

YOUR BRAIN & TYPE: INDIVIDUAL DIFFERENCES MATTER

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What's going on in your brain right now? You can introspect to get to know your mind—your feelings, thoughts, values, and so forth. And your personality type code is a quick way to summarize a general pattern of who you are. But what about your brain, your wet-ware? In previous articles I've described a few results from my five-year brain lab. Let's continue the journey to look at individual differences. The neuroscience evidence suggests that type is meaningful and points to genuine variations in how we use our brains.

Your Cognitive Toolkit

In my lab, I mostly studied how young adults

used their neocortex, which is that thick outer layer of the brain that is quintessentially human. It is where we consciously "think" in the everyday sense. It divides into many regions and subregions that support and coordinate cognition, motivation, movement, speaking, vision, learning, memory, emotion, self-experience, and much more.

Figure 1 portrays the brain's diversity. The figure is a bird's eye view. The nose is the little triangle at the top. The ears are on the sides. The regions within correspond to real anatomy such as the temporal lobes label as T3, T4, T5, and T6 (the T stands for temporal). There are six broad lobes. In total, they house over fifty

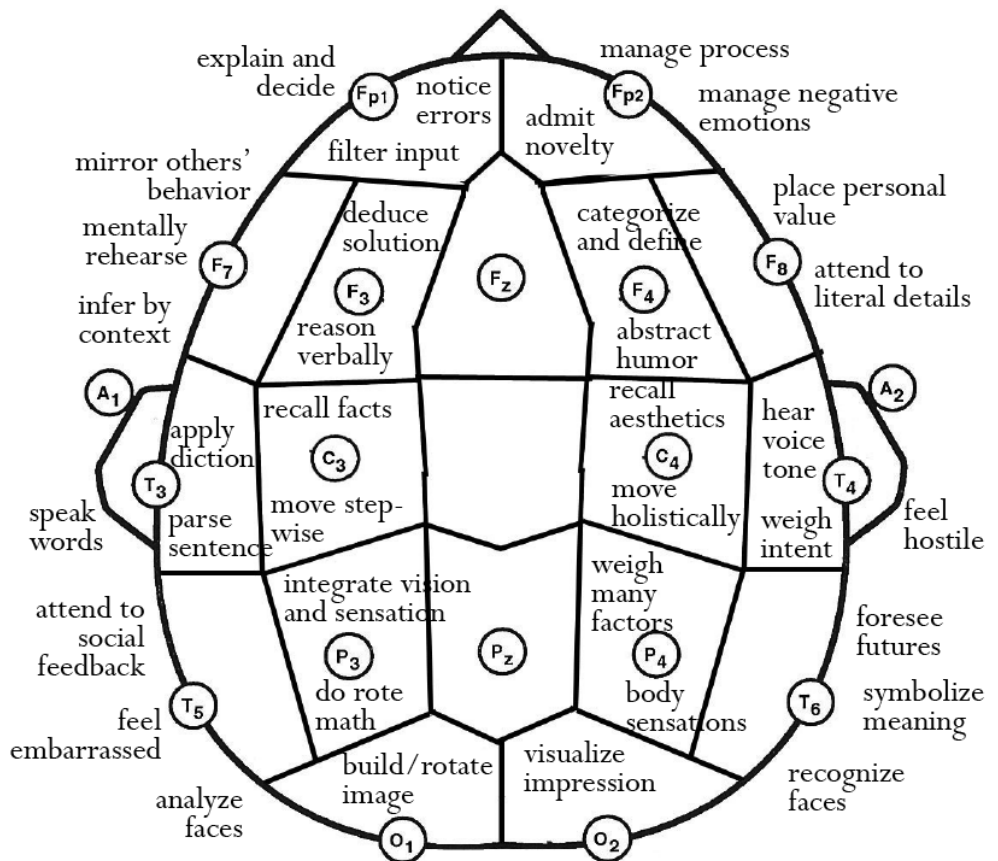


Figure 1: A bird's eye view of the neocortex. Its various regions help us handle a multitude of daily tasks.

distinct “modules” (though the figure only shows half those). A module is a circuit of brain cells that helps handle a particular activity such as recognizing faces, making inferences using analogies, moving in rhythm to music, and so forth.

