

Careers

Are you following the right to-do list?

For today's academics, balancing personal and professional demands can be a difficult, often futile task. **Roel Snieder** and **Jen Schneider**, authors of the recent book *The Joy of Science*, reveal the seven principles that scientists should adhere to if they want to be happy and successful

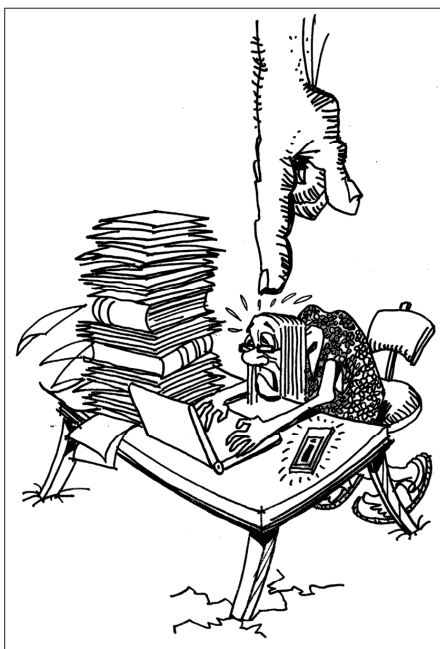
The 2015 film *Waffle Street* is based on the true story of finance manager James Adams. After losing his job for being involved in unethical financial transactions, Adams decides he wants a more hands-on job and finds employment in a diner, which is part of a chain. He soon learns that employees who have worked for 1000 hours are entitled to buy a restaurant from the chain.

Despite his change in career, Adams cannot rein in his entrepreneurial self and works hard to be able to purchase a restaurant. He faces many humiliations, sells his house to free up capital and finds his marriage under severe stress. Just when he is almost able to buy a restaurant, doubts arise. While talking with the restaurant's cook, who questions if Adams *really* wants to be a restaurant owner, he comes to the conclusion that he does not – he was merely caught up in the game. Adams switches plans yet again, in search of a more meaningful livelihood.

Better balance

Adams' story may resonate with many of us, whether we are hedge fund managers or scientists. As academics, how often do we find ourselves racing to complete certain tasks that we aren't really committed to in the long term? Indeed, there are times when you reach an important goal, only to find it leaves you feeling unfulfilled and chasing after the next sign of success. To what extent are our professional choices and career trajectories influenced by external pressures, or by our perception of what we "should" do?

The answers to these questions are diverse. But, as we wrote our book *The Joy of Science: Seven Principles for Scientists Seeking Happiness, Harmony and Success*



Under pressure Illustration from *The Joy of Science* drawn by Janwillem Snieder.

(Cambridge University Press, 2016), we had the opportunity to reflect on our choices and listen to colleagues struggling with similar issues. A common thread was the issue surrounding work–life balance, with colleagues worrying over how to prioritize their personal and professional commitments. Such tensions are partly caused by external pressures, but part of the burden is self-inflicted. Whether you have taken on one too many tasks, or feel that you must attend every single conference in your field, or are urgently trying to boost your publication rate, being a scientist in today's fast-paced academic workplace seems to involve significant stress.

Rule of seven

This raises some fundamental but crucial questions. How do you identify what is

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most important to you? How do you make choices about what kinds of work are most significant? How do you develop a healthy and sustainable lifestyle while also being productive at work? Coming up with the formula to achieve a happy and productive life is no mean feat. But we believe that the solution involves tapping into seven traits for those seeking success.

1. Move away from the unattainable ideal of "balance". Rather than aiming for equilibrium while trying to juggle all our various personal and professional commitments, we suggest trying to aim for *harmony* instead. In music, harmony is achieved when individual chords and tones come together to create a well-rounded sound. An enriching personal life can fuel creativity at work, while professional successes can foster a feeling of contentment in general. Building enjoyment and beauty should be central to our lifestyle, rather than peripheral to it.

2. It may seem that the path of least resistance is to yield to the pressures of overworking. You may, for example, drown in thousands of e-mails rather than prioritize a pending project. It may take *courage* to explore how to follow your own priorities. It also may take courage to recognize when you are out of harmony with your goals and with those around you, and to make corrections.

3. Of course, this means knowing what your priorities are and how to achieve them. To do this, you should develop a *vision* for your personal and professional life and then make choices that support it. In practice, we may not spend enough time coming up with a plan, and this can leave us feeling directionless. Spending time strategically planning what you want for your life, and refining that vision from time to time, is a key step toward joy and success.

4. Channel and develop your *curiosity*. Scientists are naturally curious, but we frequently resist being curious about our personal lives. Curiosity encourages you to ask important questions about your choices. Are you curious about your own motivations, habits and patterns? Are you curious about the lives you impact? Cultivate an introspective and inquisitive mindset and don't be afraid to jump into something new.

5. Each one of us sees ourselves in a certain way, but it is also important to note how others view us. *Listening* helps us to take

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things in. What, and who, do you listen to? And when should you ignore others' voices and listen to yourself and your own needs? The day-to-day demands of life may overwhelm our internal dialogue. Take the time to process your thoughts.

