

## **Sensory Deprivation and Workplace Well-being**

### **A case study evaluating float therapy and workplace well-being**

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## **Background**

Workplace well-being is a broad and inclusive term to bring awareness to the growing need for ways to combat a fast-paced world filled with chronic pain, anxiety, stress and worry that collaterally affects job satisfaction, productivity, and focus.

Attention to workplace well-being goes beyond people experiencing mental health challenges. Emphasis on proactive, preventative approaches that improve employee health and well-being along with performance, productivity, engagement, and retention are equally important. Similarly, “health” is not defined simply by the absence of illness. Rather, it is a continuum that can be influenced in either direction.

Employers are slowly understanding that if they play a key role to positively impact the mental health and well-being of their employees, they will reap benefits in improved productivity, increased retention, lower overall health care costs, improved performance, and more.

Along with the emerging awareness of mindfulness, meditation, and yoga in the workplace, the alternative therapy of floating has become a popular option. Float therapy, floatation, sensory deprivation, or restricted environmental stimulus therapy (“REST”) is gaining rapid awareness in professional sports and in the military as a way to speed recovery, assist sleep, cope with stress, manage pain, and provide an instant gateway to mindfulness. Both medical and alternative medical professionals now routinely recommend floatation as part of their treatment plan. Floating is best known for its anti-anxiety, calming and creativity stimulating properties. This makes it a perfect choice as a way to improve workplace well-being.

## **Objective**

The objective of this case study is to observe the effects of three (3) weeks of float therapy upon the emotional state, quality of sleep, focus and productivity of individuals with respect to the effect on and within their workplace and personal life.

A second objective is to see how long any perceived positive effects last two (2) weeks post-study with no further intervention.

## **Method**

Participants were sought through direct interaction with CEO and local business owners who canvassed for participation internally. A baseline eligibility survey was filled out by all participants. In addition to making their scheduled appointments, the only other criteria was that participants did not start any new exercise or modify their diet during the study. There was no other exclusionary criteria.

The intervention for this case study involved “floating” in a 9’ long x 5’ wide fiberglass tank with a hinged lid, shaped like a large egg and filled with 175 gallons (10” deep) of a salt solution. This solution contains 1000 pounds of medical grade Epsom salt, or magnesium sulfate (MgSO<sub>4</sub>) and is maintained at skin temperature (approximately 94 degrees F). The tank is within a private room containing a shower. To “float” the individual disrobes, showers, inserts earplugs, turns off the overhead room light, then climbs inside the tank which has an internal light and music controls. The individual closes the float tank lid and then transitions onto a supine (face up) position and begins to float effortlessly.

There were 11 participants comprising 3 different companies with (6) female and (5) male participants. Five (5) were from one company, four (4) were from another company, and two (2) were from a third company. They were all placed into a single group. The study lasted three (3) weeks in duration<sup>1</sup> and involved this one group of eleven (11) participants that floated one (1) time weekly for three (3) weeks for a total of three float sessions.

