



Torah at the Center

The Male and Female Mind

By Simon Baron-Cohen, Ph. D., Cambridge University, and author of *The Essential Difference*

A new theory claims that the female brain is predominantly hard-wired for empathy and the male brain is predominantly hard-wired for understanding and building systems. It is known as the empathizing-systemizing (E-S) theory. Empathizing is the drive to identify another person's emotions and thoughts and to respond to these with an appropriate emotion. Systemizing is the drive to analyze and explore a system, to extract underlying rules that govern the behavior of a system; it is also the drive to construct systems.

The evidence for a female advantage in empathizing comes from many different directions. For example, baby girls, as young as 12 months old, respond more empathetically to the distress of other people, showing greater concern through more sad looks, sympathetic vocalizations and comforting. This echoes what you find in adulthood: More women report sharing frequently the emotional distress of their friends. Women also show more comfort than men do. When asked to judge when someone might have said something potentially hurtful (a *faux pas*), girls score higher from at least 7 years old. Women also are more sensitive to facial expressions. They are better at decoding nonverbal communication, picking up subtle nuances from tone of voice or facial expression, or judging a person's character. Men, on the other hand, show far more "direct" aggression (pushing, hitting, punching). Such sex differences in empathy are evident by 12 months of age, when girls make more eye contact than boys. A study from Cambridge University shows that at birth girls look longer at a face.

The evidence for a male advantage in systemizing includes the conclusion that boys, from toddler-hood onwards, are more interested in cars, trucks, planes, guns and swords, building blocks, constructional toys and mechanical toys—systems. They seem to love putting things together, to build toy towers or towns or vehicles. The same sort of pattern is seen in the adult workplace. Some occupations are almost entirely male: Metalworking, weapon-making, the crafting of musical instruments, boat-building. The focus of these occupations is on constructing systems. Professions such as maths, physics and engineering, which require high systemizing, also are largely male-chosen disciplines. Reading maps has been used as another test of systemizing. Men can learn a route in fewer trials, just from looking at a map, correctly recalling more details about direction and

distance. The male preference for focusing on systems, again, is evident very early. The Cambridge study found that at 1 year old, little boys showed a stronger preference to watch a film of cars (mechanical systems) than a film of a person's face (with much emotional expression). And at 1 day old, little boys look for longer at a mechanical mobile.

Culture and socialization play a role in determining if you develop a male brain (stronger interest in systems) or female brain (stronger interest in empathy). But, these studies of infancy strongly suggest that biology also partly determines this. Some of the most convincing evidence for biological causes comes from studies of the effects of hormones. If a female rat is injected at birth with testosterone, she shows faster, more accurate maze learning, compared to a female rat that has not been given such an injection. Consequently, masculinizing the rat hormonally improves her spatial systemizing. Another Cambridge study found that toddlers who had lower fetal testosterone had higher levels of eye contact and better empathy, while those who had higher fetal testosterone had stronger interests in systems.

The E-S theory does not stereotype. It simply shows how on average the two sexes differ. And, it draws attention to how an individual may be typical or atypical for his or her sex. Judaism long has celebrated the two sexes being both similar and distinct, and it traditionally values both sexes for their contributions. The lesson from the E-S theory for education, including Jewish education, is not to presume anything about a person's mind based on his or her sex. It is essential to recognize if a person is more of an empathizer or more of a systemizer, as one's learning style will be very different. A systemizer will find information that is structured and rule-based and unambiguous much easier to learn. An empathizer will find a relaxed, chatty format, replete with social contact and affirmation, much more conducive to learning. The empathizer will be able to cope with far more ambiguity because the world of emotions intrinsically is more speculative and more subjective.

Jewish teaching recognizes the value of both empathy and systemizing. If humanity lacked empathy, at stake would be human compassion for other's suffering. At the same time, if humanity lacked systemizing, we would have no mathematics, no technology, no science and no legal systems.