

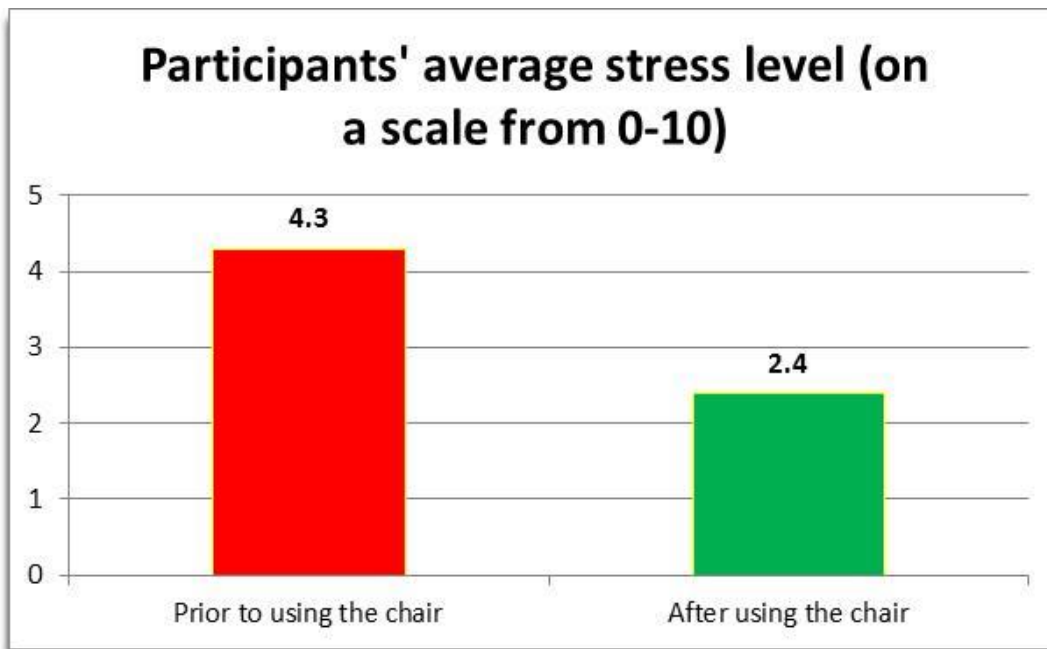
## Experimental Results

A study was conducted on 521 participants at the Stress Relief Center of Weber State University. The massage program used in study was mostly the default health mode on i7. This health program does a full body massage for about 10 minutes, then the chair goes to zero gravity position. This zero position has been shown to provide effects that eliminates stress on the body and creates a state of deep relaxation.

Today, doctors, occupational therapists, and other health professionals recommend this zero gravity position because of its health benefits to everyone. The zero gravity gets rid of muscular tension in the lower back, or lumbar region, the position also promotes better blood circulation, thus making the heart's job easier. It also widens the angle between the torso and thighs, which expands lung capacity. This makes breathing easier and boosts oxygen levels in the blood. Zero-gravity position also reduces pressure on the discs in our spinal column and encourage muscles to relax.

Data was collected from each participant before and after using iRobotics 7 massage chair. Below is the average data over the first 521 participants who have used the i7.

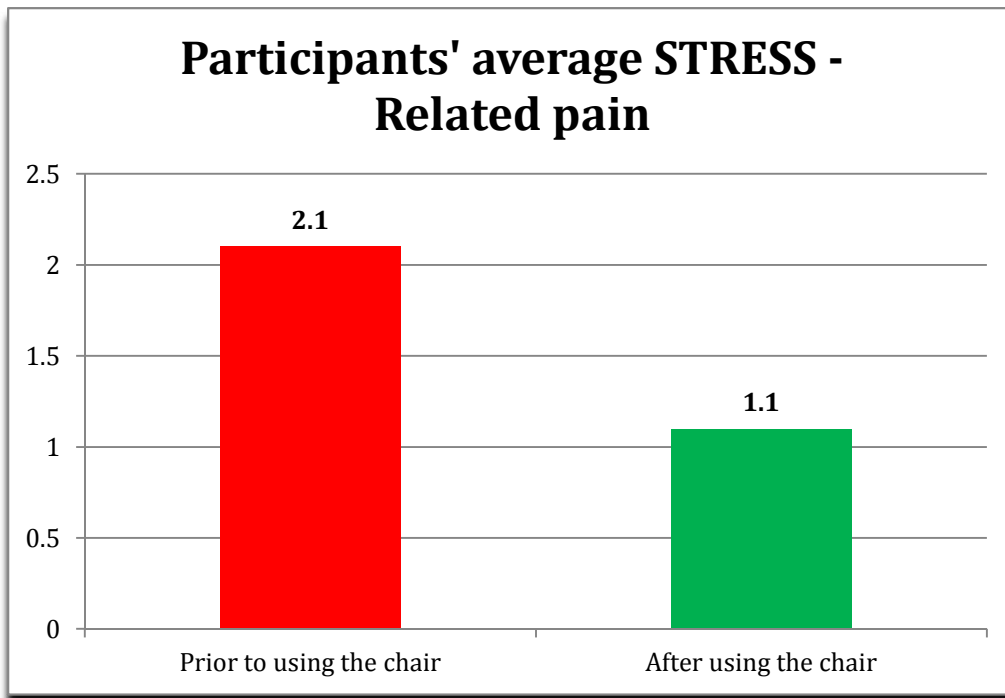
- On a 0-10 scale, 0 represents no stress present, and 10 represents a very high level of stress.
- The stress-related pain scale uses the 0-10 scale as well, and uses the same number representation as the average stress level. The collected data is plotted in (Fig. 1-4).



