

The Impact of Pilates on Life Satisfaction

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Group HH

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1: Introduction

As Joseph Pilates said, “Physical fitness is the first requisite of happiness. Our interpretation of physical fitness is the attainment and maintenance of a uniformly developed body with a sound mind fully capable of naturally, easily, and satisfactorily performing our many and varied daily tasks with spontaneous zest and pleasure.” When our physical bodies are nourished in the right ways through the Pilates method, this translates into all other areas of our life. During my decade spent as a Pilates instructor, I have undoubtedly witnessed the beauty of the method unfold and imprint on my students’ lives in ways that go well past the physical benefits and into overall life satisfaction. For example, I have seen amazing results such as clients taking more creative risks, making career changes, having the confidence to wear a two-piece bathing suit for the first time, walking more confidently in the world, and even going on to pursue their own classical Pilates’ certifications. The method undoubtedly changes lives well past the physical realm based on my own observations and client feedback. However, until now I have never administered pre or post tests to measure life satisfaction before and after embarking on a Pilates journey. This thesis aims to take a more quantitative approach to measuring the impact of Pilates on different facets that comprise life satisfaction: social life, professional life, self, life goals, and positive outlook.

The mission of this thesis is to explore the impact of a regular Pilates practice on overall life satisfaction of a cancer survivor using the scientifically verified [Life Satisfaction Test](#). While some studies have explored the positive impact of Pilates on life satisfaction for [elderly women](#), people with [chronic low back pain](#), [post menopausal women](#), and [healthy people](#), fewer if any studies are available on the impact of Pilates on life satisfaction for older men or cancer survivors. For this case study, the participant will embark on a 6 month regular

Pilates practice with sessions beginning at 30 minutes and progressing to a full 60 minute session. The student will have access to the mat work, chair, reformer, tower, and spine corrector.

Hypothesis: It is predicted that within the life satisfaction tool, the measure of Self Satisfaction on the physical well-being and body image spectrum will improve by a minimum of 5% after six months of a regular Pilates practice. It is also predicted that the positive outlook spectrum will improve related to optimism, resilience, and dwelling. The social life, professional life, and existence of life goals are predicted to remain relatively stable.

Metrics: The Life Satisfaction Test used for this thesis makes the following claim, *“While the factors that bring about contentment or a sense of well-being may be considered subjective, there are certain key elements that have been known to impact life satisfaction. These factors include the degree to which your relationships are harmonious, your career fulfilling, your mental and physical health in working order, and your life filled with purpose. Problems in one or more of these areas can have a major impact on whether your life, thus far, is to your satisfaction. This test will take a snapshot of your current circumstances in different life spheres in order to determine your level of life satisfaction.”* In addition to this more standard metric, general observations and testimonials will be gathered at the conclusion of this study by Jack’s family members, friends, and employees.

This test is comprised of 132 total questions that address life satisfaction under the following dimensions:

Component	Satisfaction with ...
Social Life	Family, Friends, Romantic Life
Professional Life	Colleagues, Field, Work Conditions, Boss, Financial Health
Self	Physical Wellbeing, Psychological Well-Being, Body Image
	Sense of...
Existence of Life Goals	Purpose/meaning, Accomplishment, Pleasure, Belonging, Freedom
Positive Outlook	Optimism, Resilience, Dwelling

127 of the questions are statements which the student responds to using a 5 point continuum from “Strongly agree,” to “strongly disagree.” Below are 20 Sample Statements from the test:

	Strongly agree 1	Agree 2	Somewhat agree/disagree 3	Disagree 4	Strongly disagree 5
I get along easily with the members of my family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I make it a habit to tantalize my senses in some way (massage, delicacy, art or music shows)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can find something positive even in the most difficult situations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Right now, my life is much more work than play.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If I could go back in time and restart my career, I wouldn't pursue this line of work.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
I have yet to find someone I can call my "soul mate"	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
I have been diagnosed with a long term illness that is negatively impacting my daily life.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
I feel like I'm really "one of the team" at work.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
I make it a point to hide my body (e.g wear bulkier clothes, avoid going to the beach etc.)	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
My health holds me back from doing things I love.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
I currently have goals that I am working towards.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
I make it a point to exercise regularly and otherwise live a healthy lifestyle.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
I am a part of a community, club, societal, group, sports team or some other group activity	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
I make it a point to set aside time to just have fun.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
I am living paycheck to paycheck	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
No matter what decision I make in my life, it has to receive the approval of my loved ones.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
I work in a very welcoming and friendly job atmosphere.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
If I am corrected or given feedback from the people I work with it is done in a constructive and positive manner.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>

I have certain unhealthy habits that I know are essential for me to break.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
I feel that through my career, I have really made a difference in the world	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
I feel like I have no control over the direction my life takes.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
When I compare my body to others, I feel inferior	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>

Additional fill in the blanks with multiple choice options comprise of the remaining 5 questions on the test:

Life Satisfaction Test

132 questions, 60 min.

PROGRESS STATUS:



128. There are _____ major areas of conflict with my family that I feel need to be addressed and resolved.

- ☐ many
- ☐ some
- ☐ a few
- ☐ no

129. My job environment...

- ☐ is more stressful and high-pressure than I can handle.
- ☐ is not fast-paced enough.
- ☐ flows at the perfect pace for me.

130. In terms of the physical work environment (roominess, temperature, amenities, parking, etc.)...

- ☐ I am quite content.
- ☐ the workspace could use some changes, but overall I am satisfied.
- ☐ the whole work environment needs a major overhaul and/or better amenities.

131. Adjusting to change in general...

- ☐ is not the least bit appealing to me. I tend to avoid change for the most part.
- ☐ takes some time for me. I don't avoid change when it's necessary, but I certainly don't always like it.
- ☐ is easy for me. I'll probably instigate change on purpose.

132. The more difficult the challenge I face...

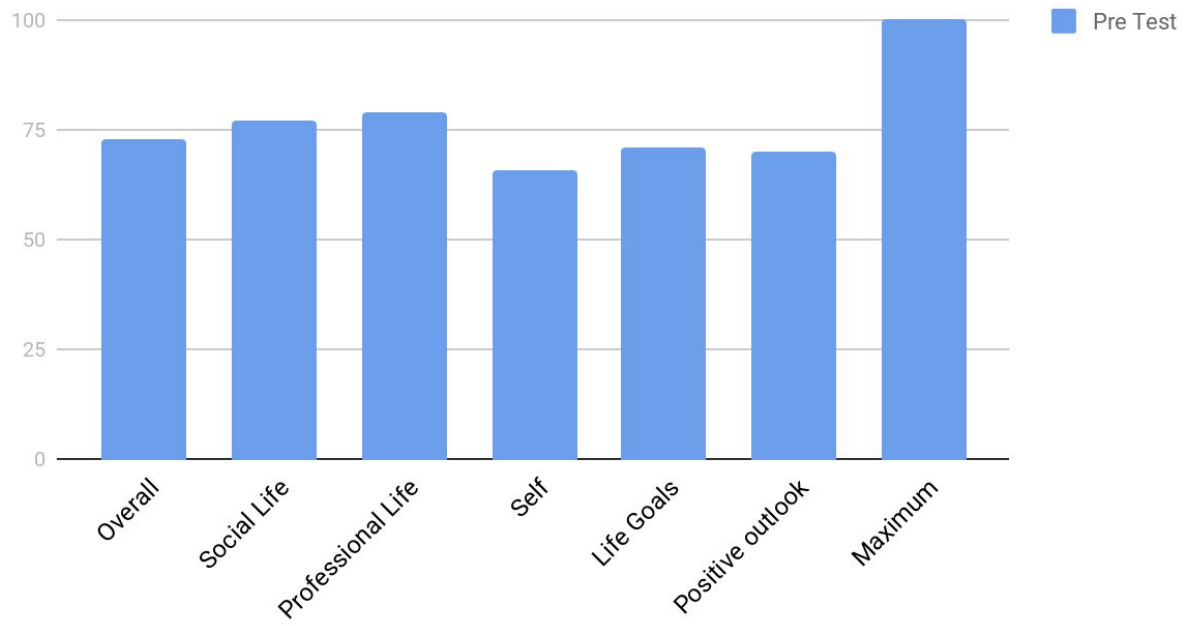
- ☐ the more determined I am to succeed.
- ☐ the more I question my ability to succeed.
- ☐ the more I get discouraged.
- ☐ the more I feel like giving up.