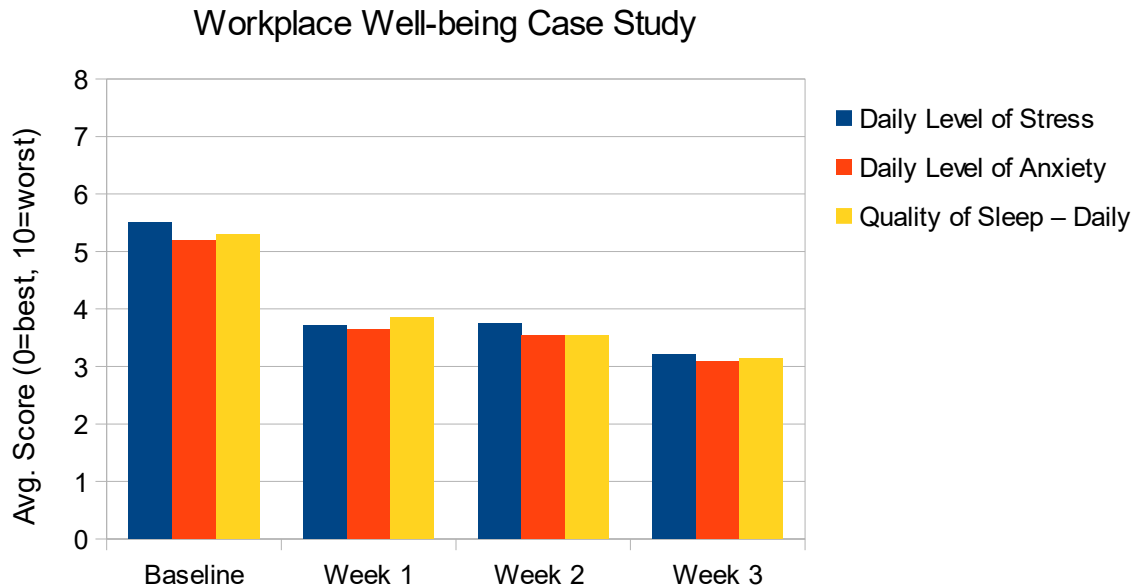
A daily subjective survey was completed by each individual, using a numeric scale on a 0-10 continuum with descriptors. This three (3) week long daily survey was initiated on day one of the study, regardless of what day they first floated in week one. Prior to the first float and for purposes of comparison, a baseline survey with the same questions as the daily survey was completed by the participants. There was a follow-up survey completed two weeks after the study was complete.

There was minimal interaction with the participants during the course of the study, other than keeping them on track with their surveys and making sure they had no questions before and after floating. There was no cost for the participants and there was no financial gain from The Float Zone, where the case study took place. There are no other disclosures.

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<sup>1</sup>The three week time frame was chosen to reflect a common period of many therapeutic approaches, such as chiropractic or physical therapy to establish if a protocol is working.

## Results



### **Stress Level (see graph) Improved 42%**

Evaluating the intervention of floating on stress level, the Group **improved 42%**, representing a drop from a baseline average of 5.5/10 to a week 3 average of 3.2/10.

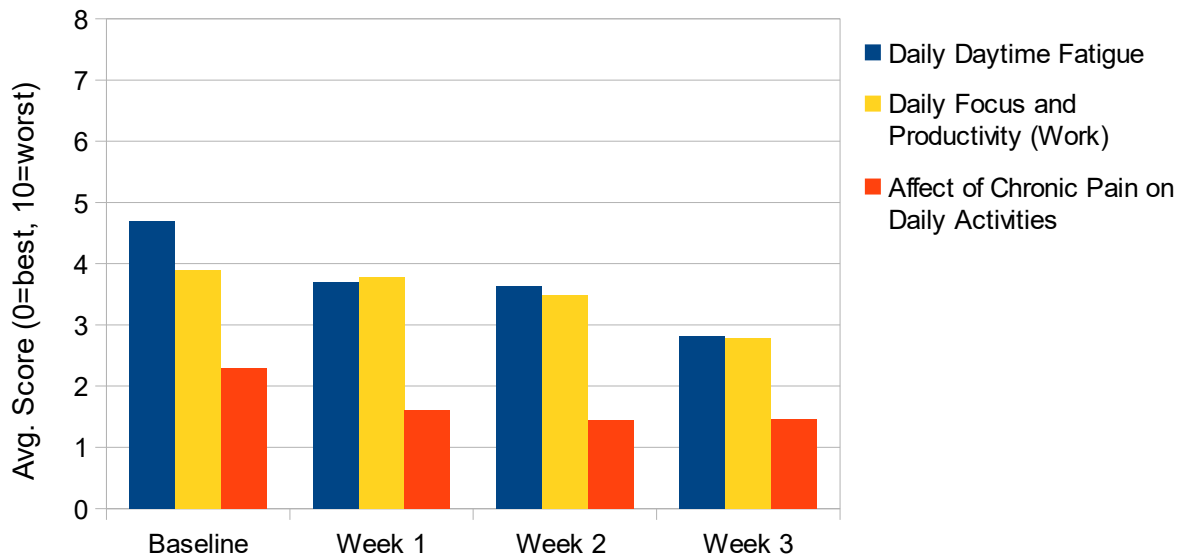
### **Anxiety Level (see graph) Improved 41%**

Evaluating the intervention of floating on anxiety level, the Group **improved 41%**, representing a drop from a baseline average of 5.2/10 to a week 3 average of 3.1/10.

