

INTELLIGENCE AND CHILDREN

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It is a competitive world out there, and intelligence counts. If kids do not pass preschool admittance tests or proficiency tests... if IQ tests show average results ... if they do lousy on the SATs ... what then? Does it truly affect their success in life? Where does intelligence come from -- and is there really a way to get smarter?

The concept of IQ (intelligence quotient) was developed about 100 years. IQ measures just two kinds of abilities ... memory and analytical skills, but they do not measure other kinds of skills that are important in the real world, like creative and practical skills. These skills are really important for success on the job but are not measured on any test.

Intelligence is indeed a complex trait -- one with a strong genetic component also. There is not a specific gene like eye color; but more of an interaction of a variety of genes. Not all agree to what extent our genes are in control here. Research shows us lots of figures, that 60 to 80% of intelligence is genetic.

Either way, it often falls on deaf ears for fast-track parents who are intent on producing the smartest kid they can by trying an assortment of "stimulation exercises" to hopefully enhance the unborn child's intelligence.

These are the parents who are reading to their unborn child, playing Mozart, initiating "dialogues" to teach word-action associations. There are whole programs out there designed to "stimulate your unborn child." The instruction book for one program states: "Gently tap your abdomen where the baby's head is and say, tap, tap, tap ... Parents have to be actively involved, use their own words, make up their own games. That way we optimize bonding. The goal is to communicate love, not just information.

There are child development experts claim that through various stimuli such as sounds (especially musical sounds and a mother's voice), movement, pressure, vibrations, and light, they can enhance the fetus' visual, auditory, linguistic and motor development. They say that after those babies are born, they sleep better, are more alert, confident, and content than those who were not stimulated.

Such prenatal stimulation is a waste of time, according to most of the research available today. It seems to be all about money [for the program developers] and nothing else. There is no evidence to support any of that stuff. Even the person who discovered the Mozart effect has disowned it.

People have always wanted their children to be as bright as they can possibly be -- or brighter. But there has not been any hard data to support the fact that listening to Mozart while the baby is in utero will make a difference in intelligence. We do know more about what does make a negative difference in utero -- smoking, drinking, exposure to toxic substances.

After the child is born, is it possible to increase intelligence? A recent study in *Nature Neuroscience* (August 2000) with rats suggests that when mothers were nurturing -- when they provided a high level of care such as stroking, grooming, and attentive nursing—that it stimulated nerve connections in their babies' brains and enhanced learning. The offspring of attentive mothers scored higher throughout their lives than did those whose mothers were indifferent.

When researchers examined the rats' brains, they found that cells from the hippocampus -- the brain region vital to memory and learning -- had extra connections between nerve cells. The offspring that were not nurtured did not have those extra connections.

Another study shows that when a child learns to play Mozart -- learns any musical skill -- it can affect how well he or she learns in other subject. This study showed that children in kindergarten who spent one hour each week learning musical or arts skills had improved performance in reading -- as much as 50% -- and to a larger extent in math -- 75%. And the scores stayed high through the second grade. While the skills learning seemed to create new connections in the children's brains, new ways of organizing thinking, the group activity also seems to have had another positive effect. These children had to learn to sing together and have to learn to work together. All these things have influence on classroom behavior.

One must remember that intelligence in large part is the ability to learn. When you increase a child's ability to learn, you increase their intelligence. Part of what you are supposed to be learning in school, outside of a bunch of facts, is how to learn better techniques for studying, techniques for listening. Young kids do not need a "souped-up" visual and auditory environment. Children are designed biologically to seek and construct from the environment what they need to achieve their genetic potential, and they are very good about doing that. So this notion of souping up the environment short-changes the child's own ability to do that on their own. It is something that has been known for a long time, and the genetic research is really bearing that out.

Parents should be taking care of emotional aspects of their children's development, not just the thought processes. These parents should not be so bent on stimulating their children but on listening to them and playing with them and enjoying them. They may have a greater impact that way.

Of equal importance is that anxious parents do more harm than good. Kids pick up on that anxiety. We know that kids who are more anxious have a bit more difficulty in the learning process. There are kids who have school phobia who do not do very well in school, yet they have great innate intelligence. When kids in kindergarten feel the pressure that they have not gotten all S's, A's or all "good" or whatever, there is some indication that level of anxiety can be a fairly significant detriment.

It is very important that parents keep a proper perspective. If your child is a wonderful athlete, let them play at the next level of competition. Encourage children to reach their maximum potential. Just keep a healthy perspective. We do not want to create a generation of neurotic individuals. Even if you do succeed in raising IQ by 10 or 15 points, will that really make a huge difference in that child's life? There are certainly many people who go on to be very successful doctors, lawyers

and reporters. You do not have to have a 150 IQ to be successful in this world. I think it is more the issue of someone who is a hard worker and makes the most of what they were given.