2. Case Study

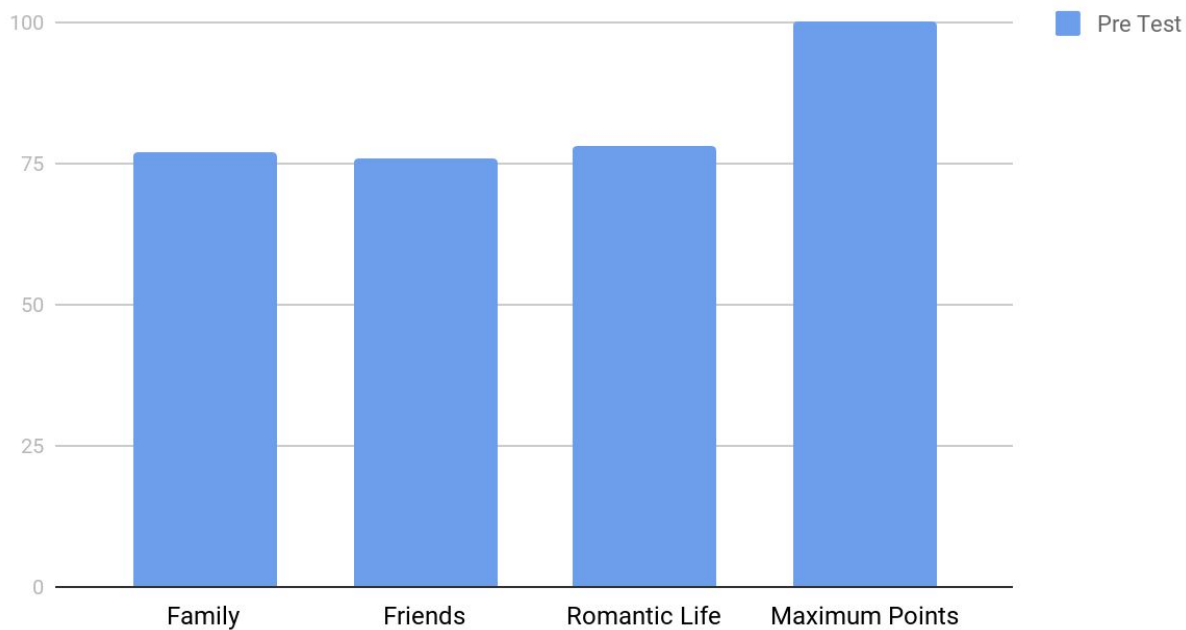
Name: Jack Burgdorf*

- **Age:** 66
- **Occupation:** Current Lavender Farm Founder, Former Derivatives Lawyer & Partner in NYC
- **Lifestyle:** Low to moderately active due to living on a large farm but not consistent with intentional exercise, not happy with diet choices, exercise inconsistency, challenges with stress management.
- **Self report description of physical well being:** low back pain, tightness behind the knees, overweight.
- **Posture assessment:** moderate kyphotic leaning with downward casted gaze, hip hike which displaces the alignment of hips and shoulders, poor articulation of the feet, outward turnout, moderate sense of balance.
- Two Time Cancer Survivor