### **Quality of sleep last night (see graph) Improved 41%**

Evaluating the intervention of floating on quality of sleep last night, the Group **improved 41%**, representing a drop from a baseline average of 5.3/10 to a week 3 average of 3.1/10.

## Workplace Well-being Case Study



### **Level of daytime fatigue (see graph) Improved 40%**

Evaluating the intervention of floating on *level of daytime fatigue*, the Group **improved 40%** representing a drop from a baseline average of 4.7/10 to a week 3 average of 2.8/10.

### **Level of focus and productivity (see graph) Improved 29%**

Evaluating the intervention of floating on *level of focus and productivity*, the Group **improved 29%**, representing a drop from a baseline average of 3.9/10 to a week 3 average of 2.8/10.

### **Chronic pain's affect on activities of daily living (see graph) Improved 36%**

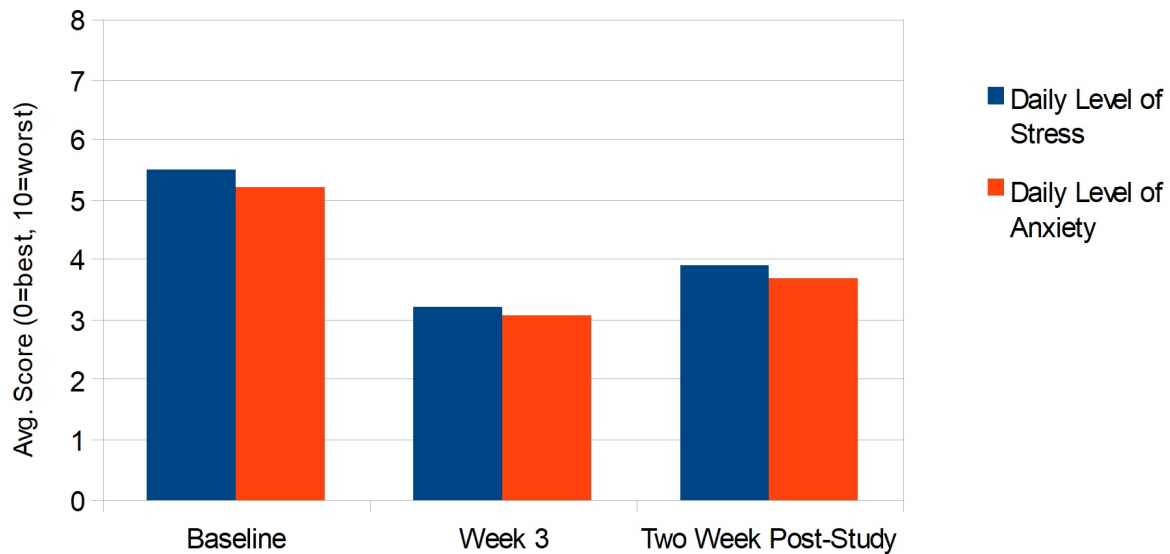
Evaluating the intervention of floating on *chronic pain's affect on ADL's*, the Group **improved 36%**, representing a drop from a baseline average of 2.3/10 to a week 3 average of 1.5/10.

As part of the case study, it was required that the participants complete a survey two weeks after the case study concluded. Below are two associated graphs relative to the amount of **lasting improvement** without any intervention for this two week duration after the case study. With reference to these lasting improvements, the original baseline scores are compared to the end of the three week study and then two weeks after the end of the study.

All the improvements made at the conclusion of the study were substantially maintained a month later, with a minimum of 69% (stress and anxiety) and all the other categories maintaining over 80% of their improvements. None of the gains made during the course of the study returned even close to their original score after 1 month.(See below for details).

No further longitudinal tendencies were studied after two weeks post intervention.

## Workplace Well-being and Floating Case Study



### **STRESS LEVEL: 69% of improvements remained**

From baseline average to week 3 average, there was a 42% improvement. From baseline average to 2 weeks post-study (no intervention), the overall improvement was still at 29%.

