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Are you a Brain Rules parent?

Test your knowledge with 20 questions about parenting and child development, all based on science. Or see how much you remember after reading "Brain Rules for Baby" by John Medina.

1. What's the best predictor of academic success?

- ❑ IQ
- ❑ Self-control
- ❑ Grades

2. What is the single most important thing the brain requires to be able to learn?

- ❑ A stimulating environment
- ❑ Teachers with exceptional Theory of Mind (relational) skills
- ❑ A feeling of safety

3. Name one cognitive ability of infants.

- ❑ They can imitate less than 45 minutes after being born.
- ❑ They can remember a single event, with only one exposure to it, a week later.
- ❑ They understand that size stays constant even when distance changes the appearance of size.
- ❑ They display velocity prediction.
- ❑ They understand the principle of common fate (i.e. the reason the black lines on the basketball move when the ball bounces is because the lines are part of the basketball).
- ❑ They can discriminate human faces from nonhuman faces at birth.
- ❑ All of the above.
- ❑ None of the above. Infants are mostly preoccupied with crying, eating, pooping and spitting up on your shirt. These cognitive abilities develop over time.

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4. No commercial product has been scientifically proven to boost brain power in utero. What is the fundamental reason products don't work?

- ❑ The brain is a biological organ, and its primary influences are biological: weight, nutrition, stress, exercise.
- ❑ In the first half of pregnancy, the baby's sensory systems aren't yet hooked up to the perceptual areas in the brain, which are themselves just beginning to form.
- ❑ Today's data are not strong enough to solve the mysteries of early mental life. They are just enough to reveal it.
- ❑ All of the above.

5. What percent of marriages suffer a decline in satisfaction in the transition to parenthood?

- ❑ 16%
- ❑ 55%
- ❑ 83%

6. At what age are children affected when their parents fight?

- ❑ Infants younger than 6 months can detect that something is wrong. They will experience increases in blood pressure, heart rate and stress hormones, just like a stressed adult.
- ❑ Babies may not understand the contents of a fight, but they can sense when one is happening. They are eventually less able to calm themselves and slower to recover from stress.
- ❑ The effects of the stress show up around school age. Children are more likely to be antisocial and aggressive. They have trouble focusing their attention. They have more health problems and lower IQs.
- ❑ All of the above.

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7. What four sources of marital conflict do new parents cite most?

- ❑ diaper duty, differing parenting styles, lack of sex, money
- ❑ lost sleep, social isolation, an unequal load of housework, depression
- ❑ the cuteness / necessity of that many baby clothes, who has to wake up in the middle of the night, where all the sex went, tension over staying home vs. working

8. What are the chances you'll have an anxious, irritable baby?

- ❑ 50-50
- ❑ 1 in 5 (20%)
- ❑ No one knows

9. How might you defuse a tantrum?

Let's say you are waiting in a long line at the post office with your restless 2-year-old, Emily. She announces, "I want a glass of water." You calmly respond, "Honey, I can't get you water right now." Emily starts to whine. "I want some water!" Her voice cracks. You anticipate what's coming, and your blood pressure begins to rise. The exchange escalates, in danger of erupting into a very public fight. What do you say next?

- ❑ "I said, wait until we get home! There's no water here. Now be quiet."
- ❑ "Will you please be quiet? Do *not* embarrass me in public."
- ❑ "You're thirsty, aren't you? Getting a big gulp of cold water would feel so good. I wish that drinking fountain was working so I could lift you up and let you drink as much as you wanted."
- ❑ You shrug your shoulders and smile limply at onlookers as your child's emotions reach critical mass.

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10. Empathy is so powerful at defusing intense emotional situations because:

- ❑ When the brain perceives empathy, the body begins to relax. The vagus nerve is involved in the process.
- ❑ Showing that you care creates an environment of safety, the brain's No. 1 concern.
- ❑ The child knows he is misbehaving, and an empathetic reaction surprises him, refocusing his attention.

11. Empathy is a key relationship skill that, regularly practiced, makes for better friendships, teamwork, marriages and parenting. What's the best way to show empathy?

- ❑ Be a good listener. Make soothing noises ("Mm-hmmm." "Aww.").
- ❑ Describe aloud the emotion you think you see. Take a guess as to where that emotion came from.
- ❑ Tell a long story about how that once happened to you, too.

12. What will give your child his or her best chance at happiness?

- ❑ Having close friends.
- ❑ Finding a satisfying career.
- ❑ Living according to his or her values.

