Self-Knowledge on the Science Career Journey

By Natalie Lundsteen

Understanding your career options and paths is only half the work you will do as a grad student or postdoc making a career transition; the other half of career exploration work is understanding personal preferences and setting goals. It’s important to be able to articulate what you need and want out of life, and with some self-confidence and understanding you are much more likely to get where you want to go. Self-knowledge must precede self-advocacy, an important yet often-overlooked aspect of career development, whether that is allowing your voice to be heard, having your views and wishes considered, or simply understanding the power of agency (the capacity individuals have for acting independently and making choices free of constraint). Developing strong agency comes from a place of personal power and self-understanding.

**Understanding Your Past Experiences**

Knowledge of values, skills, and strengths are aspects of professional development that are often ignored or left to the very last minute, but they are as important as knowing about occupational choices when planning your career and life. In your scientific training, you have focused on acquiring scientific knowledge and skill. The scientific education path is fairly linear, and, at least up to the PhD level, decisions are usually straightforward: what type of science, what type of lab, what institution that accepted me for graduate study or a postdoc is in a part of the country where I can afford to live? Self-knowledge has not been your primary focus.

Until the completion of graduate training or a postdoctoral project approaches, many scientists will not have made too many independent choices about their career directions. As scientific career paths evolve and develop, your options and alternatives multiply, as do the factors and variables in decision-making. When external forces like grant funding or the journal review process come into play, it may even seem like your destiny is not under your control.

However, if you take the time to understand your past experiences and what you have learned from them, and if you can begin to understand why you enjoyed certain experiences but struggled other times, you will be able to more clearly determine ideal future directions and will have stronger confidence in your choices. This process is fundamental to career development and is the basis of Individual Development Plans (IDPs), which should be a familiar term to trainee scientists. IDPs help provide a framework for professional goal setting and are most effective when used along with other tools to assist individuals in understanding behavior and motivation.

**Tools for Learning about Yourself**

The more you know about yourself, and the earlier you start that kind of thinking, the better equipped you will be for making big life decisions, and the more confidently you can articulate those choices to others. Some of the most commonly used assessments in higher education workplaces are the DISC behavior...
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assessments, the Myers-Briggs Type Indicator, and the Birkman Method Personality and Behavior Assessment. As a graduate career development professional supporting biomedical science postdocs and PhD students in an academic medical center, one of my favorite tools to help equip trainee scientists with the power of self-knowledge is the CliftonStrengths Assessment (formerly known as the StrengthsFinder). It’s relatively inexpensive, fairly quick to take, and provides results immediately. CliftonStrengths helps people see their innate talents—such as strategic thinking, driving toward results, building relationships, analyzing information, delving deep into a research topic, or connecting disparate ideas. You may not even recognize how your natural strengths affect the way you interact with others or make life choices, because they are such an integral part of who you are, but once you become aware of your strengths, you can take advantage of them for increased productivity and communication. There are 34 themes within the CliftonStrengths assessment, reflecting traits that we all possess, but each of us has a different ordering of these themes. The odds of two people having the same top five strengths in the same order is one in 33 million, although you may find peers or colleagues who have strengths similar to yours in their top five.

Strengths are patterns of behavior and thinking that show up regularly in your life. For example, people with strengths like “Input,” “Intellection,” or “Learner” thrive when unearthing new information and delving deeply into a topic, although this shows up differently for people depending on where they are in their careers and lives. Among my own top five strengths are “Input,” “Positivity,” and “Communication,” which translate for me to speaking or writing about information I have collected and showing what I hope is contagious enthusiasm for things I strongly believe in (like self-knowledge and assessments!).

Some Key Points about Self Awareness

As a scientist, you probably have not spent much time focusing on what makes you tick and why you operate the way you do.

Building self-confidence and self-understanding makes people much more likely to determine and reach professional goals.

You can structure learning about yourself using assessment tools to understand your preferences, values, skills, and strengths.

Our strengths are innate qualities that we all possess, and using them allows us to focus on “who we are,” not on “who we aren’t.”

Recognizing what motivates us and drives our behavior is a key factor in lifelong decision-making, whether it’s choosing a career path, making a large or small career transition, or just checking in occasionally to make sure our current roles and responsibilities reflect our values, wishes, and plans.

Some Useful Self-Assessment Resources for Scientists

The MyIDP tool at sciencecareers.org

Gallup StrengthsFinder at gallupstrengthscenter.com

Basic personality type at 16personalities.com

Occupational path exploration tools at biocareers.com, versatilephd.com, and imaginephd.com
Irina Filonova, head of postdoctoral development at Okinawa Institute of Science and Technology, taps into her “Intellection,” “Ideation,” and “Achiever” strengths when meeting individually with trainees to map out career goals, guiding people to decision-making “aha moments.” She says, “In academia, we are obsessed with ‘fixing’ ourselves, and strengths-based development gives us permission to be proud about what we do best and provides a language to describe what is right with us.” Shyamtanu Datta, a postdoctoral researcher at Harvard Medical School, describes using his “Connectedness” and “Developer” strengths to mentor others: “I realize that I like to contribute to the development of my peers, colleagues, and mentees. I can now very keenly observe their growth and help them realize their potential through individualized mentoring.”

The CliftonStrengths assessment can be done online (www.gallupstrengthscenter.com) and will take about 30 minutes. The “basic” version of CliftonStrengths produces results with your top five strengths, or signature themes, and costs $20. Your institution may offer access to CliftonStrengths for free, and you do not need a coach or counselor to grant access or review results, although I strongly suggest speaking with a certified Strengths Coach if you ever have the opportunity—individuals who have been trained in working with Strengths provide expert guidance to see your potential and how to make the most of your natural talents. You can also go for the full list of your 34 Strengths at a cost of $50, and if you take the top five and later want to upgrade to the full 34 you’ll get a discounted rate. CliftonStrengths can be taken in 25 languages.

Reaching Your Full Potential

Your greatest opportunity to reach your full potential as a scientist (and a human being) is by developing and using your top strengths integrated with your scientific training and interests. By identifying your strengths through self-knowledge you can maximize your professional choices and be comfortable with revealing your achievements and talents to others. Share your career and life decisions with a confident voice and you will definitely be able to move in the direction of your dreams—and help others do it as well.