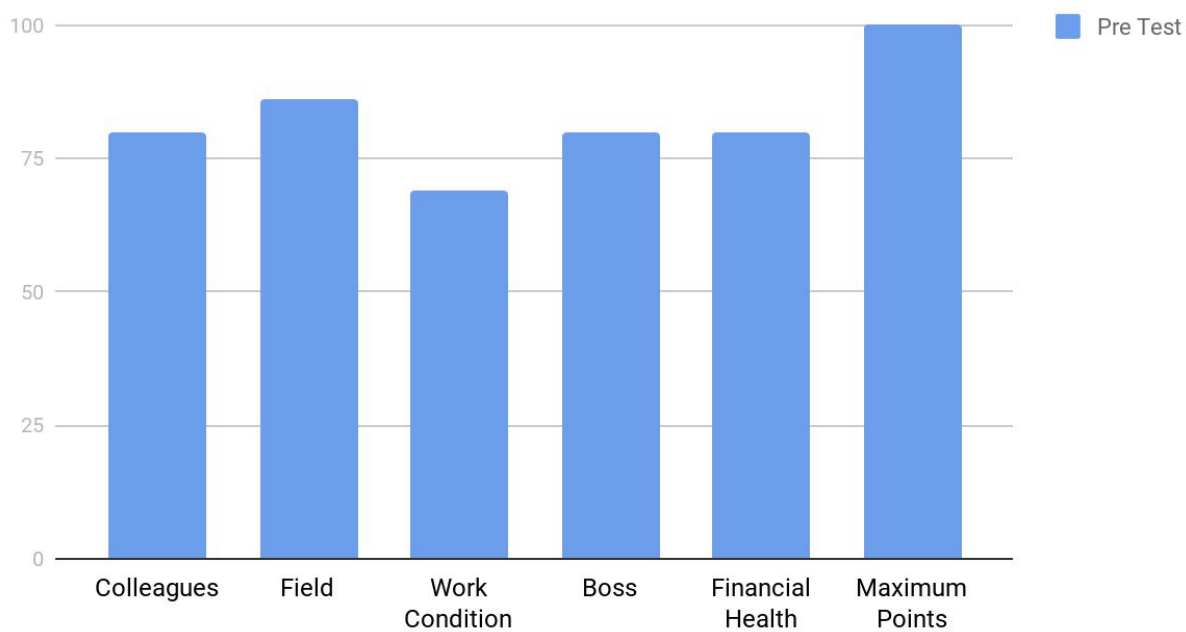
Life Satisfaction General Pre Test



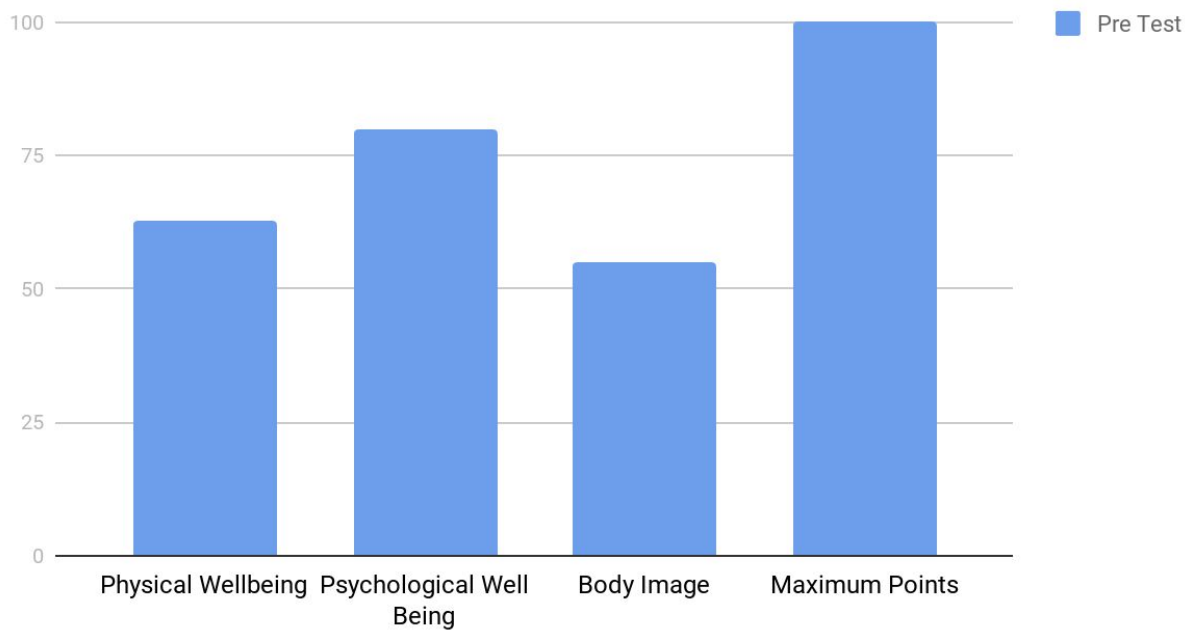
Social Life Satisfaction Breakdown



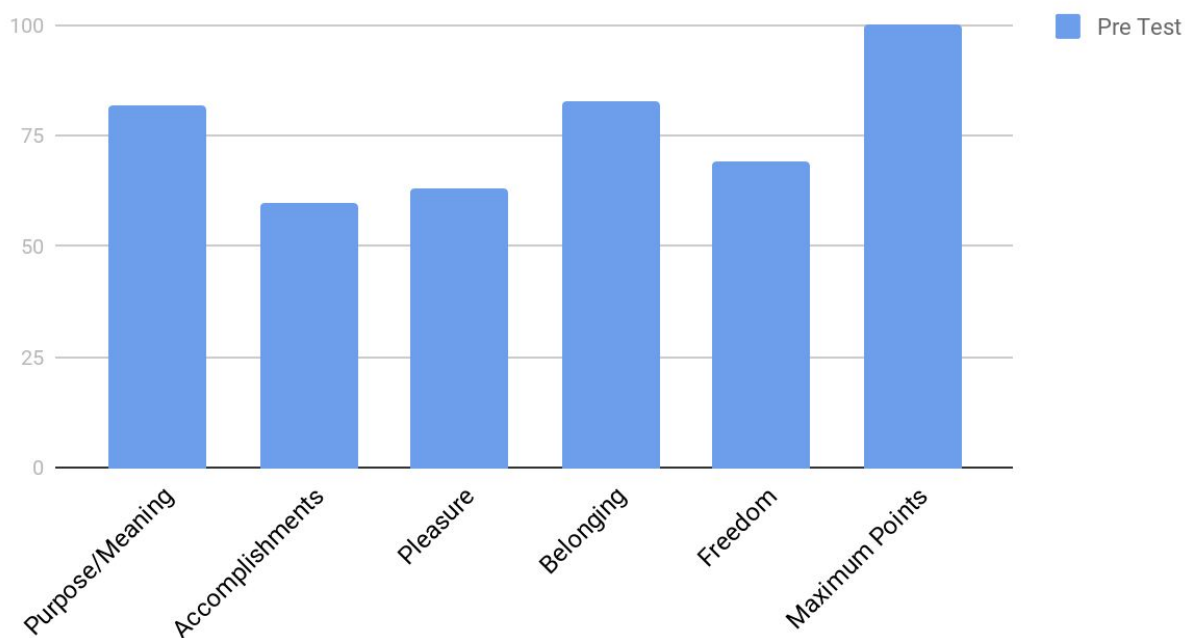
Professional Life Satisfaction Breakdown



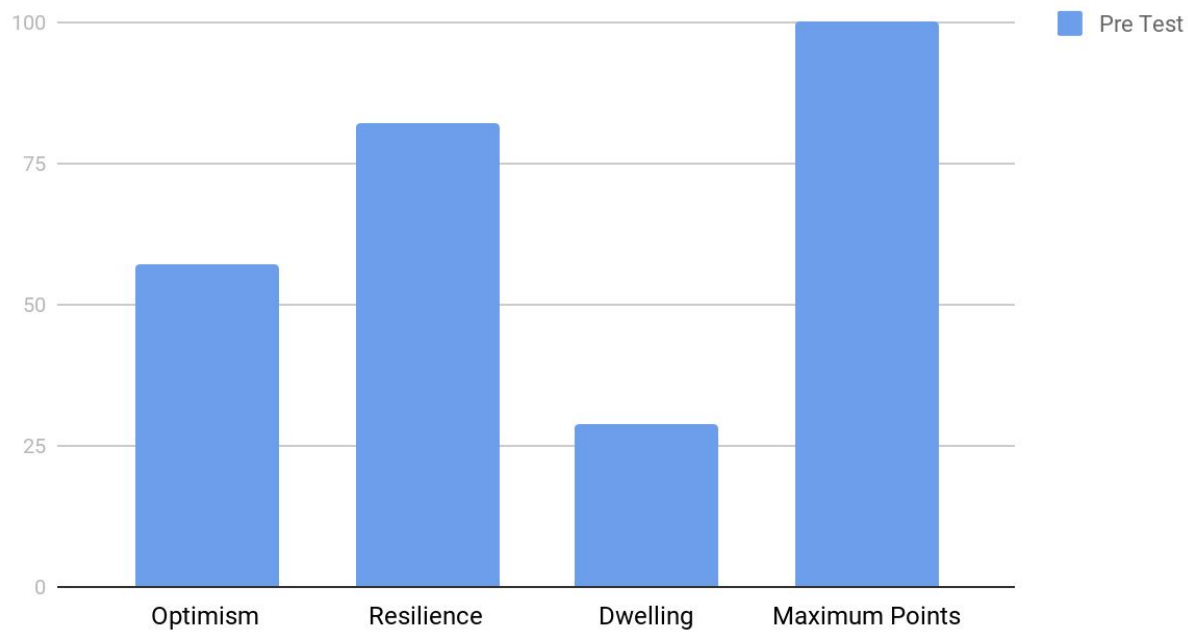
Self Satisfaction Breakdown



Existence of Life Goals Breakdown



Positive Outlook Breakdown



3. Pilates Journey

Click link for visual representation of Pilates Journey: [LINK HERE](#)

Key Observations along the way:

Session	Key Observations	Class Set up
Month 1	Gets down on to mat without grace, very tight hamstrings and hips, difficulty with all rolling exercises, good focus, tendency to close eyes and scrunch up face, strong back extension, flexible back, poor breathing pattern of holding breath, weak endurance, (asked when the class will be finished) and communicated that he had done some of these exercises before, stronger posture post class and better alignment walking out of class. Difficulty with side kick series and staying centered. Hip tightness during any seated positioned exercises. Goal: stretch out hips. Pain in neck during 100s and hard to keep legs to ceiling. Exercises in general seem very effortful and laborious.	30 minute session Mix of mat, and a little chair.
Month 1	Seemed a little less laborious and exhaustive throughout the workout. A little more comfortable with the movements. Incorporating a large ball as a prop to sit on allowed him to have better access to the spine stretch forward and saw. His spine is quite flexible despite the tightness down the back of his posterior chain. Found a better position for him to start his 100 series with the ball under legs for support, this was a better set up for him. Had trouble balancing during the standing pumping chair sequence to finish but was determined to complete the full series. Lacks strong foot mobility as evidenced in the foot patterning of foot work on the chair. Goal: improve foot mobility. Walked taller out of the session.	30 minute session: Mix of mat with use of ball for support of the hips, a little chair (foot work, pumping)
Month 1	Very minimal face scrunching this session. Removed the frequency of the use of the big ball for support during spine stretch forward. Sat cross legged for the saw. Difficulty differentiating hip from spinal rotation. Better mobility in feet during footwork on the chair. Was able to balance with much more ease during the pumping standing with the chair, still relies on handles for support. Goal: do pumping without use of handles in the coming weeks.	30 minute session: Mix of mat with less use of ball, a few more chair exercises: foot work, pumping standing, washer woman, swan dive, mermaid stretch
Month 2	Jack overslept this morning and seemed a bit tighter than usual. So, opened the session with some more gentle stretching and pre pilates like femur arcs and bridging. Because of the extra tightness he had this morning I brought the ball back in for spine stretch forward and saw. Marked improvement in his ability to move his ribcage independent of his hips in spinal rotation during saw. Less cueing is needed for reminders of length through the midline and support of the posture through the abdominals which is a positive. Need to consider	30 minute session: Mat work, ball as a prop, and chair. Additional exercises: swan with neck roll, cross over one leg

	<p>adding in some more hip stretches. Noticed his back extension was very strong so I added in swan with neck roll and repeated swan on the chair later in the session because it is a positive movement pattern for him. When people feel good in the session, they are more apt to stick with it. For chair work, I added in the one leg crossover push down and I was surprised that when crossing the midline, his balance was better than when we do the standing pumping facing the chair. Much less wobbling in the pumping front today, the goal is to get his arms off of the handles so he is standing truly independently. Movements are getting less and less laborious for Jack and he expressed interest in refining the moves and understanding the mechanics/purpose before executing» a positive sign of engaged learning.</p>	pumping.
Month 2	<p>This was an exciting session because we didn't have one planned for the morning, but at the time when Jack would usually be taking a midday nap, he opted and requested for a pilates session instead. This was after an early morning of work and an upcoming birthday celebration that evening. The fact that he was willing to workout at a later point during a busy day when we didn't have a session planned indicates to me that he is A) feeling good from Pilates and, B) his body is starting to crave that feeling. The fact that during his midday nap he opted to workout instead indicates that his energy levels, endurance, and overall commitment to his health has improved as he reaches for more consistency. During the session, his posture seemed more readily inclined toward length with less prompting required. Today I used the magic circle to warm up and get him finding a deeper connection of the 'in and up' feeling that squeezing the circle helps find. I think that had a positive impact on his ability to find a deeper Pilates scoop. Today I saw improvement in his rolling like a ball and also the way he transitioned between exercises with more intentionality and grace, and less 'throw and plop'). I added in the use of the theraband in place of the magic circle for one leg teaser. While it looked like he had greater range and control with this set up, he noted a tenderness in his low back. As a result, I'm going to omit one leg teaser until the roll back and roll up are more solid. My tower is coming in a few days and having use of the strap should be a critical component for that.</p>	<p>30 minute session Magic circle warm up, mat, chair added in single leg stretch of ad series of 5, added use of theraband for stretching, single leg circle, and one leg teaser prep</p>
Month 2	<p>Morning session Continued improvement in transitions down and up from the mat as well as between exercises. Did not add in any new exercises today but refined what we have already been building. No complaints of neck, back, or hip tightness today which indicates that he is either getting more comfortable within the frame of the work or he is increasing his flexibility and strength in these areas. Enhanced stabilizing control. Still a strong and continued need to develop articulation skills. His rolling and roll backs are my biggest area of focus right now. It remains interesting that his back is flexible and yet articulation in a supine position remains a struggle. When standing, his articulation is beautiful and clear. I will continue to investigate this. He has been having difficulty raising one arm due to shoulder impingement, requested work for strengthening this muscle so I finished with power circle, but when the tower comes, I will</p>	<p>30 minute Mat and Chair class New ending: standing power circle arm series</p>

