


# The Sandwich Effect

 [simplyblood.org/2018/11/the-sandwich-effect.html](https://simplyblood.org/2018/11/the-sandwich-effect.html)

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I guess we have all eaten sandwiches. Personally, I have a love-hate relationship with them. They can be tasty, healthy, diverse, and most of all easy and effortless to make. They can also be extremely messy while you are eating them. This is because of quirky fact about sandwiches: I always associate them with **PRESSURE**. Because, if you think about it, there are roughly three parts on a sandwich: a slice of bread, the stuffing and another slice of bread. A sandwich is basically a handheld mini-pressure machine. It is almost certain that if you put pressure on one of the parts, the pressure will be transferred to the other parts. There is no other way to eat it- unless you disassemble the sandwich, but then the

advantages of the sandwich are lost. By now you might be thinking you are reading a foodie blog, but the point of this blog is not the food but how the sandwich reminds me of the current paradigm for academic science. Each step in our careers can be considered part of the sandwich- the trainees and senior academics are the bread, and the junior investigators are the stuffing in the middle.

*“Results based on 12 mental health symptoms (GHQ-12) showed that 32% of PhD students are at risk of having or developing a common psychiatric disorder, especially depression. This estimate was significantly higher than those obtained in the comparison groups.”*

\*Eaters Collective

All these thoughts came to me while reading articles about academic stress. When I googled “academic stress”, I got the impressive number of 487 million hits. Many of these articles are focused on how trainees are much more likely to face mental health problems. A couple of examples of these blogs/articles can be found at the links below. There are even scientific articles that have studied this phenomenon. For example a paper in Research Policy (<https://doi.org/10.1016/j.respol.2017.02.008>) states:

We can safely assume that this does not depend on the people but reflects mostly the graduate school stress. Many of the blogs and articles also offer some potential solutions or explanations for why this is happening. But for the sake of this blog, we can just accept that this is a real problem.

Graduate students aren't the only ones experiencing stress. Group leaders and professors also experience stress. To see what Google thought, I repeated the “academic stress” search with the addition of “professor”. I got 195 million hits, which is less than before, but still an impressive number. While some of these blogs/articles questioned whether professors in academia even experience stress (trust me we do!), several others clearly found that the stress levels are high at the professor level for this job. Although not many of the articles focused on mental illness, we must admit that both junior and senior professor face high levels of stress and pressure to produce. Some articles point out that this stress can be good as pressure can push you to move your science and career forward. To some extent, I kind of agree with this idea, but too much pressure can also cause things to fall apart- just like the sandwich.

I think we can agree that we have ample evidence that stress in academia is high on all levels. And let's make a second assumption and say that we recognize this as a problem and really want to solve it. There are many blogs that propose solutions for PhD students OR professors. Although on the surface this seems great, I believe that you cannot treat the problems of academic stress by dealing with each group separately. Personally, I know that if I have to perform in five years as a junior group leader, then I will definitely pressure my

students. It is almost impossible to not do so. The same is true for senior professors and group leaders- they will put pressure on me which I, in turn, will apply to my students. This is the sandwich effect in academia that must be dealt with; you cannot press on one part without affecting the other. So either we find solutions to deal with the systemic problem of too much stress throughout the entire scientific community, or we can just find more hits next time I do my Google search. To end on a happy note, it may be easy to find solutions if all parts of the sandwich focus on realistic expectations and time frames in a friendly and collaborative environment.