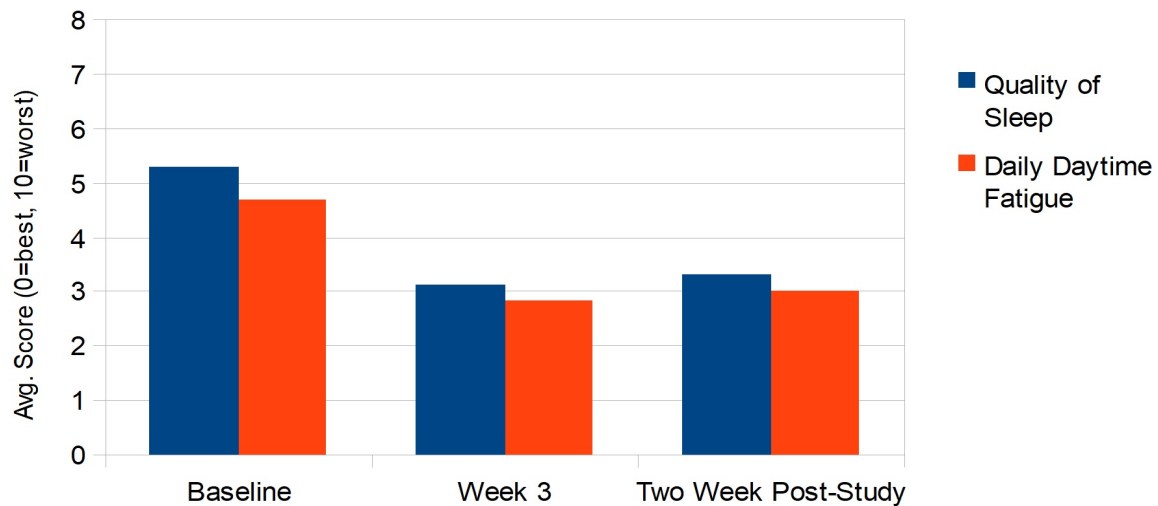
**Thus, two (2) weeks post study, 69% of the improvements in stress level had remained.**

### **ANXIETY LEVEL: 70% of improvements remained**

From baseline average to week 3 average, there was a 41% improvement. From baseline average to 2 weeks post-study (no intervention), the overall improvement was 29%.

**Thus, two (2) weeks post study, 70% of the improvements in anxiety level had remained.**

## Workplace Well-being and Floating Case Study



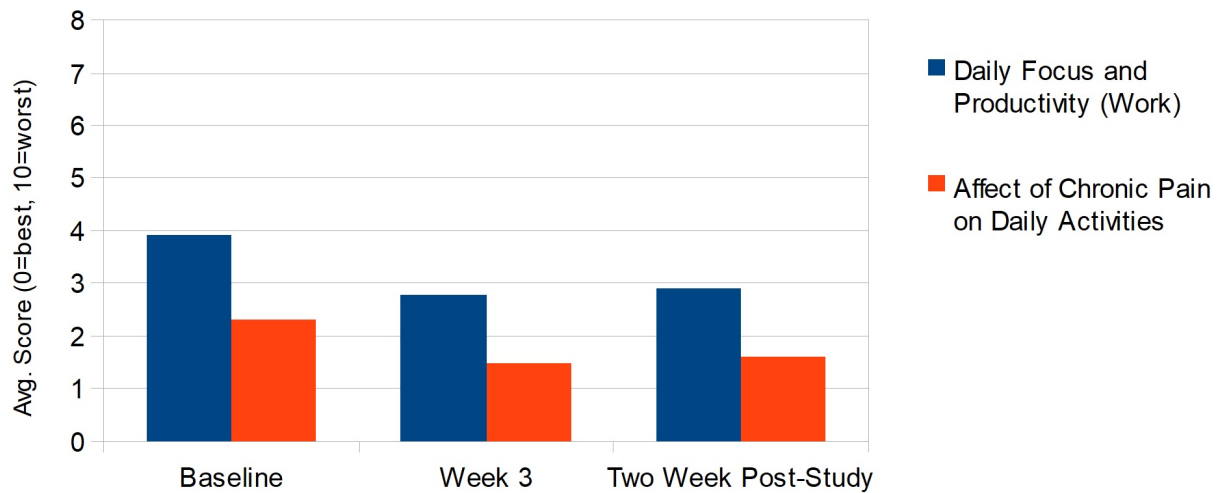
### **SLEEP QUALITY: 93% of improvements remained**