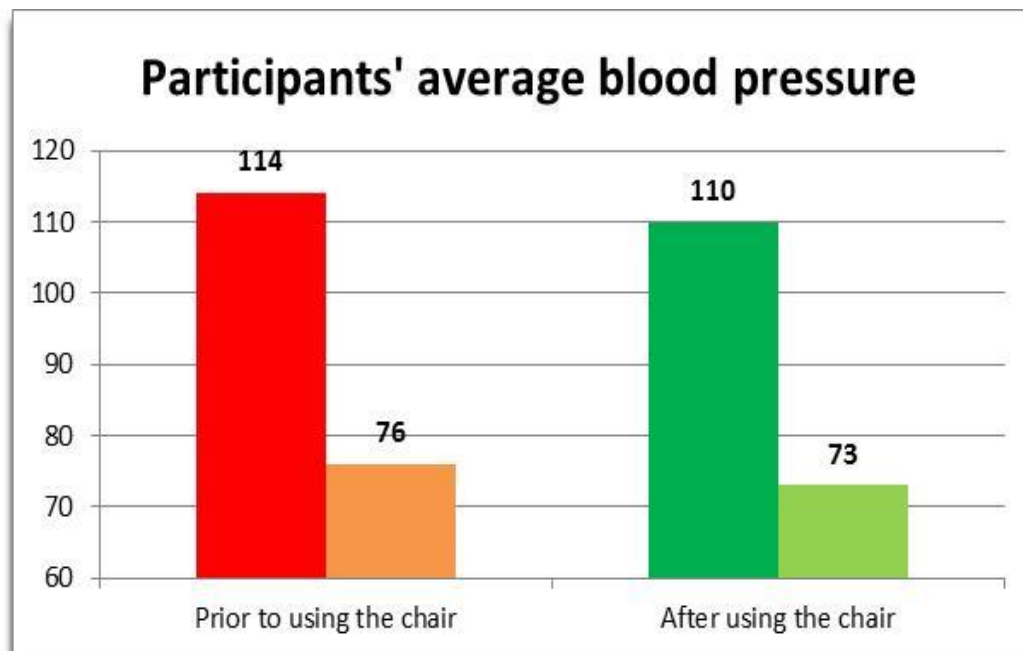
**Fig. 1: Collected Data for Stress Level from 521 Participants**

**Red Bar:** Participants' average stress level before using iRobotics 7

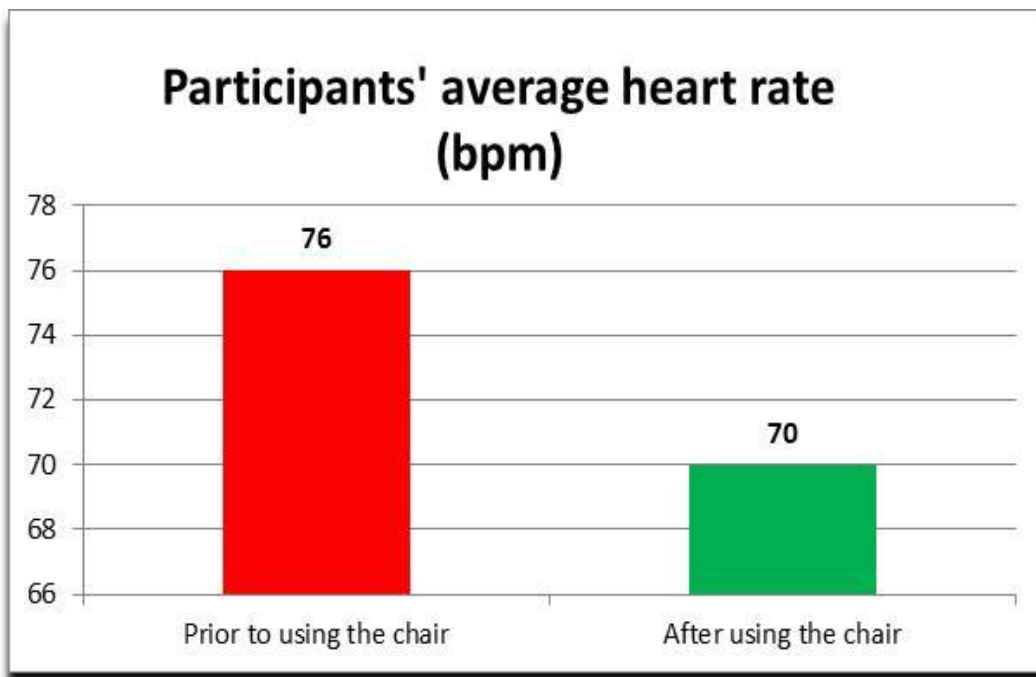
**Green Bar:** Participants' average stress level after using iRobotics 7