6. Do you have *compassion* for those around you as well as yourself? Do you frequently find yourself sick, tired, run down or angry? Modern work ethics promote a ceaseless drive to push on and do more. When unchecked by compassion this can lead us to push others, and ourselves, in ways

that are unhealthy and detrimental for creative research.

7. *Integrity* is often equated with honesty, but we argue that integrity means much more. Personal integrity means that the different aspects of our professional and personal life are integrated – we bring our whole selves to our work, and make space for our humanity. We lead an undivided life.

Given the frantic pace and demands of modern life, embodying these characteristics may be a challenge. In *The Joy of Science*

we offer tools and exercises that help integrate these characteristics into our lives as modern scientists, so that we can have more fulfilling careers.

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Once a physicist: Z Aziza Baccouche

Aziza Productions



Z Aziza Baccouche is chief executive of Aziza Productions, a media company that specializes in producing science films

What sparked your interest in physics?

I've always had a passion for maths, but I lost most of my sight when I was nine years old. I grew up in Tunisia and went to a blind school there for a few years before my parents decided to come back to the US. My mom is African-American and my dad is from Tunisia. When we came to the US, I went to a regular high school and in my senior year I took physics and immediately fell in love with the subject. I had a fantastic teacher who never saw my physical limitations in terms of my sight. He never said "Oh no you can't do this lab," or "You shouldn't do physics," and this was crucial. I was a young person and I knew I would have to prove myself as a legally blind person.

What were some of the challenges you faced as a blind person in physics?

It was when I went to the College of William and Mary in Virginia to study physics that I really encountered difficulties. For the first time I found it tough trying to make my coursework accessible to me. I was the first blind person to study physics there so the books weren't on tape, I had to find readers to record the coursework. There seemed to be all of these issues that I had to worry about that my colleagues didn't even think about. This puts you a little behind. My peers could just pick up a book or go to the library to get information while I didn't have that flexibility. As I would be listening to audio, something like turning back to page 10 wasn't as easy for me as it was for a sighted person. This forced me to memorize as much as I could. I would memorize all the formulae and equations and in the long term this made physics easier for me. I think the biggest thing though was dealing with other people's perceptions about what blind people can and can't do. The first thing that people see

is my disability. After that, they notice that I am a woman and also African-American so it's like a three-strike situation. This was the reality, especially as I was in a predominantly white male department, so it was really hard for me to feel like I belonged. But I had a drive that came from within me – an ability to envision possibility.

How did you get into media and films?

When I was doing my PhD at the University of Maryland I applied for an American Physical Society Mass Media Fellowship, and when I got it, it was the most fantastic experience. They assigned me to CNN in Atlanta. Although the programme was meant to be only 10 weeks, I ended up doing more than three months and I even took a semester off my PhD because I wanted to focus on the fellowship. I had the opportunity to learn all about science communication and I found that I was really interested in the media. People often assume that as a blind person, you would not want to be in front of the camera, but that was what interested me most, along with producing media content. My time at CNN was great and I even got to meet then chief executive Tom Johnson. He was on the advisory board of the School of Journalism in Maryland and he took me under his wing. When the fellowship ended I continued to produce out of the Washington bureau, where I was a special science correspondent. I was the first blind on-air producer for the network and I really wanted to show that it didn't take sight to do this. Who cares if my eyes don't align properly to the camera lens – you should be paying attention to the content I am delivering. I then set up Aziza Productions, making short films for science-based non-profit organizations and focusing on minority communities in science.

Was it hard finding work after your fellowship?

As blind people we have to be part of changing the attitude that the general public has about us. Even today in the US, 70% of working-age blind people are unemployed. This is something I dealt with when I came out of my PhD and was trying to find work. You may have the credentials

and the necessary skills and experience, but unfortunately people just see the blindness. There are many environments where people aren't used to seeing blind people – physics was one and television was another. People think that it takes vision to do the work, but you could say that about any job. For me vision is a mindset, an attitude, and for that I don't need sight. Of course it has been challenging and there have been roadblocks, but I have managed just fine without sight. I hope that my story inspires others with disability, especially in physics. The main barrier is dealing with people, not doing the physics.

How has your physics background been helpful in your media work?

I'm passionate about science and I love talking about it. My physics training helps me better communicate it because you have to understand it in order to effectively explain it to the general public. I also love working with people and storytelling, so journalism was an obvious path, but science was my first love.

What are you working on now?

I'm working on a documentary film called *Seeking Vision*. It's about overcoming odds and not being able to see with your eyes. A little over 10 years ago I had my fifth brain operation and because I knew I wanted to produce a film that will connect with people, I had my camera crew in the operating room filming for nearly three hours of a seven-hour surgery. Although the hospital was worried about liabilities, my neurosurgeons allowed it. I want to show the reality of being blind and that we can do more than answer phones.

Do you have any advice for today's students, especially those with any disabilities?

I like referring to the concept of disabilities as "different abilities". I tell my sighted colleagues that while they see with their eyes, I do the same with my fingers while reading braille and with my ears while listening to audio. What drives me is my vision and my goals, both of which come from within. It's important to know who you are and what you are capable of, so hold on to that vision.