Many regions are involved in emotions as well as cognition. For example, region T5 on the lower left helps us attend to social feedback. It gets active when we pay attention to how others are responding to us. It might light up when we hear a criticism, notice a smile of approval, or so forth. When it’s active, we also feel an emotion like embarrassment, which prompts us to maybe alter our behavior. This is just one example of many where the brain acts as a feedback device. It gets input, considers the input along with other data (memories, values, theories), and then prompts us to act (or to not act). Thus, everyday folk distinctions like “emotional self” versus “rational self” don’t really exist in the brain, which is more like a forest ecology than a matrix.

We could go into a lot more detail, but why overwhelm you! What is important to know: Everyone has pretty much the same toolbox of cognitive skills, but when and how well we use those tools tends to vary according to type and also personal background including culture, schooling, and career. For example, someone with ENFJ preferences is far more likely to have an active T5 region—paying a lot of attention to social feedback—compared to someone with ISTP preferences. In short, people of the same type tend to often use or neglect same brain regions, though not entirely, because every person has a uniquely wired noggin.

Type Makes a Difference

Figures 2 and 3 illustrate that type makes a difference. The figures are based on research with my lab students, all of whom attended the same elite university (UCLA) and generally had similar studies. Men and woman participated equally. Several cultures—mainly the American, Japanese, and Persian—were present. However, these demographic factors didn’t make much difference. Rather, type was key.

Both graphs are labeled the same way. The vertical axis is number of people. The horizontal axis indicates the percentage of brain activity in common. For example, in Figure 2, starting on the far left: 12 people of 56 had 0% to 10% of their brain activity in common. In contrast, on the far right: only 2 people of 56 shared 90% to 100% of brain activity. If we only look at Figure 2, we may think most people differ markedly with only 28% of people sharing even half their brain activity! But Figure 2 by itself is deceptive.

Figure 3 compares people of the same personality type. The tallest bar indicates that 16 people of 56 (28%) shared 80% to 90% of their brain activity. Wow! Of course, there were still people who varied. I would hope so. I went to great pains to help all the lab participants get to best-fit type over the course of ten weeks, from sorter results to reading type descriptions. I am confident the variation isn’t due to mis-typing. Rather, the variations suggest hopeful news: The brain doesn’t cause type. There isn’t an

“ENFP” or “ESTJ” section of the brain. Rather, your brain is a toolbox, and you tend to develop and use tools that support your preferences. You may use your tools in mostly sustainable—and sometimes very contradictory—ways.

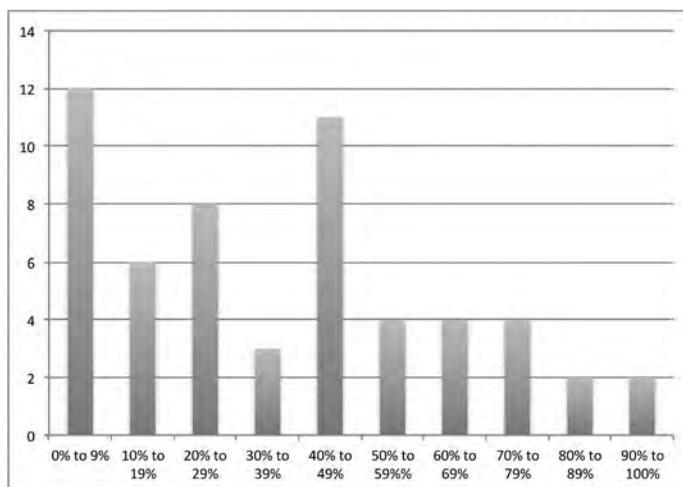


Figure 2: People of different Myers-Briggs types tend to have less than 50% of their brain activity in common.

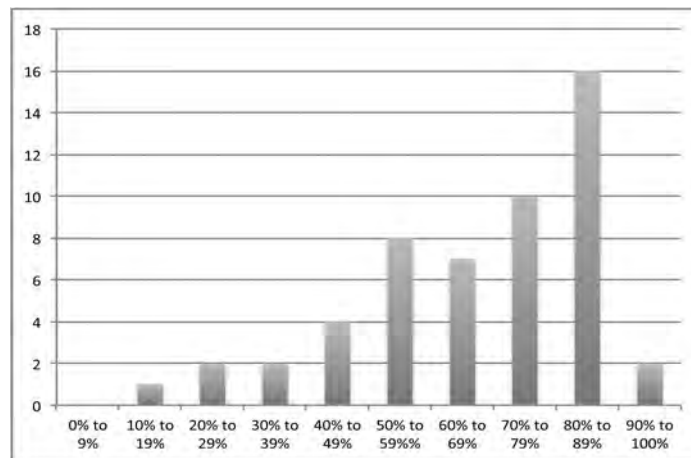


Figure 3: People who identify with the same Myers-Briggs type tend to have a lot of brain activity in common.