	certainly be able to strengthen this more through the arm springs.	
Month 3	<p>Jack's first session with access to the apparatus was a success, albeit a little bit of maneuvering as everyone's first time is. I started Jack on the tower, as this is a stationary surface to get comfortable with using more equipment. I did a very simple repertoire of basic roll downs, leg springs, arm springs, and push through barre. I continue to be amazed at how limited his back flexibility becomes when his legs are stretched out in front of him. While standing, he can almost touch his toes. In spine stretch forward with the push through barre, he can barely reach his mid shins. I'm hoping that in time, with an increase in flexibility of the hamstrings (and back of the knees which he says is super tight) and a decrease in the overall circumference of his belly, that he will be able to hopefully push the barre to his toes at minimum. The lack of flexibility and articulation in Jack's feet is amplified with all of the foot work and he requested extra padding for the foot barre. It is difficult because of the length of Jack's feet for him to get all ten toes plus a solid portion of the ball of his foot on the barre. I am going to try padding it on the next session. It was quite rewarding to see Jack utilizing the roll back bar and strap to be able to dominate such a greater range of motion on the roll up. This is the first time I've seen him do a full roll up and it was very rewarding. I hope that being able to experience the fullness of this with assistance from the apparatus, strengthens his ability to do it in the mat session and will undoubtedly help him overall with his deficiencies in spinal articulation of the vertebrae. Jack's rhythm on footwork was pretty slow today while doing pulling straps he was a bit jerky and quick. Smoothing out rhythms as he gets more acquainted with the exercise and apparatus will be key as he progresses. I thought the short box series would be great because the angle of the legs to the torso creates space for the hips. However, I think having no support behind him puts too much strain on his low back as he said that aggravated it a bit. He also went for a huge ROM, so reining that in the next session will be key and maybe omitting it for a while until he loosens his hips and strengthens his core. We finished with some chair and his pumping one leg continues to come with greater stability. A key observation from this session was that the transitions between exercises is less abrupt and careless and done with greater ease and gracefulness. Once the apparatus is introduced, there is much more getting up and down turning around ect. I'm glad to see him moving through this more efficiently, a sign that this method is imprinting on him in subtle ways that show better control and ease of movement. Very positive for a first session on the apparatus.</p>	50 minute Reformer, tower, chair Intro to equipment
Month 3	<p>Today, we did not have a session scheduled, but Jack said he really needed it, was feeling tense and I was happy to oblige. It is great that he is coming to crave the work for the experience of it and its lasting effects. To me, this indicates that he is not only getting more in touch with his own emotional/physical status, but he is now using Pilates as a tool to improve upon both. Today, I decided to start with the reformer so I could spend more time with him and close on the tower. I didn't introduce any new exercises on the reformer except</p>	50 minute Reformer, Tower

	<p>for frogs and leg circles, but we did pad the footbar for less discomfort in his feet. I think I will try no pad, but three springs instead of four next time to ease the strain on his feet as they strengthen and improve in articulation and flexibility. He moved a bit smoother through the exercises. I added frogs and leg circles on the reformer, but it was definitely a challenge to get his feet in the straps with the lack of flexibility in the hamstring, he also expressed feeling silly in this exercise, but this movement pattern is so critical for so much of the method and progresses into things like stomach massage, airplane, six point frog, jumping with jump board, and a strong ab series of five, so it is critical. I added in breathing, and chest expansion for the end of the session as these exercises focus on deep mindful breathing which I thought was appropriate given that he expressed feeling tense and stressed.</p>	
Month 3	<p>Today was a tower session only as I was a bit short on time. I didn't add any new exercises on the tower. But something happened during the session that I thought was definitely noteworthy. At one point, we were doing roll ups with feet in straps. Jack asked to have the strap taken off as if to measure his own progress with his ability to get up from the mat through the roll up. While it was a bit jerky and his feet lifted a bit off the floor, he actually was able to pick himself up off the ground. This is definitely a huge marker for him and I think he will be really happy when in another ten sessions he can do this with even greater ease and control. Today, when we revisited the standing push ups with the roll back bar, Jack was able to maintain his forward leaning stance without getting yanked back by the springs. He had such a clear face of concentration on his face during this, while last session he thought the exercise was stupid due to the fact that the springs were destabilizing him and he couldn't get much out of the exercise. I think he is starting to learn that in time, all of these exercises become digestible in the mind/body and then you feel it more physically. I will do full reformer/tower session in the next class.</p>	40 minutes Tower/Chair
Month 4	<p>Today we had a later day session which always seems to be a bit more strenuous for Jack. He said his back was stiff but he really needed to move. He was moving in general a bit more slowly through everything. We did some tower a little bit of reformer and an ended on chair, which he seems to really like. I think he enjoys the balance challenge that the instability of some of the chair exercises bring. I noticed that during the leg spring series, Jack is showing much greater control. Typically, I would train a client once a week. Since Jack is able to do his sessions multiple times a week, his level of improvement is really expedited and wonderful to see. Today, he tried out doing the rollback without the strap (on his own doing) and it was tremendous to see that he could somewhat get up with minimal raising of the leg and jerking motion. The movement quality is really improving, no need to add in a ton more exercises at this point, focusing on nailing the basics of the method.</p>	40 minute session Tower, reformer, chair
Month 4	<p>Today at the end of the session, Jack reported wanting to do 5 sessions a week and feeling like his body really craves it when he doesn't do it. He reported noticing that he takes more even foot steps instead of favoring the side without</p>	50 minute session Reformer, tower, chair

	<p>knee issues, which is a significant improvement. He complained a great deal about pain in his feet when he first started doing footwork on the reformer and now he doesn't nor does he wince his face during it, indicating great progress. I also noticed today that Jack will sometimes continue going through reps to make sure "he gets it." To me, that indicates a level of commitment that he is not simply going through the motions. I am trying to find the best way to make the Pilates system work for his body. He seems to need much more stretch than strength and I think now that he has gotten comfortable with the way the reformer and tower and chair work on a basic level, I need to make sure to consistently incorporate the mat work. My hope was that the tower would help him better execute the mat work, which it will in time. But in an hour-long session it's hard to get everything in. Moving forward I'm going to commit to the session format of reformer/mat plus a little tower and chair. Today, at the end of the session Jack was able to do pumping one leg without holding on to the rails or losing control of the pedal. In the beginning of being introduced to this exercise, he often slammed it or lost control, this is a huge gain. I also noticed today that I could see his actual muscles start to soften a bit with more elasticity. In the beginning, his quads and hamstrings were shaped like solid brick as he moved. Now, it seems they are slowly started to expand and contract with more fluidity in the muscle.</p>	
Month 4	<p>We haven't been as consistent as we would both like lately with demands of the Lavender farm being at a high level. However, today we had a night session. The Pilates studio is in the attic of a barn so it gets quite hot at the end of the day. I was sweating just teaching the class. Today, Jack did a bit of his own warm up on the elliptical and weight machine before our session while he was waiting for me. On one hand, I think that made him more readily able to access and tap into his physical body at the start of the session. However, he was extremely tired by the end of the session and we had to take 2 long breaks, which is unusual for Jack. I didn't add any new exercises today except for leg circles in the side kick series because his lateral stability was looking so much better. Reflecting on the first time he did it, he fell and could not maintain balance. One other thing I introduced or continued to play with was rolling like a ball. I wanted him to hold the position but he automatically rocked, which was okay, because ultimately that's where we are going. This was the first time trying the rolling like a ball exercise on the elevated and cushioned mats and that may have been a contributing factor to his improvement on the execution of the exercise. I added in reverse knee stretch series to help Jack get the idea of just isolating at the hip joint to move the knee. I then had him do it the regular way and saw much better movement patternings. Jack got super tired by the end of the session and said his back had had enough. Unfortunately, he doesn't tell me when during the session his back starts to irritate him so I've asked him to be more communicative so I can make the proper adjustments. Some bonuses today, his footwork is coming along much better and he no longer asks for padding for his feet, which is a very positive sign. He requested to finish with the chair work and he did it with his foot in a much better position and without holding on to the rails. On a psychological level, he seems much more even</p>	<p>50 minutes Reformer, mat, tower, chair to finish</p>

