Cérebros femininos vs. cérebros masculinos

Female brains vs. male brains

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- This article has been published in English in International Journal of Psychotherapy, Vol. 8, Nr 2 (July 2003).
- and a lecture has been given - in a more or less developed form - in: Belgrade, Bucharest, Budapest, Bruxelles, Cannes, Cracovie, Fort-de-France, Frankfurt, Kiev, Lviv, Malte, Marrakech, Montalivet, Moscou, Orléans, Paris, Rome, San Francisco, St Petersbourg, Strasbourg, Tokyo, Vladivostok.
RESUMO

Este artigo oferece aos psicoterapeutas um caminho para lidar com os diferentes géneros com base nas muitas diferenças que realmente existem na forma pela qual trabalham os cérebros de cada um deles. Pesquisadores têm concordado que homens e mulheres desenvolveram durante a evolução da espécie, características e habilidade que deram a cada género o que era necessário à sobrevivência.

O artigo também propõe que, de acordo com neurocientistas, nossa personalidade é determinada por fatores hereditários, pela vida intra uterina e pelo que é adquirido do ambiente após o nascimento.

Junto a esses fatores, temos os hormônios (Testosterona e Estrogênio) estimulando comportamentos masculinos ou femininos, dependendo da reação que causam nos respectivos corpos. O artigo também nos alerta que a identidade de gênero é diferente da identidade sexual.

Para concluir o artigo propõe algumas aplicações do que foi levantado em psicoterapia, encorajando aos terapeutas a olharem com cuidado para as peculiaridades de cada género. Para terminar lembra a todos os leitores que nossa percepção do mundo é muito diferente, mas prazerosamente complementar.


ABSTRACT

This brief offer to psychotherapists a way to deal with the different gender based on the very real differences about how their brains work. Researches now agree that men and women developed during the specie evolution characteristics and skills, providing to which gender whatever was needed to the surveillance.

The brief also proposes that, according to neuroscientists our personality is determined by heredity, intra-uterine life and what is acquired from the environmental after birth. Besides there are the hormones (Testosterone and Estrogens) stimulating masculine and feminine behavior depending on the reactions it causes into the respective bodies. But it also warns that gender identity is different from sexual identity.

To conclude it proposes some applications in psychotherapy encouraging the therapists to look carefully to the peculiarities of which gender. To finished this brief reminds every reader that our perception of the world is very different, but pleasantly complementary.

Keywords: Brains, Men, Women, Masculine, Feminine, Different, Species, Orientation, Neuroscientists, Heredity, Personalities, Hormones, Testosterone, Estrogens, Psychotherapy, Psychotherapist.
Two lectures in the same time

You’re lucky to-day: you’ll have two lectures,

And — as I have a short time — I’ll give these two lectures… at the same time!

One for women; another one for men!

In fact, I already began: right now, men and women haven’t heard the same message!

Hearing with both hemispheres

For instance — in average, of course (with many individual variations)² — women hear me twice as loud (2,3 more loud) as men. So, they hear me “shouting” (and they think I’m angry) while men have the feeling I’m speaking in a confidential manner, with some kind of complicity…

The women hear me with both their hemispheres (left brain and right brain), while men listen to me with mostly their left brain — verbal, logic…and consequently with criticism! Women have more links between the two hemispheres (through corpus callosum)³ and my speech is colored with emotions, perceived subjectively through their wishes and their fears, through their ethical or social values (like feminism!). They hear what I’m saying, but mostly how I do it, sensitive to the tune of my voice, to the rhythm of my breath, to my supposed feelings…

Of course, this predominance of audition and subjective hearing is only a detail, but its main interest is that we can observe it here and now.

Two different species

To speak frankly, we belong to two different “species”. In our times, we just finish the deciphering of the human genome and you perhaps know that it’s proofed that humans and monkeys have about the same genetic inheritance: common at a rate of 98,4 % — which means only 1,6 % of differences between men and monkeys (male

² It’s estimated that 20 % of men have a feminine brain and 10 % of women have a masculine brain.
³ It allows women to have several tasks at one time.
monkeys!)… while there is 5% difference between men and women! So, a human male is physiologically more near to a monkey than to a woman!… And, as you already guessed it, woman is near to a female monkey!

Of course, such provocative and quantitative calculations neglect the qualitative aspect: for instance, the genes which contribute to development of language, art, philosophy, etc. but they underline the big gap between genders — within all animal species, including human species. This gender identity is different from sexual identity.

Usually, I teach to my students the impact of brain functioning on psychotherapy, during a four days workshop (with some demonstrations)⁴, but to-day, I've only some minutes to mention it rapidly, and I'll only give a listing of about twenty main differences between men and women.

Right brain is masculine

All researchers of all countries agree now to consider that:

• the left brain is more developed among women;

• the right brain (the so-called “emotional brain”) is more developed among men — contrary to what is often thought by general public (and sometimes even by psychotherapists!). It's under the influence of sexual hormones and neurotransmitters (testosterone, etc.).

So, the woman is more involved in verbal sharing and communication, while the man is more prepared for action and competition.