**Fig. 2: Collected Data for Stress Related Pain from 521 Participants**  
**Red Bar:** Participants' average stress related pain before using iRobotics 7  
**Green Bar:** Participants' average stress related pain after using iRobotics 7



**Fig. 3: Collected Data for Blood Pressure from 521 Participants**  
**Red Bars:** Participants' average blood pressure before using iRobotics 7  
**Green Bars:** Participants' average blood pressure after using iRobotics 7



**Fig. 4: Collected Data for Heart Rate from 521 Participants**

**Red Bar:** Participants' average heart rate before using iRobotics 7

**Green Bar:** Participants' average heart rate after using iRobotics 7

**What has been some of the feedbacks from the iRobotics 7 massage chair participants?**

**Participant A:**

*"The chair felt awesome, and I feel very relaxed right now. This is a great way to keep the day going after sitting in Math 1050. Sometimes the neck and head massage got a little too intense on the health setting, so I used a small blanket next to the chair for extra padding. It's also cool how it talks you and says to have a nice day and remain seated. It reminded me of a ride at an amusement park."*

**Participant B:**

*"This chair is becoming my new favorite in here. I thought it was too intense the first time I've tried it, but I decided to give it another try and I'm glad I did. The health setting is my favorite because I feel it massages at a slower pace. I'm almost falling asleep by the time the massage is over (laughing)."*

**Participant C:**

*"I loved the body stretch setting! It feels so amazing when the chair squeezes your calves and feet while pulling you back at the same time. I first tried the sport setting, but I thought it was really intense, so I switched it to the stretch setting and loved it. Too bad this chair always seems to be taken when I come in."*

## What is the setup of the iRobotics 7 massage chairs like in the Stress Relief Center?



**Fig. 5: Experiments and Lab Setup at the Stress Relief Center, Weber State University**

### Conclusions

A study has been conducted at the Weber State University Stress Relief Center measuring how participants sitting in an iRobotics 7 massage chair for 15 minutes and choosing one of their preferred settings (of 9 settings) can have an impact on one's perceived level of stress, resting heart rate, blood pressure, and physical pain related to stress.

### What has been found in the research study data?

Below is the average data over the first 521 participants who have used the iRobotics massage chair:

- On 0-10 scale, 0 represents no stress present, and 10 represents a very high level of stress.
- The stress-related pain scale uses the 0-10 scale as well, and uses the same number representation as the average stress level.

### **Number of participants using the chair(s): 521**

#### **Prior to using the chair**

- Participants' average stress level (on a scale from 0-10): 4.3
- Participants' average stress-related pain: 2.1
- Participants' average blood pressure: 114/76
- Participants' average heart rate: 76 bpm

#### **After using the chair**

- Participants' average stress level (on a scale from 0-10): 2.4
- Participants' average stress-related pain: 1.1
- Participants' average blood pressure: 110/73
- Participants' average heart rate: 70 bpm

Based on the data collected from 521 participants who used the Luraco iRobotics 7 medical massage chair in this research, it's clearly shown that iRobotics 7 has many positive health benefits. Particularly, it helps reduce stress level, stress related pains, blood pressure, and heart rate.

### **Author Biography**

Dr. Michael Olpin is a professor of health promotion at Weber State University (WSU) and is director of the WSU Stress Relief Center. He earned his Ph.D. in Health Education from SIU, and his Master's and bachelor's degrees in Health Promotion and Psychology from BYU.

He has taught at six institutions of higher education including Southern Illinois University, Concord University, West Virginia University, Virginia Tech, and BYU. He has been teaching at Weber State for 16 years. Among others, the classes he teaches include the topics of high-level health, wellness, mental & emotional wellness, stress management, and wellness coaching.

Dr. Olpin has presented many classes, seminars, and workshops on stress management and wellness at the national, regional, and community level.

Mike recently finished the fourth edition of a textbook he co-authored on stress management titled *Stress Management for Life: A research based experiential approach*. This text is being used by colleges and universities around the country and Canada.

He has published two additional books on stress management: *The World is NOT a Stressful Place: Stress relief for everyone*. His most recent book is titled, "Unwind: 7 Principles for a Stress-Free Life" that was co-authored with Sam Bracken of the Franklin-Covey Corporation.

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