13. At what point do children stop asking questions in school?

- ❑ Elementary school. Kids learn very quickly that teachers value the right answer more than a provocative question.
- ❑ High school. Teenagers become absorbed in other critical matters, such as that text message from Brendan or Kate – what does it mean?
- ❑ Never, really. Curiosity is an innate feature of the brain.

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14. Does it matter whether your child interacts with friends in person?

- ❑ Not greatly. Text messages, e-mails and social gaming all teach a child something about relating to others.
- ❑ Absolutely. Lots of "face time" with others improves your child's ability to read facial expressions and gestures.

15. You're exhausted and you need a break from baby. How much TV can you let your 2-year-old watch without negatively affecting his or her brain?

- ❑ None.
- ❑ About an hour a day.
- ❑ Any reasonable amount, as long as you've chosen an educational, interactive show.

16. Your kid rocks a spelling test. What do you say?

- ❑ "I knew you could do it. You're so smart!"
- ❑ "I'm so proud of you. You must have studied hard!"
- ❑ Either one.

17. True or false: One good way to boost your child's braininess is to regularly challenge him with academic exercises far outside his ability, then give approval only for the most obvious successes.

- ❑ True
- ❑ False

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18. Which parenting style is statistically likely to produce great kids?

- ❑ Kids need to be controlled, maybe a little fearful of their parents, and they'll become respectful adults.
- ❑ Love, love and more love. Avoid confrontation where you can.
- ❑ Be demanding. At the same time, project warmth.
- ❑ As long as you provide food and a roof over their heads, let them fend for themselves. That's how they'll learn.

19. You're trying to shape your child's moral behavior. What's one of the best tricks you can use to increase compliance with your commands?

- ❑ Consistently punish bad behavior.
- ❑ Explain the reasoning behind your rules.
- ❑ Bribery. Hey, it works.

20. What's the No. 1 factor that predicts how your child will turn out?

- ❑ Providing a loving household.
- ❑ How perfect a parent you are.
- ❑ How you deal with your child's intense emotions.

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Are you a Brain Rules parent? Quiz answers

Find more information, including videos, at www.brainrules.net.

1. What's the best predictor of academic success?

IQ

✓ Self-control

Grades

Children who could delay gratification for 15 minutes scored 210 points higher on their SATs, Stanford researcher Walter Mischel found, than children who lasted one minute. Why? Impulse control is part of a suite of brain behaviors called executive function. Executive function relies on a child's ability to filter out distractions. Children who are able to stay focused do better in school.

Emotional regulation — reining in impulses — predicts better *cognitive* performance? Yes. For more on this bombshell of an idea, see "Self-control" in Smart Baby: Seeds, p. 105, along with "Tools of the Mind" in Smart Baby Soil, p. 135.

2. What is the single most important thing the brain requires to be able to learn?

A stimulating environment

Teachers with exceptional Theory of Mind (relational) skills

✓ A feeling of safety

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The brain's primary interest is survival. That overshadows all other concerns. See "The brain's day job is not learning," in Smart Baby: Soil, p. 124, along with "Bonding with you provides safety" in Relationship, p.66.

3. Name one cognitive ability of infants.

They can imitate less than 45 minutes after being born.

They can remember a single event, with only one exposure to it, a week later.

They understand that size stays constant even when distance changes the appearance of size.

They display velocity prediction.

They understand the principle of common fate (i.e. the reason the black lines on the basketball move when the ball bounces is because the lines are part of the basketball).

They can discriminate human faces from nonhuman faces at birth.

✓ All of the above.

None of the above. Infants are mostly preoccupied with crying, eating, pooping and spitting up on your shirt. These cognitive abilities develop over time.

Scientists once thought babies were blank slates – helpless, cute, controllable helpings of human potential. But modern research reveals a radically different point of view. Babies come preloaded with lots of software in their neural hard drives, most of it focused on learning. See "Monkey see, monkey do" in Pregnancy, p. 64.

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4. No commercial product has been scientifically proven to boost brain power in utero. What is the fundamental reason products don't work?

The brain is a biological organ, and its primary influences are biological: weight, nutrition, stress, exercise.

In the first half of pregnancy, the baby's sensory systems aren't yet hooked up to the perceptual areas in the brain, which are themselves just beginning to form.

Today's data are not strong enough to solve the mysteries of early mental life. They are just enough to reveal it.

✓ All of the above.

There's no end to commercial products vying for pregnant couples' dollars, making claims about boosting attention spans, memory and language skills before the baby is even born. You can save your money. See "The amazing pregaphone" in Pregnancy, p. 23.