From baseline average to week 3 average, there was a 41% improvement. From baseline average to 2 weeks post study (no intervention), improvement was at 38%. **Thus, two weeks post study, 93% of the improvements in sleep quality had remained.**

### **DAYTIME FATIGUE: 90% of improvements remained**

From baseline average to week 3 average, there was a 40% improvement. From baseline average to 2 weeks post study (no intervention), the overall improvement was at 36%. **Thus, two weeks post study, 90% of the improvements in daytime fatigue had remained.**

## Workplace Well-being and Floating Case Study



### **FOCUS AND PRODUCTIVITY: 90% of improvements remained**

From baseline average to week 3 average, there was a 29% improvement.

From baseline average to 2 weeks post study (no intervention), the overall improvement was 26%. **Thus, two (2) weeks post study, 90% of the improvements in focus and productivity had remained.**

### **CHRONIC PAIN AFFECT ON ADL's: 83% of improvements remained**

From baseline average to week 3 average, there was a 36% improvement.

From baseline average to 2 weeks post-study (no intervention), the overall improvement was 30%. **Thus, two (2) weeks post study, 83% of the improvements in affect of chronic pain on activities of daily living had remained.**

## **Conclusion**

Float therapy, otherwise known as floatation therapy, floating, sensory deprivation, or restricted environmental stimulus therapy, has a direct, positive, and lasting effect on personal and workplace well-being, including anxiety, stress, sleep quality, energy levels, focus, productivity and chronic pain.

Two weeks post-study and without further intervention, all areas of improvement were maintained to a significant degree.

Employers should consider recommending or implementing float therapy in their work culture, to as a way to improve employee well-being and as a benefit to both employee and employer.

## **Discussion**

Previous case studies at The Float Zone that have involved specific conditions such as sleep, chronic pain or opioid recovery, have also been linked to exclusionary criteria for participation. For instance, all who were accepted to participate in the sleep and floatation study had a relatively significant issue with sleep. This was the first study where participants did not have exclusionary criteria. For this reason, there were some categories, such as chronic pain that were low in baseline as well as relative average scores value because not all participants had chronic pain that affected their activities of daily living to any significant degree. Similarly, there were variations in the degree of stress, anxiety, sleep and other categories as opposed to all having baseline values of a significant threshold number. Irrespective of this, the cumulative averages and overall group numbers indicated improvement and in most cases significant improvement.

Another parameter to mention is the age group for the study. Of the 11 participants, most are in their mid twenties to mid thirties and there were only 3 of 11 that were over 40 years old. Whereas a conclusion cannot necessarily be made with this observation, but needless to say, those in their 20's and 30's have a different work and play mindset than those who are decades older. Age variations may have an influence upon subjective perceptions and valuations of the benefits of floating with regard to the workplace as well as personal perception.

With regard to the duration of the study, it was one week shorter than most other studies performed at The Float Zone. The purpose and hypothesis of using 3 weeks (3 floats) vs. 4 weeks (4 floats) was that in all other studies, most improvements had peaked by 3 floats. Improvement may have continued after 3 weeks, but appeared negligible after 3 weeks moving into week 4 and beyond. Despite a shorter time frame for this study, significant improvements were seen in 3 weeks. This is supportive of the concept that it often takes 3 floats to have meaningful impact on the individual, in that the first float is novel with the feeling of weightlessness, using the lights, music and headrest - or not. The second and third floats are often deeper and more productive, knowing what to expect and coming in with different intentions, or trying different times of the day and day of week. Also, depending on one's state of mind coming into the float, there can be more or less mind chatter, awareness of heartbeat, breath and digestive noises. Three floats seems to be the magic number and it was validated in this study and confirmed through discussion with the participants. Video interviews, associated with this study confirm this three float cumulative benefit.