The Adult Brain

Chances are, you are no longer a young college student. You may be in your 30s, 40s, 50, 60s, or beyond. How does type play out in the brain as we age? Until recently, I couldn’t begin to answer this question. I had only studied youth. But now for the first time I can offer some findings.

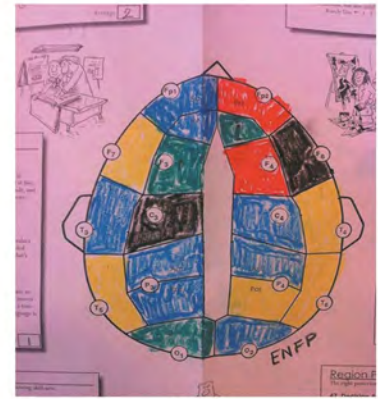
The colorful brain maps in Figure 4 on the next page are from workshops with adults who are type aware and work as coaches, counselors, educators, and in other facilitative professions. I couldn’t do brain scans on them. However, in the workshops, they complete a large poster. The poster is a hands-on version of an online tool called the NeuroPQ that acts in lieu of a brain scan. Over the course of an hour, they read and rate fifty-plus brief descriptions, calculate averages, and have fun coloring in



ESTP



ISFP



ENFP



INTP



ESFP



ENFP



ENTP



INFJ



ENFP



ENTJ



INFP

Figure 4: Medley of brain maps. Activity lies on a spectrum from red and yellow (high) down to blue and black (low). The left column is Thinking types. All types with Introverted Thinking (ESTP, INTP, and ENTP) show high activity among F3, F4, P3, and/or P4, especially INTP. These regions aid logical reasoning. In contrast, the Feeling types in the middle column show high activity in regions T3 and/or T4, for listening and detecting intent. Finally, the three ENFPs in the right column all show high F7 for mirroring, imagination, and analogies.

their map. As hoped, the results look similar to the real brain maps of people of the same types. Since there is limited page space and I don't have posters for all sixteen types, I show some posters from people of the same type, to illustrate natural variations. By the way, even when regions differ in use (color), they show similar ratios, with the same regions relatively higher or lower. Ideally, I hope to have true brain results someday.

If you feeling curious, you can correlate the posters with the regions shown in Figure 1 (on the previous page). Or you can get your own results by visiting the NeuroPQ website (<http://www.neuropq.com>) where it's available for free for a limited time.

Three ISFPs

Let's explore three specific people, students of mine from the brain lab who all settled on ISFP as their best-fit type. In Myers-Briggs terms, the ISFP code indicates preferences for Introverting, Sensing, Feeling, and Perceiving; while in Jungian terms, the code indicates a hierarchy of cognitive processes, theoretically in this order:

- Introverted Feeling as dominant, in a lead role.
- Extroverted Sensing as auxiliary, in a support role.
- Introverted Intuiting as tertiary, in a relief role.
- Extraverted Thinking as "inferior", in an aspiration role.

Debate lingers whether the Jungian hierarchy is prescriptive or merely typical, whether a type indicator can actually tap these cognitive processes, and so forth. Certainly, I hope studying brain activity can help us resolve these questions about the Jungian model and maybe support the Myers-Briggs preferences too.

Now, what did all three ISFPs have in common? All three shared strengths and inactive areas. Specifically:

- Two were male and one was female, all college age, and all were anthropology students with "A" grades.
- Activity in region Fp1 was greater than in Fp2. That is, they all engaged in decisionmaking more than process management.
- Low activity in regions F3 and F4. These two logical reasoning centers are usually high for Thinking-Perceiving types and low for Feeling-Perceiving types.
- High activity in F8. This region helps us access our identity, evaluate importance, and recall details with high fidelity.
- High activity in regions T3 and T4. These help us attend to word content, voice tone, and others' intentions.
- Showed "yellow band" activity typical of Sensing types. Yellow band indicates the neocortex—the brain's outer layer—is really open to input from the limbic system and other lower layers of the brain, and from the body.
- Showed "tennis-hop" activity that is typical of all Sensing-Perceiving types and present in nearly everyone while playing fast-paced, tactical video games.

- Showed "solid blue" while listening, composing, and sensing objects. They would show this even when listening to a group or the ambient environment. This flow state shows for everyone when they do their favorite creative, expert activities.

