Cellular Effects

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Limbic cortex. There is a greater density of neurons and overall volume in human females compared to human males (depending upon how the region is defined).

Amygdala. There is a greater density of neurons and larger overall volume in human males compared to human females.

Corpus Callosum

The issues of connectivity between the hemispheres have long been a source of controversy. Some studies seem to indicate that the corpus callosum is larger in women than in men; other studies have failed to replicate the finding. Some studies have suggested that specific regions within the corpus callosum show sexual dimorphism, yet still other studies fail to confirm those findings. (One even found that the width was the same, but that the height was variable, yet without significant changes in overall volume!) A recent research project, serving as something of a meta-study, actually examined the controversy itself. They found that the methodological differences between various research groups examining the corpus callosum were so great that it was impossible to come to a consensus on anything regarding physical differences!

Conclusion

What, if anything, can we conclude from all these data? Certainly from the view of the molecule, and increasingly (if cautiously) at the level of anatomy, real differences exist between the brains of men and women. We have to be careful not to extrapolate of course. A good example of this caution might come from my description of the male-specific parietal lobe cortex dimorphism, using the loaded "in those parts of the cortex responsible for spatial perception and processing." Does that mean that males are better at spatial processing? No, it doesn't. Those are different questions, and that's where the caution applies. It simply means several labs have been able to replicate the finding that there are greater densities of neurons in those areas.

Of course, even that conclusion has absolutely nothing to do with our topic, which is asking about sexually dimorphic behavioral differences. But it does form the necessary framework to address the issue in a responsible fashion. Our next installment, which is the final in this series, will attempt to wade into these troubled waters, as carefully as we possibly can.

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RESIDENT'S COLUMN

by Jeffrey Junig, M.D., Ph.D.

Psych and Blahs and Rock and Roll

Three down, one to go … so why am I not celebrating? Lately my reading has become all but nonexistent, and I find it difficult to get excited over another intake of yet another patient. I find myself in a bit of a rut, and I'm not sure why—even though this feeling has a certain familiarity to it. Free association brings back a time when, as a child, I fantasized that I would learn to play the guitar and spend my life traveling from show to show as a rock star. But after learning about four chords, I had the sense that I had learned more about what I didn't know about playing the guitar, than about what I actually knew.

I remember that feeling as I reflect on my training in psychodynamic psychotherapy. The thought comes to me again as I look at the challenges ahead, and I realize that I am a bit out of sorts over the end of the penultimate year of my residency.

I usually have a deep well of angst related to my interactions with patients. I don't find it a coincidence that now, my mind is distracted by a flurry of competing images and concerns. I feel guilty about my inability or unwillingness to lend more of my energy, and my empathy, to patient care.

I have a vague recollection of the end of my first residency—anesthesiology—some 15 years ago. I remember the whispered rumors of starting salaries, the interviews and the final farewells as our class scattered like birds from a nest. I remember being struck by the differences between residents in their readiness for practice—not so much in their clinical skills, but rather in their readiness to enter the business side of medicine. And I remember the disconcertion I felt that, for the first time in my life, there would be no formal program to guide my path.

Yet, despite having navigated the path once before, I am now aware of concerns that I don't remember from before. Perhaps this is because of my preoccupation with the bare necessities of moving on (e.g., moving vans, apartment leases) formed the base of a hierarchy of concerns, and I hadn't yet moved up to the level of my current neurotic conflict.

We are faced with an incredible number of decisions during our last year of training, and we inexorably plod toward the deadline for each of these decisions, one by one. What kind of practice would I like to have? Medication management, psychotherapy or both? Will I be happiest in private practice, group practice, fellowship, academic practice or a multi-specialty health system? How much interaction with others do I want, or need? Where do I want to live? Where does my spouse want to live? What school district is best?

Should I sign a no-compete clause? What discount should I give to the insurers and business consortiums in my area? What do I owe to the practice of psychiatry, and what does the practice of psychiatry owe me? I am dimly aware of suppressed concerns about contracts, leases, bonus formulas, job responsibilities, call schedules, growth potential and interim work if I decide to build a practice.

These concerns will follow us, I realize, throughout our professional careers, at least to some extent. But at the end of residency, these concerns have an urgency fueled by indebtedness, and sometimes by considerations for family members who have made sacrifices for our careers—and who consciously or unconsciously anticipate the end of a long, tedious rainbow.

Many of the decisions we face are made more difficult by the changes occurring in the health care system and by the anticipation of greater changes yet to come. As someone with an interest in psychotherapy, I wonder whether I will face an uphill battle finding paying customers in the future, and whether I will have the energy for such a battle. For several years, I have noted the increase in roles for psychiatrists in the movies, and the number of movies (e.g., *Girl, Interrupted* [1999], *A Beautiful Mind* [2001], *Antwone Fisher* [2002], *Identity* [2003]) and TV shows (*The Sopranos*, *Six Feet Under*) that deal with psychiatric issues. From the perspective of someone who dreamed of being a rock star, in my more adult fantasies I compromise, and suspect that psychiatrists are on the verge of becoming the new "rock stars" of medicine who are at the cusp of a new explosion in knowledge—an "Age of Aquarius" in the study of the brain and mind.

But I am also aware that early rock-and-rollers faced many hurdles, and now, conservative parents and network censors have been replaced by third-party payers. In both cases innovative ideas fought interests that had a stake in the status quo. I also realize that the early practitioners of rock and roll were rewarded more by personal satisfaction than by financial reward, and as of yet, psychiatrists do not even have groupies.

I realize that there are no easy answers to many of the questions that I face and that the decisions ahead are all personal and beyond pat advice from others, but I don't believe that the lack of answers is behind all of the unease that I feel. I have been in other situations where there were no pat answers, for example, when facing ethical issues concerning patient care, and those situations actually piqued my clinical interest. But this unease is lonelier—perhaps because of the relation of the questions to the end of something, perhaps because the issues are not discussed in a formal way, or perhaps because I know that, in the end, the decisions to be made are mine alone. I consider that, as is the case with many sources of anxiety, there may be value in sharing my concerns with others in similar positions. Although the decisions are personal, perhaps there is some comfort in knowing that we are all in this separately, together.

I also take comfort in reflecting on a couple of life's lessons learned since my first graduation from residency. First, I now realize that despite any amount of planning and calculating, I have much less control over my future than I once thought. No matter how much I learn about psychiatry, I am, to some extent, powerless over my future. When this knowledge is placed in the right mind frame, I find it reassuring rather than frightening. And second, I realize that while questions often feel momentous, the decisions are rarely cast in stone. The Beatles, and even ABBA, eventually broke up. Even a rock star needs to find a new drummer or a more accommodating genre sometimes.

First things first, I tell myself. There is work to be done, and there are sunny days to be enjoyed. I push my concerns into a closet, aware that they are leaning more heavily against the door than they were a year ago. Another closet holds a stack of LPs that I just can't bear to part with. With a tinge of melancholia, I realize that at some point I will peek inside these closet doors, and regret that the contents of both have become obsolete.

Dr. Junig has returned to residency to study psychiatry after working 10 years as an anesthesiologist and pain physician. He is currently a resident in the department of psychiatry and behavioral medicine at the Medical College of Wisconsin. ❐