5. What percent of marriages suffer a decline in satisfaction in the transition to parenthood?

16%

55%

✓ 83%

Most couples don't imagine such marital turbulence when they get pregnant. Babies are supposed to bring endless, unremitting joy, right? That's the idealistic view many of us have, especially if our parents grew up in the late 1950s—an era steeped in traditional ideas on marriages and families. But sociologist E.E. LeMasters showed in 1957 that the *majority* of couples actually have a tough time. His findings have since been confirmed again and again.

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For more, see “Most marriages suffer” in Relationship, p. 59. For solutions, see “The first step is awareness” in Relationship, p. 80.

6. At what age are children affected when their parents fight?

Infants younger than 6 months can detect that something is wrong. They will experience increases in blood pressure, heart rate and stress hormones, just like a stressed adult.

Babies may not understand the contents of a fight, but they can sense when one is happening. They are eventually less able to calm themselves and slower to recover from stress.

The effects of the stress show up around school age. Children are more likely to be antisocial and aggressive. They have trouble focusing their attention. They have more health problems and lower IQs.

✓ All of the above.

Stress from parents’ continual fighting hurts a child’s brain. But if you put down the boxing gloves, a child’s system begins to recover in as little as 8 weeks. For the occasional fight, make sure to reconcile in front of your child as well. To prepare your marriage, see “The four biggest reasons you’ll fight” in Relationship, p. 70.

7. What four sources of marital conflict do new parents cite most?

diaper duty, differing parenting styles, lack of sex, money

✓ lost sleep, social isolation, an unequal load of housework, depression

the cuteness / necessity of that many baby clothes, who has to wake up in the middle of the night, where all the sex went, tension over staying home vs. working

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For a detailed look, see “The four biggest reasons you’ll fight” in Relationship, p. 70. For solutions, see “The first step is awareness” in Relationship, p. 80.

8. What are the chances you’ll have an anxious, irritable baby?

50-50

✓ 1 in 5 (20%)

No one knows

Parents have known for centuries that babies come to this world with an inborn temperament. Scientist Jerome Kagan was the first to prove it. High-reactives, as he called them, composed about 20 percent of the population in Kagan’s studies. But how a highly reactive baby turns out depends on many things, in part because every brain is wired differently. Tough as they may be to raise, these children tend to exhibit some very desirable traits, too. See “Born with a temperament” in Happy Baby: Seeds, p. 180.

9. How might you defuse a tantrum?

Let’s say you are waiting in a long line at the post office with your restless 2-year-old, Emily. She announces, “I want a glass of water.” You calmly respond, “Honey, I can’t get you water right now.” Emily starts to whine. “I want some water!” Her voice cracks. You anticipate what’s coming, and your blood pressure begins to rise. The exchange escalates, in danger of erupting into a very public fight. What do you say next?

“I said, wait until we get home! There’s no water here. Now be quiet.”

“Will you please be quiet? Do *not* embarrass me in public.”

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- ✓ "You're thirsty, aren't you? Getting a big gulp of cold water would feel so good. I wish that drinking fountain was working so I could lift you up and let you drink as much as you wanted."

  You shrug your shoulders and smile limply at onlookers as your child's emotions reach critical mass.

Sound odd? Many parents would expect this response to make things worse, like trying to extinguish a flame by dousing it with lighter fluid. But the data are remarkably clear. Empathy reflexes and the coaching strategies that surround them are the only behaviors known consistently to defuse intense emotional situations over the short term—and reduce their frequency over the long term.

Note how you're running toward your child's emotions rather than away from them. Note how you verbalize her feelings, validating them, signaling understanding. This is empathy. The other responses disregard the child's feelings.

10. Empathy is so powerful at defusing intense emotional situations because:

- ✓ When the brain perceives empathy, the body begins to relax. The vagus nerve is involved in the process.

  Showing that you care creates an environment of safety, the brain's No. 1 concern.

  The child knows he is misbehaving, and an empathetic reaction surprises him, refocusing his attention.

There's another physiological reason as well. See "Why empathy works" in Happy Baby: Soil, p. 215.

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11. Empathy is a key relationship skill that, regularly practiced, makes for better friendships, teamwork, marriages and parenting. What's the best way to show empathy?

Be a good listener. Make soothing noises ("Mm-hmmm." "Aww.").

✓ Describe aloud the emotion you think you see. Take a guess as to where that emotion came from.

Tell a long story about how that once happened to you, too.

Researchers defined the empathy reflex while attempting to socialize high-functioning autistic children. These two steps are surprisingly simple and surprisingly effective. See "Make empathy a reflex" in Relationship, p. 85.

12. What will give your child his or her best chance at happiness?

✓ Having close friends.

Finding a satisfying career.

Living according to his or her values.

