

The Brain Energy and Bandwidth Quiz: Origins; Validity; Effects of Personality, Gender, and Generations; and Uses

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Introduction:

Not long ago, sending a message took time. You had to find a pen and paper, or secure a typewriter, and with luck, your message would only have to be written once. You were also reasonably assured that your message would only reach its intended recipient and wouldn't be widely shared. The idea that a message could be sent around the world in milliseconds and that it could "go viral" was the material for science fiction books.

Then the digital age seemingly appeared—and exploded—out of nowhere. This new era arrived absent any guidelines, strategies, or manuals. Suddenly we were immersed in it and the rules evolved organically, largely driven by newly-formed habits that were not deliberate but reactive. More on that later. Our corporate and executive clients began to report stories like these:

"We had hoped that decreasing the need to travel by going virtual would save everyone time. Instead we ended up having to attend more meetings."

"Whatever happened to lunch? That time is now spent returning emails while we mindlessly eat whatever is available."

"Even simple, low-risk decisions are researched endlessly on the internet. What should take moments to decide is drawn out well-beyond what makes sense."

"I am working until midnight."

It is unlikely that this was the intended outcome of the digital age. Everything was supposed to get easier and we were going to more done with less time and fewer resources. Instead, the digital age has stretched us to the point where we can't seem to keep up.

The Birth of the *Brain Energy and Bandwidth Quiz*:

We were able to observe the impact of the digital age on a long-term client. In 2011, we began working with groups of emerging leaders in higher education every two years. Our part in this larger initiative was to provide interpretation and subsequent executive coaching for a number of assessments, including the MBTI Step II®, the EQ 2.0®, and a proprietary 360 feedback instrument. We met with individual candidates as well as facilitating feedback from peers, direct reports, managers, etc. for the 360.

What we discovered was that in the short span of two years, from 2013 to 2015, this institution's emerging leaders went from being highly responsive and available to being nearly impossible to schedule, let alone inclined to follow through on any given appointment. What's more, no one was submitting 360 data for the leadership candidates—not even their sponsors.

Perplexed by the cataclysmic shift in the responsiveness of this cohort, the *Brain Energy and Bandwidth Quiz* was constructed and presented as part of a keynote speech to the leadership candidates at their kick-off dinner. Needless to say, our casting for answers as to why participation was so unreliable revealed a significant deficit in brain energy and bandwidth. The original quiz contained 15 questions for a possible total of 60 points. Astoundingly, some scores were as low as 10! It was reported that the conversations at the retreat that followed were all about brain and bandwidth.

What is Brain Energy and Bandwidth and Why Does it Matter?

It is well known that the mental resources required to lead, to strategize, to regulate emotions, to resist chocolate—and more—all come from the same pool of energy. Use it up and you will struggle to be your best self. Deny your brain proper rest, physical exercise, and nutrition, and you compound the deficit. Some of the practical implications include a disengaged workforce, health problems, hair-trigger tempers, and poor quality work and relationships.

The Brain Energy and Bandwidth Quiz asks questions to help individuals understand how well they're fueling their brains, focusing their attention, and filtering information (the three F's) so they can stay energized, effective, efficient and engaged (the four E's). A typical survey question asks a client to rate him or herself from 0 to 4 (from never to often) on a statement such as "I avoid multi-tasking."

The first version generated plenty of conversation, which led us to believe we were onto something. It focused mainly on a single individual's brain energy and bandwidth habits. Version two asked questions about workplace norms and rules, employee engagement, and self-efficacy so we could examine outcomes if companies changed processes or policies. We also enlisted the help of our colleague, statistician Dr. Greg Husczo, to see if our questions stood up to statistical rigor. Were they grouped correctly? Did they measure what we thought we were measuring?

Version three, which is the most up-to-date at the time of this writing, has allowed us to tell companies when they are contributing to the problem because we can survey with statistical confidence. Hence when we coach, we can work both with individuals and companies as a whole to improve everyone's brain energy and bandwidth. An additional feature is that our research also examined psychological type, gender, and generational differences. In short, we can discuss what's really happening from multiple perspectives.

The Components of the Brain Energy and Bandwidth Quiz

The first part of the Brain Energy and Bandwidth Quiz consists of 6 sections. Following is a list of these sections and a *sample question* from each of these areas.

Balancing Priorities: I take advantage of opportunities to maintain relationships with my coworkers.