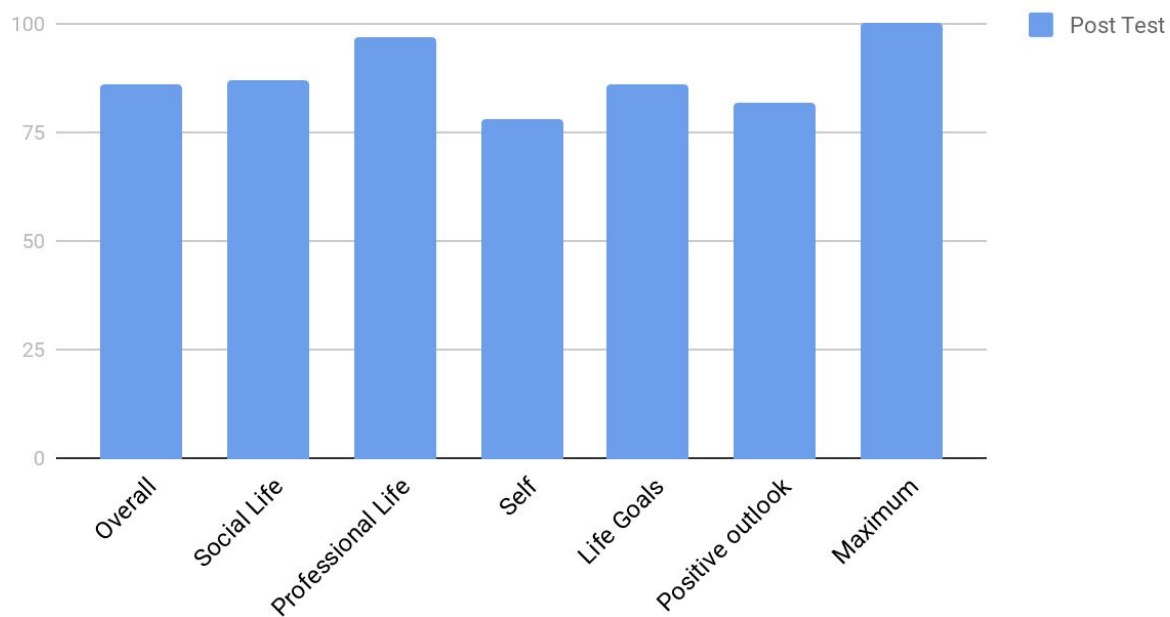
	tempered and we have personally not had any bad interactions since basically starting on this Pilates journey. He stays longer at the dinner table after the meal is done and I see him taking things a little more lightly and in stride.	
Month 5	<p>Due to travel and falling out of habit, we have not worked together in two weeks. Finally, we got back into it today. Jack had a rough night sleeping so that, coupled with the fact that he took two weeks off, I gave a gentle session. I started with spine corrector to lay the legs and release the back. Did pre-pilates: femur circles, twists, reaches, point and flexing. Then we did the standard tower exercises which I was pleased to see he retained a lot of the information. However, he seemed much tighter from the time off. I wasn't even sure if I should attempt spine stretch forward but we did after 20 minutes. I was originally just going to do tower as a reintroduction today, but things were going okay so I did some repertory on the reformer, but modified and light: footwork, hundreds, arm series, pike and peel prep, introduced stomach massage because I really wanted him to get the monkey stretch at the end. This will be a good benchmark because he can barely straighten much of his legs at all with his arms on the footbar. Will be curious to see how much more accessibility he gets in the length of his hamstrings as we progress. Interestingly, Jack knew we skipped frogs and legs circles and requested to do them so we did it and that indicated to positive things:</p> <ol style="list-style-type: none"> 1.) He is remembering the order 2.) His body feels good doing it <p>I added that in and finished with washer woman and pumping one leg on the chair because he likes those exercises. Since I only had a chair for equipment in the beginning, he likes the chair apparatus-it was his first exposure. But, I think it also makes him feel strong. He could do single leg pumping with no hands on the handles. This was a goal we reached for and he maintained despite the break.</p>	40 minute session Spine corrector, tower, reformer chair
Month 5	<p>We again have had a hiatus in training due to module three with Lolita and some other unexpected hiccups. Today was a great session back. I felt more confident incorporating Lolita's pre-pilates exercises with all of the studying I have been doing to prep for module three and being back with Lolita, which was phenomenal. The importance of pre-pilates really shined through the module. Today, we did a standing simple warm up doing isolations, roll downs, and quadruped. I did foot exercises, the pelvic clocks, dr. kegels, bridging, and knee folds as well to begin. I noticed he had less complaints of back pain during the session since we did the pre-pilates. I focused on mat work and a bit of cadillac today. I added in a standing arm series with the roll down bar so that he could strengthen his shoulder girdle without pressing his arms over head, as he has a shoulder issue on the right side. His body flowed well today, but he was a bit less focused I think due to the time off. I ended his session with a fun addition to his standing foot work on the chair (which he always insists on finishing with) I did going up front on one side with handles, and I was very impressed that he was able to get up today.</p>	50 minute session Pre-pilates, mat, caddilac, chair

Month 6	Jack has had some health complications in his throat making him unable to exercise with the same frequency that we had been doing in month 5. I think I over did it with trying to do his full repertoire on the reformer + mat/caddy. Next time, I am going to spend more time on Pre-pilates. The biggest pains were in his feet, knees and back which diminished in functionality in the time off.	Reformer, Mat/Caddy
Month 6	Today, I started with more Pre-Pilates and Jack was able to go way further than the last introductory class. He was able to not only do a truncated reformer repertoire, he was able to do a full caddy and then he asked to finish on the chair. His balance is so much stronger than we started, his ability to stretch over his hamstrings has greatly improved. He didn't have to take breaks during this session. He even went for a light jog after his session which is huge for him.	Reformer/Caddy/Chair
Month 6	Jack has been getting super motivated to introduce Pilates into his life with greater frequency. He has even decided he wants to do 2 more times a week by himself incorporating the basics of reformer/caddy as well as doing his own weight machine and elliptical. This is a huge sign of increased endurance, strength, and capacity to participate in a full and varied workout. I am very proud of his accomplishments. He has noticed that he is able to now incorporate cardio + pilates which is a huge improvement. He has been experimenting with doing footwork before going on to the elliptical to see if this diminishes the pain he experiences in his feet while doing cardio. He found an 80% reduction in foot pain when integrating the reformer footwork prior to doing cardio. It is truly unbelievable to see him taking such initiative and being so highly motivated to not only do Pilates, but to incorporate regular cardio into his life.	Reformer/Mat/Caddy standing pumping

