They ranked communication and mentoring as very important in contributing to a successful postdoctoral experience (dx.doi.org/10.1126/science.opms.r0700037). Interestingly, these factors were not ranked highly by the postdocs surveyed this year—with mentoring coming in at No. 5 (51 percent of respondents ranked this as very important) and communication at No. 9 (35 percent) in a list of 10 factors.

But it is hard to argue against the value of good and open communication between a postdoc and his or her adviser. Now in the fourth year of a postdoctoral position at the University of Colorado in Boulder, Sandi Clement says communication was difficult when she first started out in the lab of Jens Lykke-Andersen. “When I first started I was intimidated and did not communicate as much as I do now,” she says. One tool she thinks would have been helpful is the individual development plan offered by the Federation of American Societies for Experimental Biology. “It makes you ask questions like: This is where I want to be in 5 years so what do I need to accomplish? Or, this is what you wanted to accomplish this year, why didn’t you?” explains Clement.

Clement says Lykke-Andersen turned out to be a “great mentor” and contributed to “an awesome experience.” But she may be in the minority. Only 62 percent of survey participants had someone they would describe as a mentor during their postdoctoral years, and for only half of them that person was the PI of the lab. “A postdoc is a mentored apprenticeship into the job market. The person you are working with should be helping you along. But if the person who hired you turns out not to be a mentor, you need to seek out other people,” says Alyson Reed, former executive director for the National Postdoctoral Association (NPA).

David Angelini, a postdoctoral fellow pursuing research into the developmental and genetic aspects of evolution (or “evo-devo”) at the University of Connecticut, agrees. “I think it is important to have a mentor during your postdoctoral years. It does not necessarily have to be your PI. In graduate school I was in a large lab, so there were lots of postdocs and others who could give me advice,” he says. “As a postdoc I relied more on my supervisor.”

And for people looking for a postdoctoral position Angelini, who in September 2008 will be starting a faculty position at American University in Washington, D.C., has this advice: “Find an environment where you can talk to someone about how your career is going and the execution of science.”

The Good and the Bad

According to verbatim responses from this year’s survey respondents, some of the best things about the postdoc experience are having the independence and freedom to choose research projects and schedules, learning new techniques, and interacting with other colleagues. The worst things about it, for some, were poor relationships with their supervisors and low salary and job security, as well as the lack of independence for postdocs with controlling advisers.

Laura Colgin was one of the lucky ones. During her Ph.D. she had been studying how rhythms are involved in the function of the brain using tissue slices. For her postdoc she wanted to continue with the same line of research but with recordings in living animals—a technique she had never done. At a scientific meeting, Colgin approached Edvard and May-Britt Moser from the Norwegian University of Science and Technology. Although the Mosers’ research did not focus on rhythms, she proposed starting that work in their lab if they were willing to train her in doing live recordings. “They were open to it and that is how the position worked out,” says Colgin. “If someone is willing to put in a time investment to teach you something new they will probably be a good adviser. Many postdocs get their positions because the lab wants their existing skills instead of providing them with additional scientific training.”

Salary Woes

Some of the biggest hardships for many postdocs are low salaries and lack of retirement benefits. According to this year’s Science Careers survey only 15 percent of respondents received benefits—53 percent received no benefits and worried about a negative impact on their long-term retirement situation, whereas the remaining 32 percent did not receive benefits but were neutral about the impact.

Had she had some retirement funding, Michele Marquette might have extended by a year or two her postdoctoral studies on the effects of microgravity on muscle at the NASA Johnson Space Center. “I went to graduate school after working for several years so I was older than most Ph.D. students. I had no retirement benefits as a student and that continued in my postdoc,” she says. “It will take a long time for me to catch up.”

And if the thought of not putting any money away for retirement does not aggravate some postdocs, having to live on a meager salary does. The median (50th percentile) postdoctoral salary reported by survey respondents located in the United States was continued

Survey Methodology

The survey was launched on March 19, 2008, with an e-mail invitation to approximately 60,000 Ph.D.s located in North America and Europe who were current or former postdocs. Of the 3,850 qualified surveys collected, 75 percent came from individuals in the United States or Canada, 20 percent from continental Europe, and 5 percent from the UK. About twice as many current postdocs participated as former postdocs. Most (79 percent) postdoctoral positions were held in academic institutions. Life or medical sciences were the most common (72 percent) disciplines for postdoctoral studies among respondents. Most respondents were 31 to 40 years of age (62 percent current and 57 percent former postdocs).