

Weber-Fechner Law

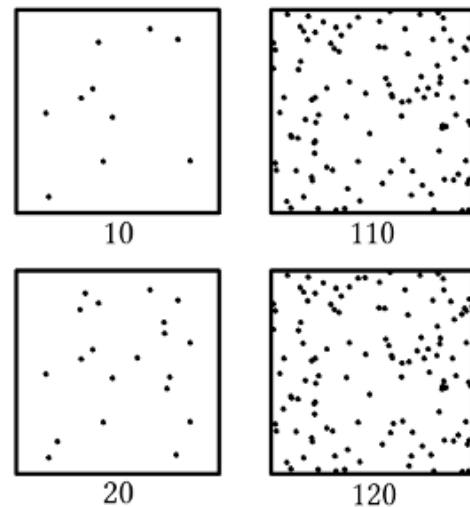
The Law Of Just Noticeable Difference

The Weber-Fechner law stems from the field of psychophysics and was derived from the Weber law and the Fechner law in the 19th century. Researchers in the field of psychophysics are investigating the relationship of a physical stimuli and the sensations and perception they cause.

Thereby the WF law shows a correlation between the change of a physical stimuli and the caused perception in humans. So what is the WF law? Let me give you an example.

„Our ability to sense change is relative to the magnitude or volume of what we are experiencing.“

For us, as humans, it is somehow easy to see the difference between the square in the top left corner and the square in the bottom left corner, but it is not possible to sense the change from the top right square to the bottom right square, even though the same total amount of dots/change has occurred. Similar examples exist in weight changes, tone changes or visual changes, such as noting a change in brightness.



Within our practice we need a fair amount of awareness and the right tasks to facilitate a progressive learning environment. If we are not aware and executing our tasks pretty much mindlessly, recognizing and then correcting errors is nearly impossible. If the task/movement/etc. is overwhelming us, our subjective intensity is way too high and there is less space to sense changes and being aware of them. Let me give you an example from our **Surroundings** practice on the next page.

Person A, his name is Webi Fechni, doesn't have a lot of experience with jumps. But he wants to/should do a precision jump from a wall to a rail with a one meter drop in between. Yes, I know what you might think - this will overwhelm him and the task is way too difficult for him. Nevertheless, imagine he will do the jump, he has a fair amount of luck and will stick it, which will surprise him and the observer. But I would assume that afterwards he couldn't tell you what happened in that jump and if the jump was well executed, if his posture was good, if his landing was good, if his jumping mechanisms were good etc. Why?

Because the subjective intensity he experienced went through the roof. He was not able to be aware of all the factors/variables from above and could not see the forest for the trees.

Before you continue to read please think by yourself: How could Webi Fechni now make use of the WF law? Think, write down some notes, continue to read.

HOW WEBI FECHNI CAN NOW MAKE USE OF THE WF LAW

First, we need to decrease the subjective intensity that Webi Fechni experiences by a lot. How can we do that? We need to figure out what factors are playing a role in the subjective intensity. These could be the one meter drop in between, the jump on the rail (because he needs to be very precise), the distance between the jumping and landing point, the weather, the environment, his physical abilities at that day, his emotional wellbeing, the surface he jumps from (concrete, wood, slippery and wet, dry, grippy, etc.) and much more. As mentioned before, Webi Fechni doesn't have a lot of experience with jumps. So, he can start just with practicing precision jumps on an even surface from A to B. This won't overwhelm him, he can purely focus on the jumping and landing mechanics and therefore he will be/is aware of changes and can more easily detect errors and changes. Over time, his physical abilities will increase and the jumping will become a lot easier for him (his subjective intensity therefore decreases over time). Now, he can start practicing the same precision jumps, but with a gap/drop in between. After a couple of weeks, he won't feel as much subjective intensity as before and then can start practicing jumps to a rail and so on.

Did you notice what we did there? We decreased the subjective experience to a „good“ level which allowed Webi Fechni to become aware of what he is doing. As he becomes more proficient in the actual pattern, his subjective intensity decreases and we can add one more variable/piece to the puzzle.

SUMMARY

What makes the Weber-Fechner law so valuable is, that we can apply it in a wide variety of things in our practice and in our lives. Let it be strength training, acrobatics, handbalancing, meditation, your nutrition, your social life, whatsoever.

After reading this, give yourself five to ten minutes and reflect on your own practice. Are you struggling with anything? Think of the Weber-Fechner law and try to apply it to your example.