The Harvard Study of Adult Development, which has been going since 1937, is probably the most thorough research of its type ever attempted. Its question: "What constitutes the good life?" Its finding: Successful friendships, the messy bridges that connect friends and family, are what predict people's happiness as they hurtle through life. Friendships are a better predictor than any other single variable. By the time a person reaches middle age, friendships are the *only* predictor. See "The secret of happiness" in Happy Baby: Seeds, p. 164.

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13. At what point do children stop asking questions in school?

- ✓ Elementary school. Kids learn very quickly that teachers value the right answer more than a provocative question.

  High school. Teenagers become absorbed in other critical matters, such as that text message from Brendan or Kate – what does it mean?

  Never, really. Curiosity is an innate feature of the brain.

Consider a whopping six-year study with more than 3,000 innovative executives, from chemists to software engineers, published in 2009. The biggest common denominator of these entrepreneurs? Inquisitiveness. Lead author Hal Gregersen, interviewed in Harvard Business Review, talks about children:

"If you look at 4-year-olds, they are constantly asking questions. But by the time they are 6 ½ years old, they stop asking questions because they quickly learn that teachers value the right answers more than provocative questions. High school students rarely show inquisitiveness. And by the time they're grown up and are in corporate settings, they have already had the curiosity drummed out of them. Eighty percent of executives spend less than 20 percent of their time on discovering new ideas."

That's a heartbreaker. For more on inquisitiveness, see "The desire to explore" in Smart Baby: Seeds, p. 102. For ways to encourage it, see "Hurray for play" in Smart Baby: Soil, p. 132.

14. Does it matter whether your child interacts with friends in person?

Not greatly. Text messages, e-mails and social gaming all teach a child something about relating to others.

- ✓ Absolutely. Lots of "face time" with others improves your child's ability to read facial expressions and gestures.

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The brain devotes a tremendous amount of neural real estate to the single task of processing faces; that's how important it is. Interpreting this kind of nonverbal communication is a survival skill. Understanding another person's motivations helped our evolutionary ancestors work as a team, allowing them to overcome stronger predators.

Learning to competently decode faces takes years of experience, which is why your baby needs lots of face time – with you and with other people. See "Decoding nonverbal communication" in Smart Baby: Seeds, p. 113. Also see "A cautionary tale about texting" in Smart Baby: Soil, p. 151.

15. You're exhausted and you need a break from baby. How much TV can you let your 2-year-old watch without negatively affecting his or her brain?

- ✓ None.

  About an hour a day.

  Any reasonable amount, as long as you've chosen an educational, interactive show.

Of course you need a break. But having another person step into the void while you decompress for a while - calling a friend, relative, or your retired neighbor - is a better choice. Short of that, monitor carefully the amount of time your young one spends in front of the tube. The American Association of Pediatrics recommends zero TV for children under age 2. That's because of the connection between hostile peer interactions and the amount of kids' exposure to television.

Studies have looked at bullying, for example. For each hour of TV watched daily by children under age 4, the risk increased 9 percent that they would engage in bullying behavior by the time they started school. This is poor emotional regulation at work.

TV also poisons attentions spans and the ability to focus, a classic hallmark of executive function. (Executive function is a better predictor of academic success than IQ.) For each additional hour of TV watched by a child under the age of 3, the likelihood of an attentional problem by age 7 increased by

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about 10 percent. So, a preschooler who watched three hours of TV per day was 30 percent more likely to have attentional problems than a child who watched no TV.

After age 5, certain interactive TV shows can benefit the brain. You still want to limit TV, though, in favor of your child getting daily exercise. See "The digital age: TV, video games and the Internet" in Smart Baby: Soil, p. 142.

16. Your kid rocks a spelling test. What do you say?

"I knew you could do it. You're so smart!"

✓ "I'm so proud of you. You must have studied hard!"

Either one.

What separates high performers from low performers is not some divine spark. It is, the most recent findings suggest, a much more boring — but ultimately more controllable — factor. *Effort.* Good old-fashioned neural elbow grease. Deliberate practice.

How can you get effort from your children? Surprisingly, it's how you praise them -- and telling them they're smart won't work. In fact, it has the opposite effect. When they run into a tough problem, they'll think, "I guess I'm not smart." They have no other tools to work with.

Kids who are praised for their effort, on the other hand, are being taught that effort is the source of their success. So they know they can deal with a challenge by applying more effort. See "Praise effort, not IQ" in Smart Baby: Soil, p. 138.

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17. True or false: One good way to boost your child's brainiess is to regularly challenge him with academic exercises far outside his ability, then give approval only for the most obvious successes.