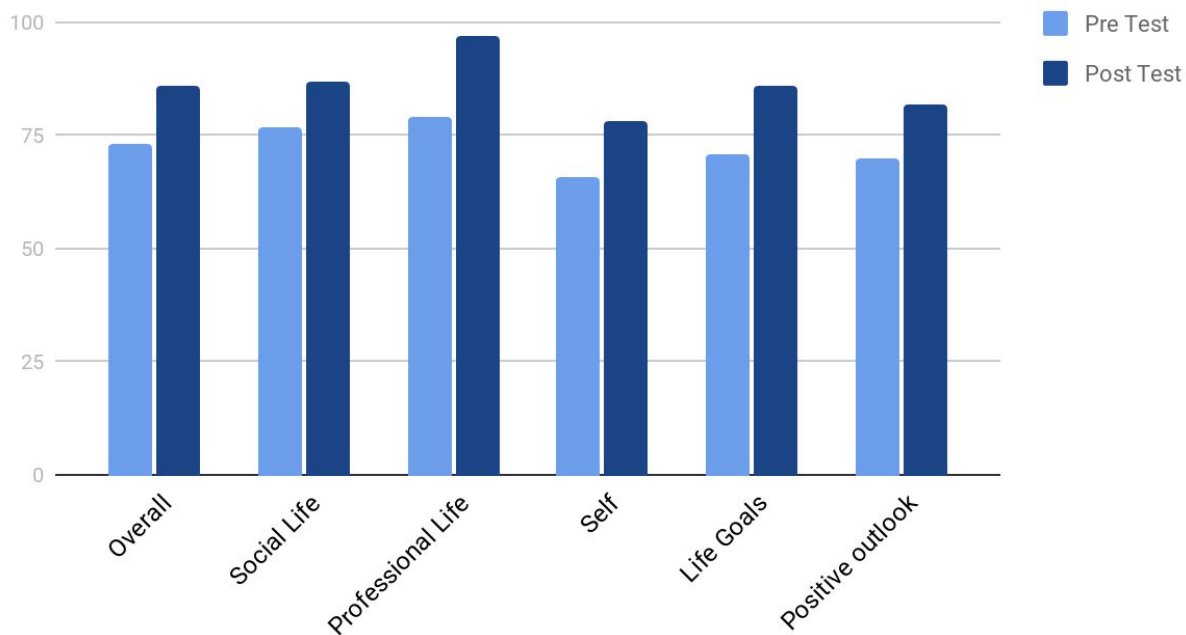
4. Results

Post test

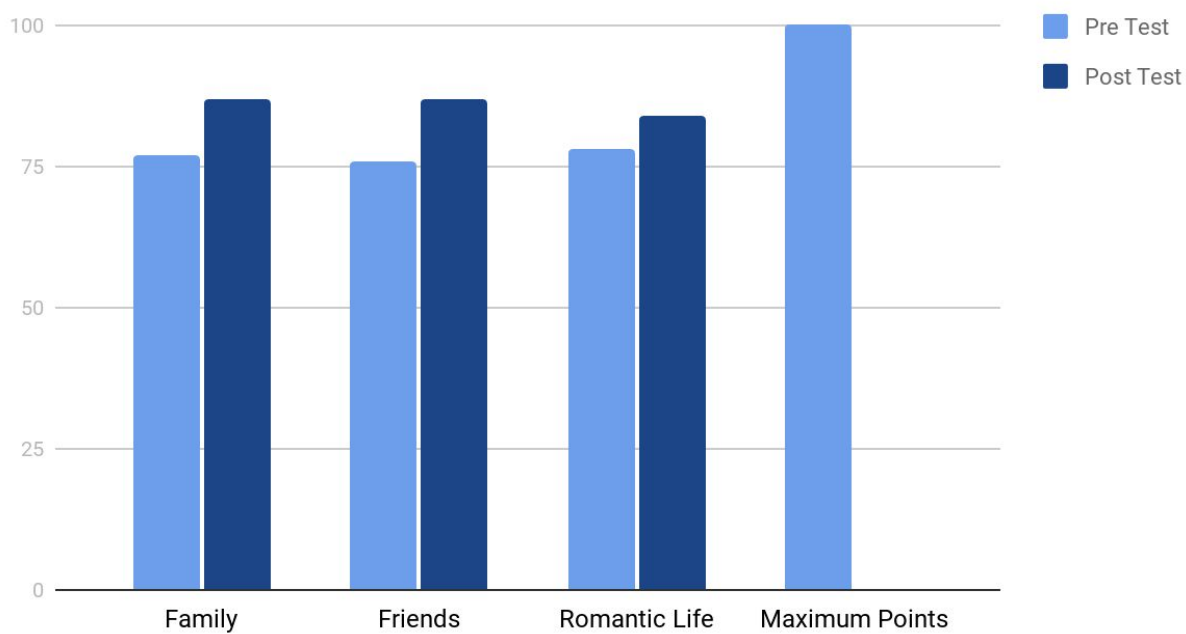
Life Satisfaction General Post Test



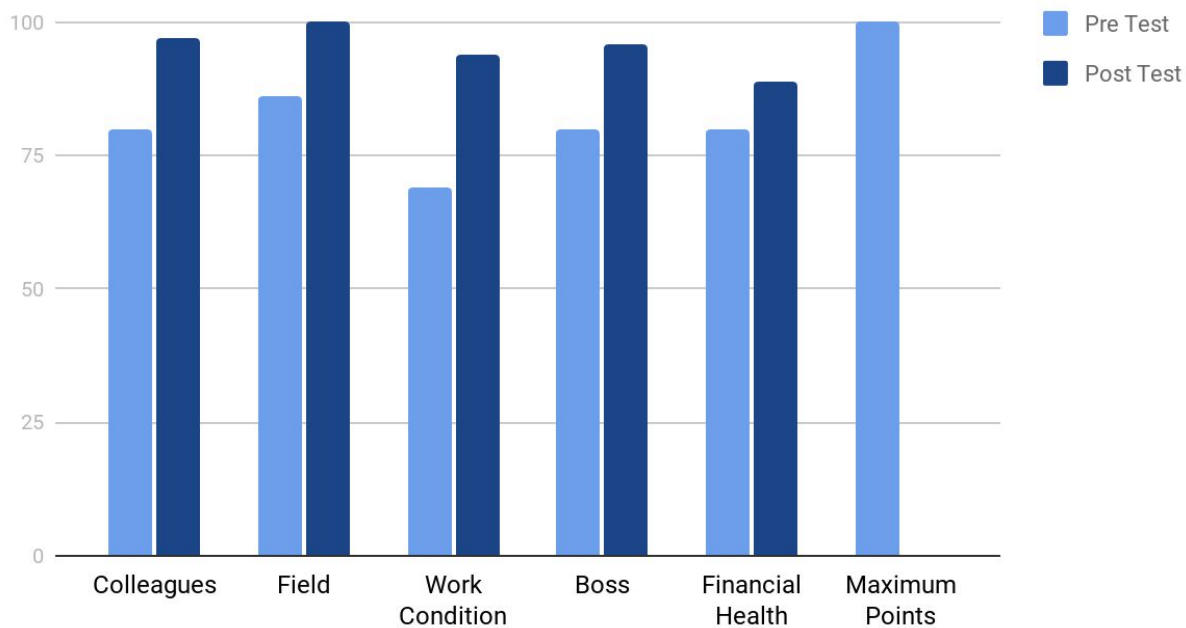
Pre/Post Test Comparison



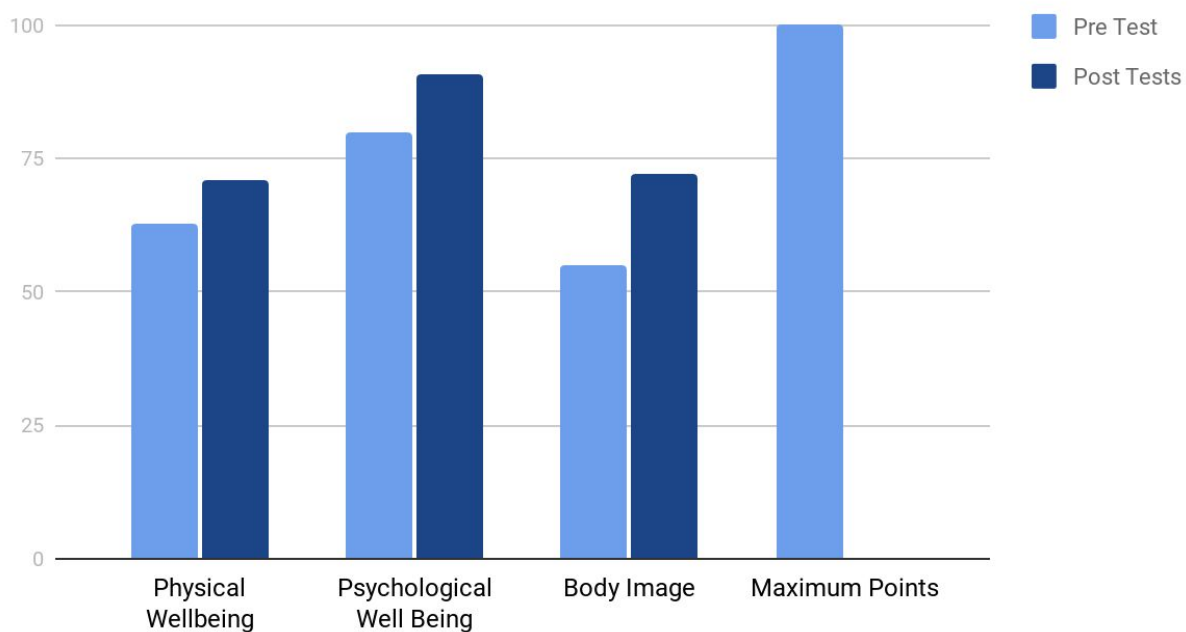
Social Life Satisfaction Comparison



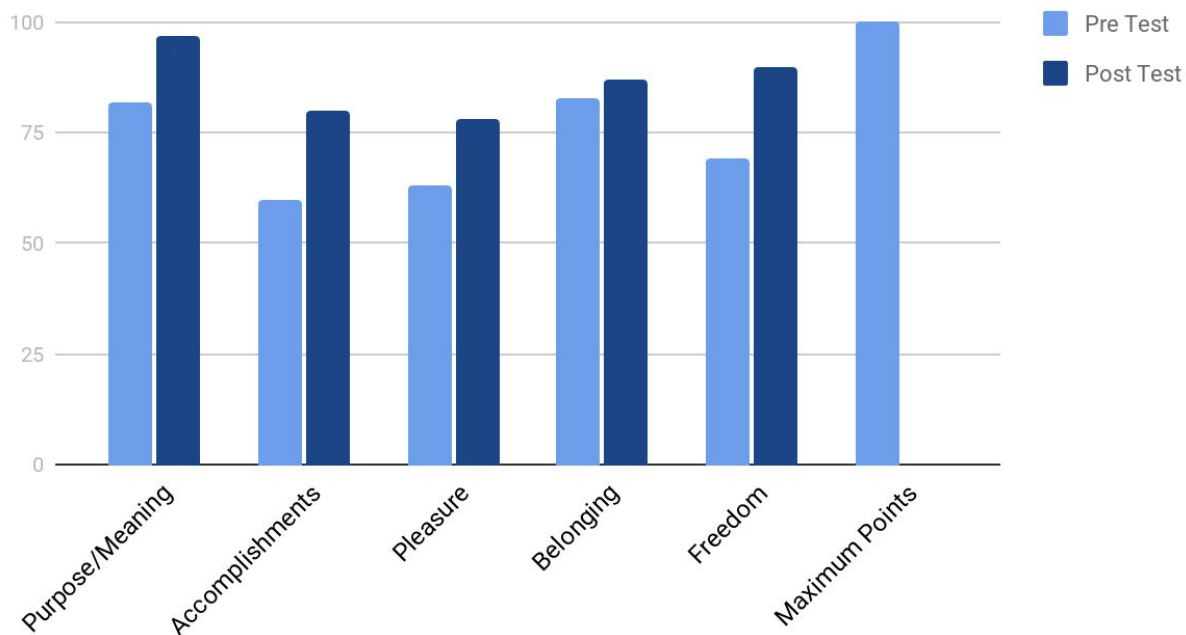
Professional Life Satisfaction Comparison