Filtering Through Possibilities: I have strategies to filter information that allow me to quickly choose among a few high-quality options and arrive at a satisfactory decision.

Focusing Through Mental Habits: I avoid multi-tasking.

Fueling Our Brain: I do what I can to get enough sleep [Note: Indicators of insufficient sleep include being overly irritable or moody, craving junk food or caffeine, struggling to stay alert].

Staying Connected: I know when I'm absentmindedly resorting to entertainment via my phone and put it down to engage with my surroundings.

Making Time Work for You: I am aware of the distracting dangers of email notifications, phone calls, etc., and remove from my immediate environment those that interrupt my concentration

The second part of the quiz examines outcome measures and the feeling of being supported at work. Following are these 2 sections plus a *sample question* from each area.

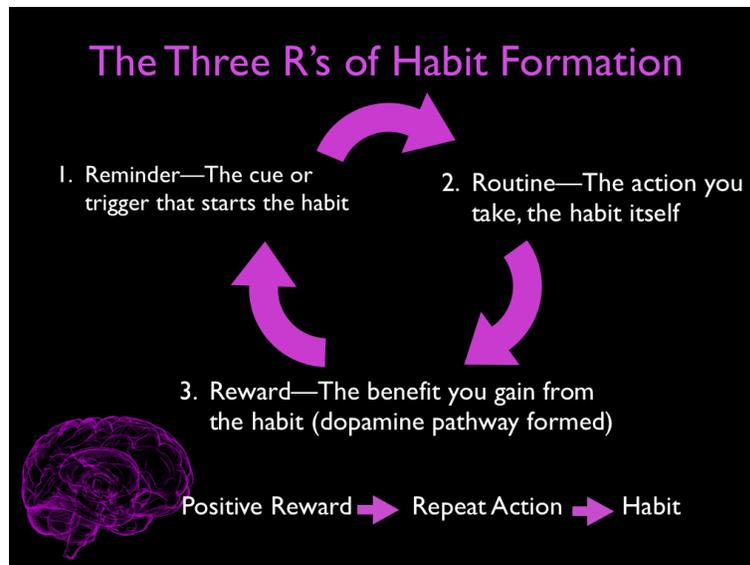
Outcomes: Rate your engagement level at work.

Support from Work: My workplace respects my personal life. I can “unplug” from the office after hours and on weekends.

Section 3 of the Brain Energy and Bandwidth Quiz gathers psychological type and demographic information which was used in our statistical analysis.

Forming Habits

Habits play a large role in our brain energy and bandwidth behaviors. Physiologically, we form habits so that our brains can be efficient. Imagine if everything we did we had to be done deliberately. Habits have an adaptive quality by way of decreasing demands on the pre-frontal cortex, an area of the brain that uses an enormous amount of energy and mapping those behaviors onto the basal ganglia instead resulting in less energy use. How often do we pick up our phones as matter of habit rather than for a specific reason? How many of us feel incomplete if our digital device isn't nearby? We have many habits associated with our phone and other habits that we have formed in response to the accelerated pace and scope of the digital age.



Habits help us to adapt to our environment. The pre-frontal cortex of the brain (the PFC) uses an exceptional amount of energy as its role is to help us to decide, plan, be flexible, control impulsivity, and other higher-level functions. If our only way to think was mindful and deliberate, we would soon exhaust ourselves. Habits assist in automatic thinking and the formation of routines that are stored in the basal ganglia. Dopamine, the neurotransmitter of reward and motivation, is abundantly present there so that our brains begin to develop habits for the sake of perceived efficiency. The problem arises when habits become maladaptive in the long run. In the digital age, such an example would be checking email repeatedly rather than a few times per day.

What’s more, old habits are difficult to break, and new ones are hard to form. It is this dynamic that has led us to respond to the rapidly changing world of the digital age in a way that doesn’t always benefit us. Its effects have been widespread, even affecting the way we manage seemingly unrelated parts of our lives such as sleep, connecting with others, and finding focus.

What Impact Does Psychological Type Have?