True

✓ False

This behavior falls under hyperparenting, and it's more serious than you might expect. Pushy parents often become disappointed, displeased, or angry when their kids don't perform — reactions children can detect at an astonishingly young age and want desperately to avoid. This loss of control is toxic. It can create a psychological state called learned helplessness, which can physically damage a child's brain. Learned helplessness is a gateway to depression. Extreme pressure from you can also extinguish your child's curiosity and stunt higher-level thinking.

Making sure your child is appropriately challenged is one thing. But don't be a hyperparent. See "My baby is better than your baby" in Smart Baby: Soil, p. 153.

18. Which parenting style is statistically likely to produce great kids?

Kids need to be controlled, maybe a little fearful of their parents, and they'll become respectful adults.

Love, love and more love. Avoid confrontation where you can.

✓ Be demanding. At the same time, project warmth.

As long as you provide food and a roof over their heads, let them fend for themselves. That's how they'll learn.

In a massive 1994 study, researchers were able to predict how kids would turn out based solely on parenting behavior. Only one parenting style produced the best kids. These parents are demanding but care a great deal about their kids. They explain their rules and encourage their children to state their

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reactions to them. They encourage high levels of independence, yet see that children comply with family values. These parents tend to have terrific communication skills with their children.

To learn more about the four parenting styles and whether you agree with the definition of a good kid, see “A terrific kid” in Happy Baby: Soil, p. 197.

19. You’re trying to shape your child’s moral behavior. What’s one of the best tricks you can use to increase compliance with your commands?

Consistently punish bad behavior.

✓ Explain the reasoning behind your rules.

Bribery. Hey, it works.

Swift punishment for violating clear, consistent rules is a key element of discipline. But explaining those rules in the first place is like magic. It makes any punishment more effective, long-lasting and internalized.

Here’s an example. Without rationale: “Don’t touch the dog, or you’ll get a timeout.” With rationale: “Don’t touch the dog, or you’ll get a timeout. The dog has a bad temper, and I don’t want you to get bitten.”

Compliance rates soar, researchers have found, when some kind of cognitive rationale is given to a child (or adult, for that matter). Why does this work? See “Explaining the rules” in Moral Baby, p. 245.

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20. What's the No. 1 factor that predicts how your child will turn out?

Providing a loving household.

How perfect a parent you are.

✓ How you deal with your child's intense emotions.

Emotional regulation is key not only for social competency but for cognition as well, from strong executive function to decision-making. How (or if) your child learns to regulate her emotions depends on how you react to those emotions. Three of the most important things parents can practice: Noticing your child's emotions, acknowledging them without judgment, and empathizing with them.

This does not mean setting no behavioral boundaries, however. The most successful parents have a powerful empathy reflex within the context of clear, unambiguous rules.

For more on how to do this and why, see "Emotions must be central" in Happy Baby: Soil, p. 199, and "Your rules are reasonable and clear" in Moral Baby, p. 237.

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For the science behind the quiz answers, see References.

You might also like:

- Videos on everything from praise to setting effective rules
- Practical tips for parents (PDF)
- Brain Rules: 12 ways *your* brain works
- Buy Brain Rules for Baby

How did you do?

Assign one point for every question answered correctly.

18-20 points: You're a Brain Rules parent!

You understand that emotions play a central role in your child's happiness *and* intelligence. Empathy is a key reaction when emotions run hot. And your child's ability to best mobilize his or her gifts will come not from modern-day gadgets but from meeting the brain's ancient needs--among them safety, strong relationships and love.

13-17 points: Almost there!

You're on your way to understanding that emotions play a central role in your child's happiness *and* intelligence. Practice empathy when emotions run hot. And consider that your child's ability to best mobilize his or her gifts will come not from modern-day gadgets but from meeting the brain's ancient needs--among them safety, strong relationships and love. You'll be a Brain Rules parent in no time.

10-12 points: You can do better

The answers to these questions may surprise you. But now you know: Emotions play a central role in your child's happiness *and* intelligence. Empathy is a key reaction when emotions run hot. And your child's ability to best mobilize his or her gifts will come not from modern-day gadgets but from meeting the brain's ancient needs--among them safety, strong relationships and love.

0-9 points: Not even close

OK, so you haven't read the book. The answers to these questions can be surprising. But now you know: Emotions play a central role in your child's happiness *and* intelligence. Empathy is a key reaction when emotions run hot. And your child's ability to best mobilize his or her gifts will come not from modern-day gadgets but from meeting the brain's ancient needs--among them safety, strong relationships and love. Explore brainrules.net for more detail and you'll be on the path to becoming a Brain Rules parent: Pregnancy, Relationship, Smart baby, Happy baby, Moral baby.