Overall, the commonalities include quick responsiveness to sensations, strong listening skills, and a focus on identity. The results also enrich our understanding of type. For example, sensing involves more than absorbing information through the five senses; it includes openness to bodily data and rapid engaging opportunities in the local environment. Now, what about individual variations?

Katie: The female ISFP, Katie, is a dancer. She showed high activity in region F7, which helps us mirror others behavior and consider what-if scenarios. She also showed high activity in region C3, which aids step-wise motion and factual recall, and high activity in region C4, which handles whole body motion and drawing ability. Interestingly, Katie's MBTI^(R) result was "ENFP" even though she settled on ISFP. Since ENFPs are known for mirroring others and asking what-if, we can see why. But we shouldn't confuse a singular cognitive skill with a type's themes and repertoire.

Ian: The male Ian is an improvisational stage performer. He had high activity in region T5, for analyzing faces, and in regions P3 (tactics) and O2 (abstract visualization). He also showed a back-and-forth pattern between regions T6 and P4, which relate to strategizing for the future and considering many factors at once. His MBTI^(R) result was "INFJ", though he settled on ISFP. His activity differed from Katie's yet made sense for his career needs while improvising on stage: He must consider multiple possible routes to continue scenes and jokes while acting in the moment.

Brett: The other male "Brett" is a motorcyclist and thrill seeker. He showed many similarities with Brett, but with ever more focus on the future and thinking about time and consequences. His MBTI^(R) result was ISFP.

All these results suggest that type plays a big part in our mental lives, but not the only part. Background, gender, and career impact who we are. Moreover, nonpreferred qualities—for ISFPs, Intuiting and Thinking—may show up in different ways. This may explain why type instruments are called "indicators" and are not infallible.

Your Nearest Neighbor

After contrasting the three ISFPs, I wondered how their brain activity, taken as a whole, compared to the other fifteen types? I searched for their nearest statistical neighbor in terms of brain activity.

Here's what I found: ISFP and INTJ were most similar to each other. Also most similar to each other were ESFP and ENTJ, ENFP and ESTJ, ENTP and ESFJ, and so forth, for ten of the sixteen types. Had I a larger sample size, might I have found this result for all sixteen?

This result suggests one's "near opposite" type is very close cognitively even when it may feel very far in our conscious lives. Moreover, since these lab participants were all young adults ages eighteen to twenty-five, the evidence suggests that we possess the resources needed for type development from early on, even if we start the developmental process later in life. Finally, the Jungian hierarchy likely has truth to it, even if imperfect. We cannot rely solely on pencil-paper sorters. The brain also points to who we are.

References

Nardi, Dario. *"Neuroscience of Personality: Brain-Savvy Insights for All Types of People"*, Radiance House, 2011.

Nardi, Dario *"8 Keys to Self-Leadership: From Awareness to Action"*. Telos Publications, 2005.

Berens, Linda & Nardi, Dario. *"Understanding Yourself and Others: An Introduction to the Personality Type Code"*. Telos Publications, 2004.

Note: In the printed version of *TypeFace* the red areas of Figure 4 are annotated 'R'. It is, of course, much clearer on the PDF which may be seen in the members' area of BAPT's web site.

NEW INTEREST AREA CO-ORDINATORS FOR DIVERSITY & MULTICULTURAL ISSUES AND PSYCHOTHERAPY & COUNSELLING WANTED!

I am very keen that *TypeFace* not only reports on news, workshops, conferences and publishes articles on theory development, but that it is also firmly grounded in the applications of type with which practitioners are constantly involved.

This means that *TypeFace* needs a team to cover these different areas. We are currently short of two individuals to write, or commission, articles for firstly, the Spring and Autumn issues on issues related to Psychotherapy & Counselling, and secondly, for the Summer and Winter issues on Diversity & Multicultural Issues.

Julia McGuinness and Sally Campbell have done tremendous work for BAPT in contributing articles in these areas for some considerable time but now have to step down for well deserved breaks.

Would you be prepared to help me? Or do you know someone who it might be worth contacting? Articles should be around 1,600 words long (shorter if diagrams and/or pictures are also included) and, as I said, occur twice a year – not too arduous a load I hope.

If anyone is interested, or knows someone who might be, please do get in touch with me to talk about the possibility without commitment. My email address is: gill.clack@kcl.ac.uk or, if you would prefer, my telephone number is 020-7274-3809. I look forward to hearing from you.

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Editor