As thought leaders in the realm of psychological type, we suspected that type might be a factor in how we use our brain energy and bandwidth. Once again, we turned to Dr. Husczo for his statistical guidance. We surveyed 296 respondents who had taken the MBTI and had been type verified. We found the following significant differences:

Bandwidth Domain	Statistically Significant Type Differences (p > .05)
<i>Balancing priorities:</i> Tending to relationships, self-care	No significant differences.
<i>Filtering through possibilities:</i> Devoting sufficient, but not excessive, time to finding information on which to base decisions	Thinkers score higher than Feelers Judging types score higher than Perceiving Types

<i>Focus through Mental Habits:</i> Use of proven techniques, from yoga to limiting interruptions, to ensure needed focus	No significant differences.
<i>Fueling Our Brains:</i> Food, exercise and sleep habits	Extraverts score higher than Introverts Intuitives score higher than Sensors
<i>Staying Connected:</i> Wise use of communication devices, social media	No significant differences.
<i>Making Time Work for You:</i> Being in control of schedules, deadlines, and decisions	Thinkers score higher than Feelers Judging types score higher than Perceiving Types
<i>Individual Outcomes:</i> Personal sense of energy, efficiency, effectiveness and engagement	Intuitives score higher than Sensors Thinkers score higher than Feelers Judging types score higher than Perceiving Types
<i>Support From Work:</i> Employee views on policies and culture that affect individual bandwidth	Thinkers score higher than Feelers

Examining Generational Differences and Gender:

As there are digital natives and those who have been “retrofitted” to operate in the digital age, we sought to examine the impact of these variables. We used the following age brackets and terms to identify these groups:

Elders: Born before 1946.

Baby Boomers: Born between 1946-1964

Generation X: Born between 1964-1981

Millennials: Born 1981 or later.

We also looked at gender.

Bandwidth Domain	Statistically Significant Type Differences (p > .05)
<i>Balancing priorities:</i> Tending to relationships, self-care	Boomers>Gen X and Millennials
<i>Filtering through possibilities:</i> Devoting sufficient, but not excessive, time to finding information on which to base decisions	No significant differences.
<i>Focus through Mental Habits:</i> Use of proven techniques, from yoga to limiting interruptions, to ensure needed focus	Elders and Boomers>Gen X and Millennials
<i>Fueling Our Brains:</i> Food, exercise and sleep habits	Females>Males

<i>Staying Connected:</i> Wise use of communication devices, social media	Elders and Boomers>Staying Connected
<i>Making Time Work for You:</i> Being in control of schedules, deadlines, and decisions	Boomers>Gen X
<i>Individual Outcomes:</i> Personal sense of energy, efficiency, effectiveness and engagement	Elders and Boomers>Millennials
<i>Support From Work:</i> Employee views on policies and culture that affect individual bandwidth	No significant differences

We can speculate why Elders and Boomers seem to have an advantage over Gen X and Millennials on some of these brain energy and bandwidth measures. One strong possibility is that the Elders and Boomers formed different habits prior to the digital age and those habits persist, at least to some degree. Certainly, there are other possibilities to consider such as Gen X types being stretched with multiple roles, including work and parenting. The Brain Energy and Bandwidth Quiz is not a diagnostic tool but one that seeks to begin a coaching conversation with individuals and groups who need to examine these factors in their personal and work lives.

Case Studies:

When we examined Brain Energy and Bandwidth, it became clear that there were both internal factors (habits) and external factors (workplace culture and policies) that played into the overall picture. Following are 2 case studies. The first describes how individual changes had a profound effect on performance/sense of control and one where policy changes within an organization made the difference.

Case Study #1:

Ben was a 22-year-old college student-athlete who had a large project due. He was frustrated because he wasn't performing academically even though he was fully capable of improved grades. He had attributed his struggle to having a busy schedule. Certainly, that was partly the case, but he was urged to look at distractions as another possible factor. He learned that:

Interruptions decrease productivity by as much as 50%. Trying to ignore distractions rather than move them from the immediate environment further taxes neural bandwidth. Checking email or social media even once can disrupt flow and it can take up to 20 minutes to return to your former level of concentration.

Ben confessed:

"The biggest distraction in my life is my phone. I had a large project due so I decided to take your suggestion. I took the phone out of my pocket, shut it off, put the cover on backward and placed it on a high shelf. Amazingly I got everything done and I got it done fast."

What made the difference? Let's return to the habit loop. Habits are resilient patterns that are meant to make behaviors automatic. Ben had developed habits around checking his phone constantly. The neurochemical dopamine, which is released as a reward, reinforces this behavior. One of the ways we can interrupt a habit is to add cognitive steps, so the habit can no longer function smoothly. If the phone is in its usual place (Ben's pocket), it is easy to reinforce the phone checking habit. However, if accessing the phone now requires many more steps than before, the habit is disabled.

