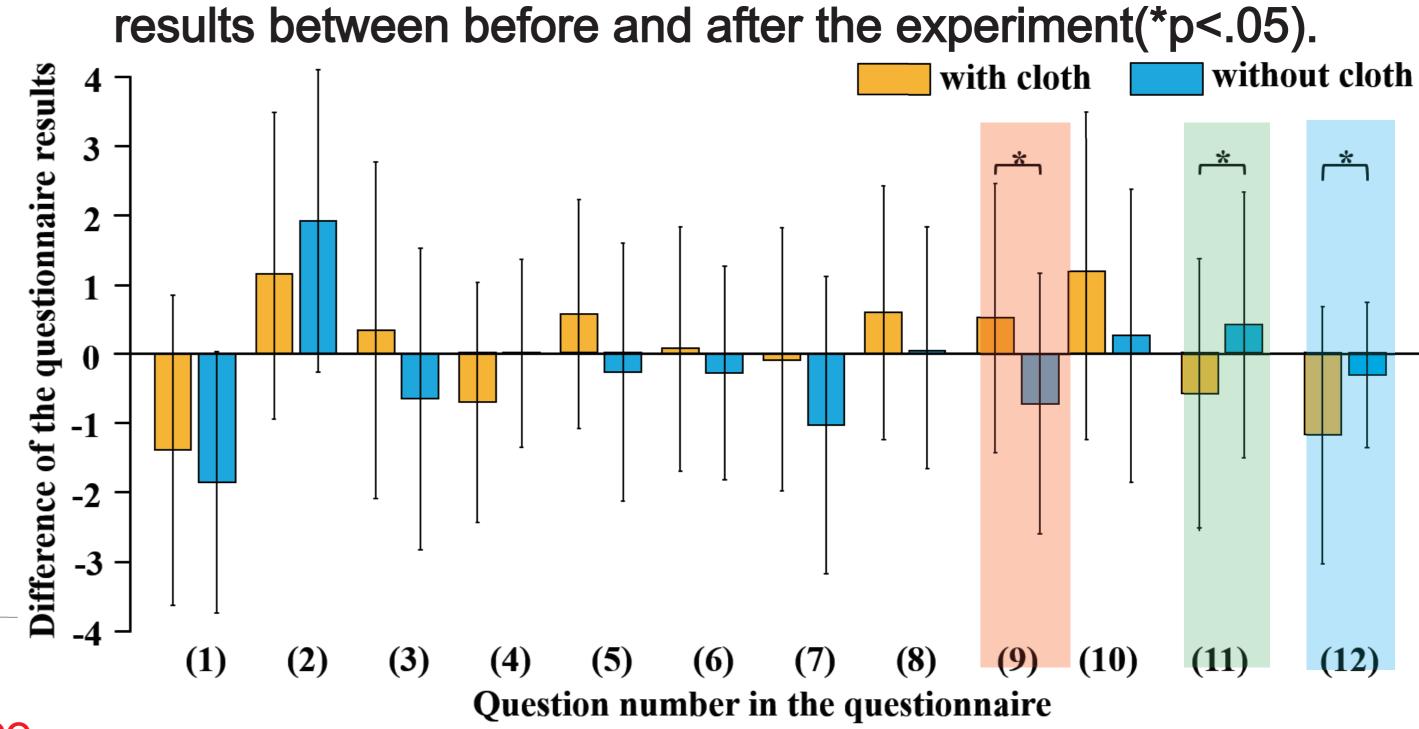
Conclusion No negative effects of being swaddled in cloth were found.

Using the cloth during fetal VR could reduce anxiety about the future and bring ease. Anyone who owns an HMD and a cloth can reproduce this system easily.

Future Work

Apply to medical devices and therapy.

A tactile feedback to convey the sensation of mother stroking her stomach.



T-Test results Bar graph of the change of the questionnaire



Kjellgren, A., Lyden, F., & Norlander, T. (2008). Sensory Isolation in Flotation Tanks: Altered States of Consciousness and Effects on Well-being. The Qualitative Report, 13(4), 636–656. Retrieved https://nsuworks.nova.edu/tqr/vol13/iss4/6 Kimura, S., Fujii, A., Hasegawa, S., & Miyata, K. (2019). Into the Womb -The Japanese method called "Otona-Maki" VR experience warmly wrapped in cloth. In 2019 IEEE World Haptics Conference (WHC), Hands-on Demo, DM2.05. Tokyo, Japan. Sakakibara, M., Teramoto, Y., & Tani, I. (2014). Development of a short-form self-report measure to assess relaxation effects. The Japanese Journal of Psychology, 85(3), 284–293. DOI: 10.4992/jjpsy.85.13210 How to do "Otonamaki method" https://www.youtube.com/watch?v=RloYGSr-NtA Photo Image:Unrecognizable young father holding his newborn baby son. Close up. https://www.123rf.com/stock-photo/65238361.html?sti=m2zl1ino83wxwd4b0t|&mediapopup=65238361 Photo model: Kiyoshi Kiyokawa (NAIST: Nara Advanced Institute of Science and Technology)