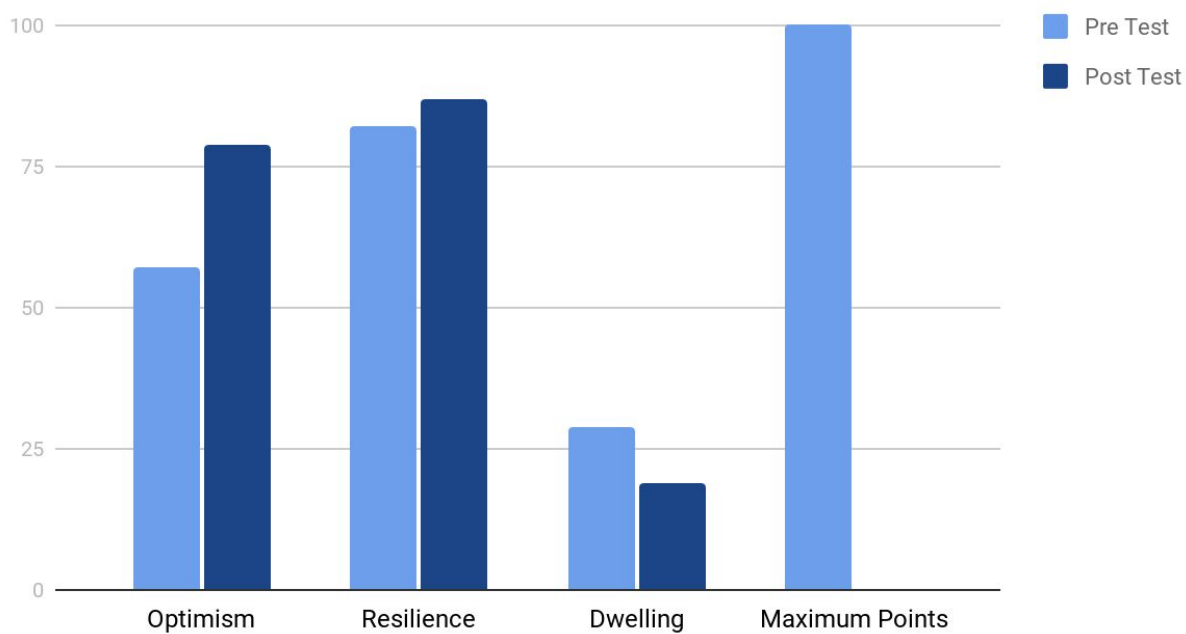
Self Satisfaction Comparison



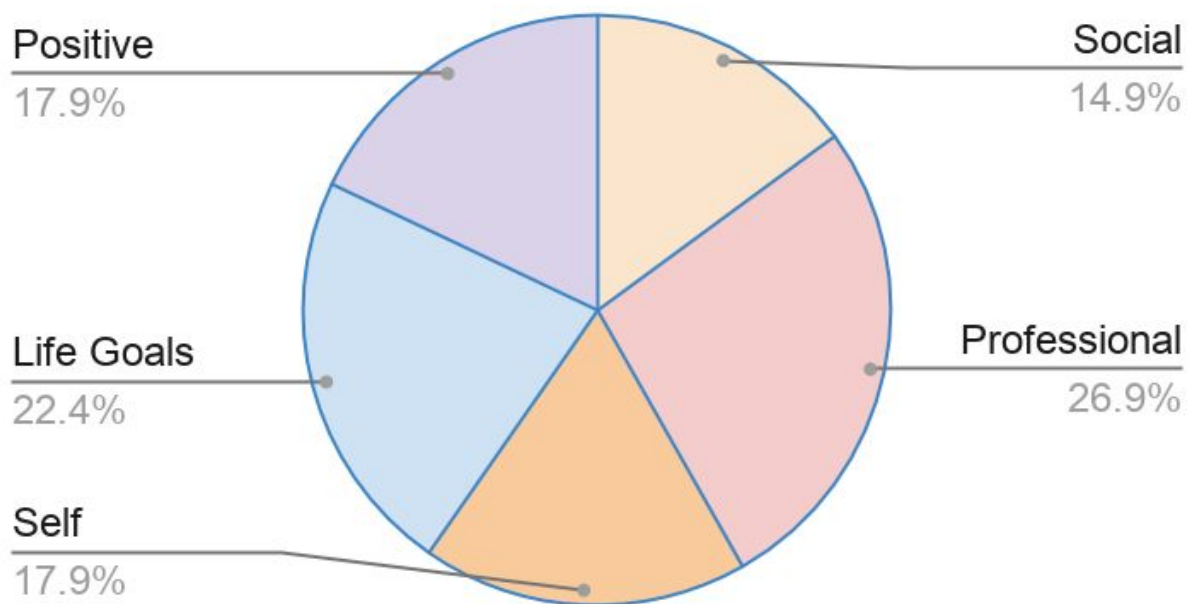
Existence of Life Goals Comparison



Positive Outlook Comparison



Change by Category



Observations and testimonials from Jack and his family members:

Person	Observations
Jack	<p>My immediate thought was how little control that I had over a significant number of muscle groups, lack of strength. Immediately, I had a higher degree of coordination, greater stability, i do think i continue to suffer from lack of flexibility from the back down, but that has improved, but also i have a much greater degree of strength in muscles that were underutilized, that's provided more than i expected, a greater sense of confidence because I feel more stable and more in control. I didn't know what to expect to be honest with you. But, exercises and movements that were extremely challenging for me just to get through them, much less to get through them with control of the relevant muscle groups that are required. Developing that was very very rewarding and has made a big difference in my sense of physical well being and self confidence. When you feel stronger and more coordinated and more in control, you have greater confidence physically, i think that translates into a feeling of physical and emotional well being which contributes to feeling a little bit more calm, a little more in control, a little more even tempered. There are a lot of knock on benefits from the physical improvements that you experience. I intend to continue doing Pilates. I can't say that I really know the full routine I will be missing some points of positioning and certain nuances that are important from deriving the benefits but I certainly intend to expand my general exercise program by including the pilates sequences that you've taught me. I think mind and body are so intricately connected, it's demonstrable that when you make those kind of physical improvements they translate into the way you deal with situations, the way you react with people, your frame of mind, your emotional state, I think it all contributes to an overall healthier mind and body experience. It's not just limited to how much stronger your muscles are or what you can do in the gym one day that you couldn't do before, it also translates into your life generally and i think it has done in a positive way which is one of the reasons why i intend to continue to do it. I would say that one of the things that I've noticed is that there are some really canny designs to the combinations and the positions and the sequences that are done that provide an opportunity to coordinate muscle groups and strengthen muscle groups that in my experience, I don't really challenge if i'm jogging or on an elliptical or just on a weight machine there are groupings of muscles that don't get challenged in the same way they do when you go through the reformer and the tower which is part of the genius of the Pilates regime that Joe Pilates established and that was very surprising to me. I had no inkling going into it that that was what I was going to experience. The genius of it and what is unique is the understanding of the whole musculoskeletal system and how the movements that are pursued in the various sequences just bring muscles into motion that you aren't normally conscious of and you don't normally exercise. Adn the more you do that throughout your skeleton from the bottom of your feet to the tops of your</p>