Case Study #2

When we first administered the Bandwidth Quiz to a large organization with offices in ten states, 70 percent of the employees scored below what we consider the level of bandwidth at which people are able to be energized, efficient, effective, and engaged.

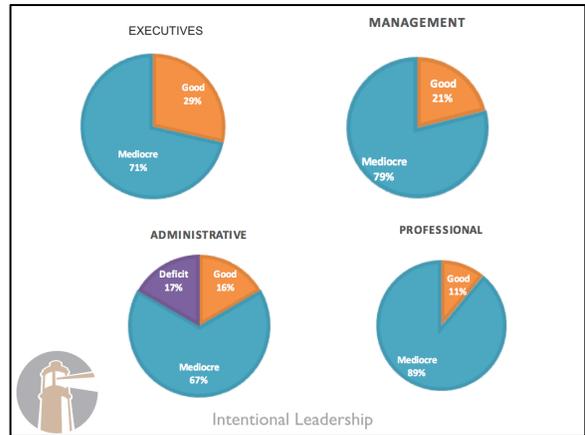
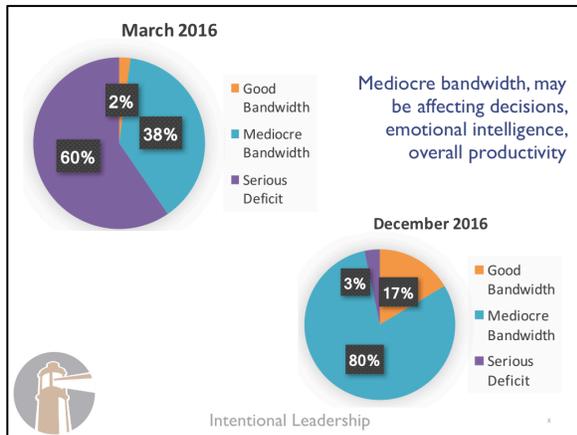
The employee reaction to the data? "Finally we have a way to communicate to leadership how stressed we are." The leadership reaction? "We need to change."

The leadership used the data to isolate the biggest problems in their workplace norms and policies and discovered that the way they used technology for scheduling, for virtual meetings, and for collaboration, wasn't working. And, employees were truly concerned that they were being asked to do more than they could with the resources at hand—and things were inadvertently falling off their plates.

With this accurate picture, the leaders took the following actions:

- They had every employee list their responsibilities and current projects, and rank them in order of significance to the corporate mission. Then, they had each person stop doing some of the lowest activities on their list.
- They reviewed all meetings and allowed people to opt out if their needs, and the team needs, could be met by their receiving notes.
- They forbade all meetings on Friday afternoons and set aside time on Monday mornings as well for people to engage in planning for the week
- Two cross-team meetings were done away with
- They provided training on efficient handling of email
- They standardized more procedures, as suggested by employees, to find efficiencies
- People were given back control of their virtual calendars—others could no longer schedule meetings without checking.

Below are the resulting changes in bandwidth between March and December as the changes were rolled out. You can also see the results in December for each level of employee, which signaled to the executive team that while things were better, they still had work to do.



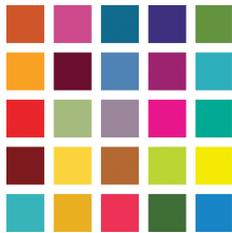
Employees, though, felt that the survey and ensuing management responsiveness had brought about significant improvements in the workplace.

Final Thoughts and Additional Resources:

The Brain Energy and Bandwidth Quiz was developed to help individuals and groups identify the impact of the digital age on the individual habits and the work environment in the 21st century. Conceived to address why one long term client was becoming more and more overwhelmed and less and less effective at completing tasks, the Brain Energy and Bandwidth Quiz sought to look at multiple factors to find out what was changing. It is not a diagnostic tool but a way to survey how people are managing this new era. We were fortunate to be able to test our hunches with the help of Dr. Greg Huszco. The result was a tool that is grounded in brain science and ultimately practical.

Coaching plays a key role in using the quiz. Identifying areas of need is the first step. Creating strategies for lasting change is a critical part of the process. To that end, we have written content that will provide a deeper understanding of each of the components of the quiz as well as tips to modify various behaviors. Please contact us for information.

Likewise, if you would like to access the quiz, we can provide a link specific to you or your organization. The best way to use the quiz is to take it to see where the areas of need are, work with a coach or facilitator to create an action plan, then take the quiz again. We can provide that assistance to you as well.



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Resources

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