There was a restriction that participants could only float one of their three times on the weekend and the other two times had to be during the work week. Most everyone did actually float all three times during the week. In conversation with participants, they did a good job planning their floats for a particular day of the week. Some noted that it was harder to relax during the work day, knowing they had to go back to work and it served to increase mind chatter. This also speaks to the transient nature of stress, deadlines and the politics of the workplace. Some days are just more burdensome than other days. With this, some had wished the floats were on the weekend and stated that in the future they will choose weekend times. Others found that floating during the week was helpful and comforting in managing the way stress accumulates during the week and they looked forward to the workweek, knowing that they were floating somewhere in the middle of the week. Some used this opportunity to float at the same time as other co-workers and to keep each other accountable for the challenge of keeping up with a weekly schedule. These same folks would compare notes about their float and bring their calm and focus back to the workplace as a team. A common thread was that their focus and productivity was increased after floating and the days that followed. In at least one case, the subject mentioned that the effects of his float on Tuesday would last until the weekend and then he floated again the following Tuesday and kept up that schedule. Many mentioned that their sleep improved, which was helpful for energy and focus the next day.

It was not mentioned as part of the criteria that you could get out of the tank anytime. A few of the participants mentioned that they thought 60 minutes was too long and they were ready to get out sooner. Once the study was done, it was indicated that in the future, you can get out anytime. These same people were also those that use physical stress release such as exercise vs. mindfulness/meditation style relaxation methods and perhaps this was such a shift from normal stress reduction methods that it may have taken a few more floats to appreciate it - or maybe, as indicated by some, that future floats will be something more situational than routine. Several indicated that they will be gifting floats as a relaxation reward. Several indicated that they will be incorporating floating along with chiropractic, acupuncture and massage. Others mentioned that they will be incorporating floating with their gym/yoga routine.

Four (4) of the eleven (11) case study participants had floated in the past so this was a new concept for seven participants. While everyone benefited subjectively and objectively, there was a tendency for some to focus on the physical benefits more than the emotional, despite feeling relaxed, calm and focused afterwards. With this concept in mind, many subjectively expressed that they did not feel improvement as much as their objective daily survey scores illustrated. Many were surprised that their daily surveys reflected a much greater response than their hindsight perception. In discussion with participants, this was brought to light and upon reflection, there was a modified realization. The surveys were an important part of the experiment and several mentioned that it made them really pay attention to their daily lives, their work lives, their interactions, and emotional states.

Regardless of the levels of improvement, floating means different things to different people and each person has their motivators. Pain is an excellent motivator, yet only 3 of 11 had significant levels of chronic pain. Many mentioned that now that they have experienced benefits with sleep, stress, anxiety and more with their floats, new motivating factors come into play with regard to

the use of floating. This applies more in terms of continuing to use floating as a stress buster and well-being modulator. Those with greater issues are motivated to use a service or product, rather than just using it as a routine “feel good” experience. Yet, whether it was better sleep, more emotional stability, less pain or a greater sense of energy and ability, floating affected a broad range of areas that resulted in an overall positive experience.

The latest version of the ICD-9 diagnostic code manual for health care providers reimbursement now includes a new code for “burn-out.” Z73.0 is a billable code used to specify a diagnosis of **burn-out**. This is a testament to living in a modern day anxiety society filled with reasons, events and even diagnoses to necessitate an antidote or a lifestyle hack. With respect to the parameters measured in this study, floatation comes to mind as part of the antidote.

Employers need to establish that good mental health means more than the lack of a diagnosis. Rather, it represents the ability to be a fulfilled and resilient member of the team. A study such as this should be seen with a lens that workplace well-being actions are not designed solely for those experiencing mental health challenges, but for the entire employee population with its various views and needs so that all employees can be productive and healthy both at work and out of the office.

As the tide begins to turn and workplace well-being programs become more commonplace – and even expected – organizations need to ensure that they are approaching workplace well-being with respect to personal diversity and a management team that recognizes physical and emotional health as a priority. Organizations need tools in place to continuously improve well-being. As evidenced by this study, floating or float therapy should find a way into this discussion.