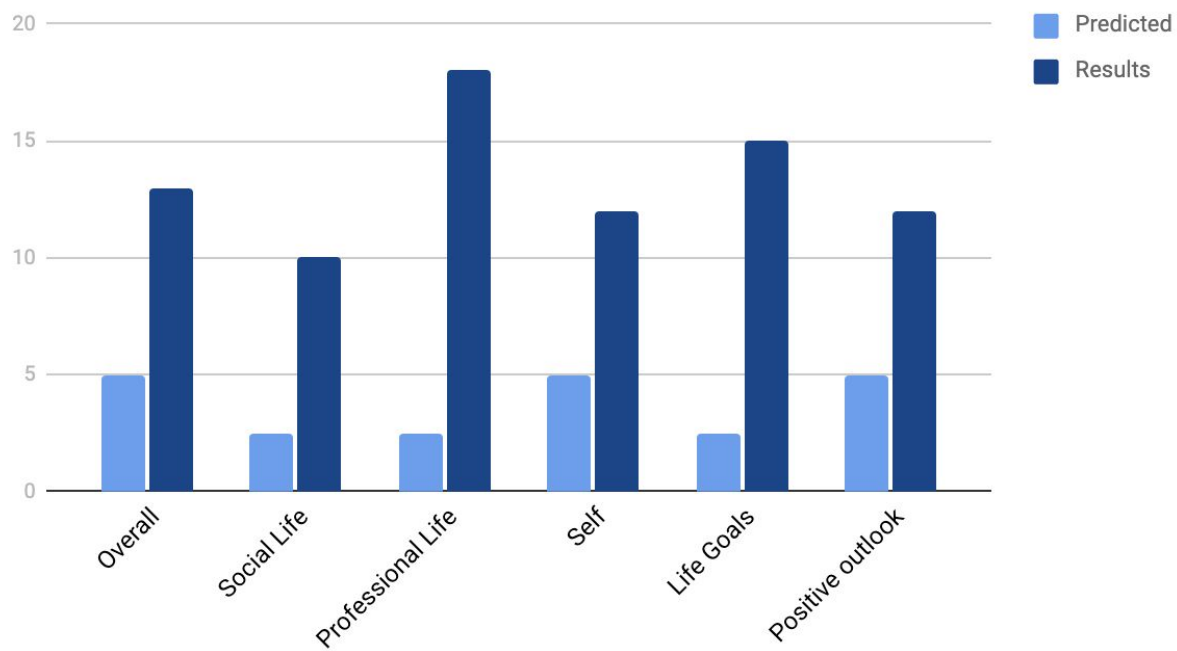
	<p>shoulder, the better your physical condition is overall. I think that's very unique and i haven't seen when people have given me suggestions for what to do on a weight machine or how to run. You are using muscle groups that are limited, you may use them regularly to lift things for example, but the pilates muscle groups that are exercised in the various sequences go much more beyond that. You are coordinating in parallel both sides of your body you're doing motions that bring into action a whole variety of different muscles which aren't usually active. I am happy with my results and it's also a realization of how far I have to go. I am very excited about the prospect of taking this on and taking it forward and integrating it into my physical fitness program. And now, I've realized there are pilates sequences that I want to do before I ever go into some of my gym routines from before, feet and leg sequences that significantly improve my exercise experience. My physical endurance has improved, there's been significant improvements in my endurance. Whether its 5, 8, 10 sequences there are things I could barely get through when we started.</p>
Dolly	<p>Prior to Pilates, he had a kind of short fuse, I would notice his posture was not ideal, I could always tell he kind of slunk by. He had very low energy, a lot of sleeping, a lot of computer time, not a lot of energy. Once he started, I noticed he was more even tempered right away, a bit more easy going, more aware of his postures, and other people's posture. He would make posture recommendations. His buttons weren't bursting on his shirt, they laid flat. After 6 months, the self motivational aspect of it. He won't wait, if you're not here he'll just go and do it, he wants to do it, he wants me to be there more often, he wants us to gracefully age with our spines in the right place. I feel like he has a more friendly demeanor, a bit more relaxed, and more easy going in the day to day interactions with the family. He is more willing ot make his own food and makes better food choices. He doesn't get so hungry that he'll eat the nearest not nutrient dense thing he can find. He's more conscious. It's part of a total picture of trying to be healthier.</p>
Daughters	
Claire	<p>It seemed that he was in a better mood on the days that he did Pilates, probably because he had positive interactions with Charlotte. You could make the correlation that he was able to do Pilates on the days he wasn't stressed out with work, so it probably helped for him to have a reprieve from the stress and demands of the farm. More capacity for family time on days when he did Pilates.</p>
Lillie	<p>Before pilates, he felt very frustrated with his physical limitations, maybe felt a little bit negative, in a bad mood, quick to temper, just not feeling great about himself and his physical abilities. When he first started taking pilates, instantly I saw better self esteem, even though he's pretty self deprecating about what</p>

	<p>he perceived that he couldn't do or his body couldn't do, but just instant better mood. I think I've seen a continuation of the initial positive effects, so definitely better mood, more forgiving to himself and other people as well, better self esteem. He also talks about the things that he can do that he couldn't before, things very simple like putting on his socks while standing up. He has foot problems, so that's been an area of pain so the way he can go up or down the stairs, better abilities, more positive, and encouraging others as well, especially his wife to get on the Pilates train also. Everything goes better on a day when dad does Pilates, meetings are smoother, he's whistling, he's in a good mood. I would say also less fatigue, more likely to be at our afternoon meetings be up for it and be present.</p>
Camille	<p>Before doing Pilates, dad was very quick to temper, probably emotionally eating a little bit, not great posture, not great mood over all. I noticed his personality got better. He was nicer, just overall mood boost I would say, his posture was better. I think he was actually looking forward to physical activity more than he normally does. Long lasting impacts have been more mindful choices overall, better interactions with everyone in the family from a lifestyle standpoint.</p>
Charlotte	<p>I first noticed Jack staying at the dinner table longer than usual after starting Pilates. He said the words, "I feel young again" after a beautiful outdoor dinner where we laughed and laughed at the table. I remember feeling like wow, my dad is fully present and here, feeling younger, this is incredible. I notice his posture is better and his physical outlook is literally elevated instead of cast downward. We had a bit of a challenging relationship before starting Pilates and it has significantly improved, not just because he feels better, but also he understands the genius and effectiveness of the method and can recognize my capabilities as a professional there to guide him. He always related that he felt instantly better after Pilates. As we progressed, I noticed him napping less and being more vibrant and energized in the way he carried himself around the house.</p>

4. Interpretation of Data

It was predicted that measures of Self Satisfaction on the physical well being and body image spectrum will improve by a minimum of 5% after 6 months of a regular Pilates practice. It was also predicted that the positive outlook spectrum will also improve related to optimism, resilience, and dwelling with increases for optimism and dwelling and a decrease in dwelling. It was predicted that the social life, professional life, and existence of life goals are predicted to remain relatively stable, with improvements anticipated to be less than 5%. The results indicate that all areas of life satisfaction were increased by an average of 13.4% percent. Social life satisfaction increased by 10%, professional life satisfaction increased by 18%, self satisfaction increased by 12%, the existence of life goals increased by 15%, and the positive outlook increased by 12%. All of the 5 main areas that comprise life satisfaction saw marked improvement after the six month Pilates practice was implemented. The most marked improvement in life satisfaction was related to professional life and the existence of life goals. The lowest marked improvement was in social life. Given that the time of this study was conducted during very restrictive social opportunities because of COVID-19, this is logical. Additionally, Jack's professional life underwent very significant growth with the development of the farm's first product line, shop opening, and a series of very successful community events including wellness classes, art opportunities, and harvests. While it is not surprising that the dimensions of Self improved, the fact that all areas saw significant growth of an average of 13.4% represented a greater improvement than predicted at the outset of the case study.

Predictions vs. Results



5. Conclusion

Adding in a regular Pilates practice over the course of six months has tremendous impacts on a multitude of areas of one's life. When a person feels better in their body, we see significant impacts on a variety of other unexpected areas. It shows that taking care of our physical health can be a bridge and a catalyst for leading a more optimized and fulfilling life. The results begin to quantify some of the very powerful, yet less tangible and harder to describe impacts of Pilates. To further expand upon this work, Pilates instructors are encouraged to continue doing pre/post tests and engage in dialogue with their clients on how their life is from a holistic perspective. While the physical benefits are undeniably beneficial, Pilates instructors can help shine light on some of the less frequently discussed benefits. When we open up the benefits from regular exercise, people can start to feel encouraged and tap into results right away. There is a dangerous and damaging culture in the fitness sector to focus on physical transformation to sell fitness to potential clients, a culture that can leverage people's low self-esteem as an opportunity to market a product. This study can begin to reveal other, more positive and empowering, fitness impacts that can be used to engage people in a healthy fitness practice. This would provide a basis for the industry to talk about Pilates as a part of holistic wellness, rather than zeroing in on body dissatisfaction as both the carrot and the stick of a movement practice. When triangulating the quantitative data from Jack's pre and post test with the qualitative data from the key informant interviews with his family, it is clear that the Pilates practice resulted in a high self-regard and more positive outlook which in turn had an immediate impact on Jack's relationships, demeanor, and conscious choices. This is a promising area of study to pursue, as it shows that a small leverage point - weekly Pilates - can transform interactions in a way that spills over into all areas of life.

Suggested Further Reading

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