## **Addendum**

### **Some comments from float study participants:**

“I was in the crux of wedding planning when I began the float study. I’ve floated before and knew I enjoyed it! But was interested to find out if the study would help keep me calm throughout the final wedding prep weeks. I believe it did! I had something to look forward to each week just for me. Intentional time to reflect, mediate, relax, and get my head space recharged. I appreciated the time! Sometimes I felt stressed knowing I had to float that day. But I never regretting showing up and just getting in. I was able to deeply relax. And nap! Having so many emotions and feelings (anxiety/stress) pre-wedding my sleep was totally jacked up, so having 1 hour to get super relaxed and sleep really helped me stay pleasant! Thank you for the opportunity.”

“Definitely felt a difference with the joint pain and muscle tightness.”

“Coming back to work after floating I was much more relaxed and able to flow better with my work and others around me.”

“I noticed that I was a lot more cognitively prepared and focused the day of the day after floating. I felt mentally and physically rested. I slept better and fell asleep earlier than usual. Throughout the study and beyond, I got an extra 1-2 hours of sleep.”

“Hours after the float I was super relaxed like I was on a cloud. “

“Having it scheduled really help me relax, specifically on weekends. knowing it was coming up, helped me to get through harder times.”

“I noticed more immediate relaxation that day and part of the next day rather than lasting for days. Sometimes I felt trapped in my own thoughts and that I could hear my heartbeat was distracting. I also realized that floating in the evening leads to me taking longer to fall asleep as if I had napped too close to bedtime. I will be floating before 6 pm in the future.”

“My experience was very good! I started off not seeing much benefit but by the third float I was able to relax more in the pods and really relax. I do think the pods present different challenges to taller people in terms of bumping into the sides, so maybe a larger pod or two would be good. Overall, I enjoyed the experiment and could tell that I was better able to deal with things in a calm manner (greater patience and less irritability).”

“This was my first time floating so I had no idea what to expect. A couple things that I noticed/experienced: I really wish this could have been offered at 30 mins as after about 30 mins I got more anxious as time went on and then the process of showering before and after took up more time than the expected 60 mins time frame. was hoping that I would feel more relaxed

during and after the float session but ultimately felt the same. It was a really awesome experience and would recommend anyone to try it to see if it would be a good fit for their lifestyle.”

“My floats were somewhat dependent on my state of mind before the float. The days when I had more stressors, it was harder to relax in the pod and there was more mind chatter. I lost track of time and sometimes became anxious in the tank wondering when the float was going to end.”

“I enjoyed it and looked forward to it, but I am not sure it had an impact on my stress or general health. Since I had it scheduled on my calendar I was happy to make the time to do it, but I'm not sure I would go out of my way to float unless I had some sort of chronic pain or injury.”

“I have PTSD and there were various factors that made the experience uncomfortable, anxiety-inducing, and stressful for me. I found that I did fully enjoy the first fifteen or so minutes of every float and would possibly purchase sessions if they were offered in smaller time slots. The last minutes of each session felt like a panic pod and I was unable to relax. I was hoping to notice changes in both my chronic pain and sleep patterns, but they stayed largely consistent.”

“The floating was definitely a new and different experience. Taking an hour for myself is something I rarely do. That being said I think an hour of floating is a long time. I would have preferred a shorter duration.”

“I really enjoyed floating and noticed significant effects after each float, as well as cumulatively. It took a couple of floats before I was used to the situation and environment enough that I could really relax. I highly recommend going at least twice. I also noticed that the effects were compounded when I was doing it consistently, so going every week made a huge difference for me. I felt generally more balanced, grounded, calm and focused. The relaxation that I experienced after each float was much greater than any massage, facial or any other type of self-care service has provided me. So if you're looking for pure relaxation, I would highly recommend floating over another type of service. I also felt that it helped my spine stay aligned as if I'd gone to the chiropractor.

“I think biggest benefit, however, comes not from the physical effect of the float but from the mental side effect: It truly forces you to learn how to relax. Similar to meditation, I saw it as a training session for my mind. Additionally, I noticed that over the three weeks of consistently floating, my sleep that night was much improved!”

“Thank you so much for including me in this study. I really benefited from it and am definitely recommending it to my friends and family! I love the space that you have set up there-- the entire experience is one of great care and attention to detail and I really appreciated that!”