Already, in the kindergarten, during 50 minutes of a class, small girls talk during 15 minutes and boys, only 4 minutes (four times less). Boys are rowdy 5 minutes; they fight 10 times more often than the girls: 30 seconds, in average. When they are 9 years old, girls are 18 months ahead. When they are adults, women talk in average 20 minutes at each phone call, while men speak only 6 minutes, just to give an ur-

⁴ During this kind of seminars, I summarize 40 000 pages of scientific readings on this subject, in French and English (which means about 150 specialized books and the same amount of articles). See a resume of this topic in both my books (chapters on Brain and Dreams).
gent information! The woman needs to share her ideas, feelings, emotions, while the man withdraw and control his emotions and try to find a solution. He interrupts his wife to propose a solution... and the wife don't feel to be listened to! In fact, men are more emotional than women, but they don't express their emotions and this point must never be neglected in conjugal life... and during psychotherapy.

Orientation

• Woman is concerned by Time (left brain);

  Man is concerned by Space (right brain): the advantage of men in three dimensional spatial rotation tests is massive, since the childhood (Kimura, 2000).

• The woman finds her way with concrete markers: the advantage of women in memorization or denomination of concrete objects is massive.

  The man finds his way through an abstract direction: he is able to improvise a short cut to reach his car or his hotel.

Sense organs

Globally speaking, the woman is more sensitive⁵:

• Her hearing is more developed: hence the importance of sweet words, of voice tune, of music;

• Her sense of touch is much more developed: she has 10 times more skin receptors, sensitive to contact; oxytocin and prolactin (hormones of attachment and cuddle) increase her need to touch and to be touched;

• Her olfaction (smell) is much more sharp: 100 time more at certain periods of her menstrual cycle!

• Her Vomero Nasal Organ (VNO), the real “6th sense” (chemical and relational organ) seems to be more developed and perceives sharper the pheromones — which

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⁵ More “sensitive” (sense organs), but not more “emotional”.

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express different kinds of emotions: sexual desire, anger, fear, sadness… Perhaps it’s what is called “intuition”?

• As for sight, it’s more developed among men, and eroticized: hence their interest and excitement for clothes, make-up, jewellery, nakedness, pornographic magazines… However, women have a better visual memory (for recognizing faces, tidying of objects…).

Why such differences? The Theory of Evolution

The researchers explain these important biological and fundamental differences between men and women by the natural selection through more than one million years of evolution of the human species. Such adaptative evolution is supposed to have shaped our brain and sense organs through the combined action of hormones and neurotransmitters:

• Men adapted to hunting on large space and distance (and also to struggle and war between tribes). Usually they had to silently pursue game (animals), sometimes during several days, and then to find back their cavern (sense of orientation). Very few verbal sharing (it has been estimated that a prehistoric man met not more than 150 persons during his whole life).

• During the same period, women’s brain adapted to children’s breeding and education — which implies verbal sharing in the limited space of the cave.

So, on a biological level, men are programmed for competition, while women are programmed for cooperation.

And so, everybody can see that biologically, psychotherapy is a women business!

These predispositions seem to be linked to biology (hormones and neurotransmitters). They are constituted during the very first weeks of intra-uterine life and seem to be very few influenced by education and culture.

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6 On the face of a clock, 10 000 years of civilization, out of one million years of human evolution, represent about half a minute.
Nature and nurture

To-day, neuroscientists and geneticists seem to consider that our personality is determined:

• for about 1/3, by heredity: chromosomes from the nucleus of our cells and mitochondrial DNA heredity, coming from the mother;

• for about 1/3, by intra-uterine life: during the first weeks after conception; the embryo (fetus) is feminine (Durdeen-Smith & Desimone, 1983; Badinter, 1992; Magre & al.; 2001) and masculinity is a slow and hard hormonal and educational conquest. So, the girl is not a boy who lost his penis (Freud’s hypothesis), but the boy is a girl who won (gained) a penis. The psychoanalytical so-called envy or need for penis is an hypothesis which has never been controlled. Among transsexual people, one can find five times more men wishing to become a women than women wishing to become a man…

During the war, two times more male homosexuals were born, probably because of mother’s stress, disturbing her hormonal balance (Durdeen-Smith & Desimone, 1983; Le Vay, 1993).

These two hereditary and congenital parts seem to be important: for instance, if a male twin is homosexual, his identical twin is also homosexual in 50 to 65 % of the cases; if he is only a fraternal twin, it’s the case in 25 to 30 %, which means two times less — but still 5 times more than in the general population! Homosexuality could be predicted since the age of 1 or 2 years, in many cases (Le Vay, 1993).

• for about 1/3, acquired after birth: cultural bath or steep, education, training, occasional circumstances… or psychotherapy!

In a more general approach, the global correlation between personalities is estimated at:

• 50 % between identical twins (heredity)

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8 According to different studies.
• 25 % between **fraternal** twins (hormonal impregnation during intra-uterine life)

• 10 % between **brothers and sisters** (education)

• 0 % between **strangers**.

These *three thirds* (heredity, acquired *in utero*, acquired during life) have been found — in different proportions — in many fields of abilities: intelligence, music, sports, and even optimism\(^{11}\).

Depending on the amount of pessimistic or optimistic genes you’ve inherited, you could formulate this researches in different manners:

• “Our personality is *predetermined* — since our *birth* — at about 2/3”.

• “Our personality is *constructed* — since our *conception* — at about 2/3”.

**Hormones**

When you put a ball on the earth, boys give it a kick; girls take the ball and clasp it to their heart. It seems to be independent of their education and culture, and directly related to their hormones.

Testosterone is the hormone of *desire, sexuality and aggression*. It could be called the “hormone of *conquest*” (military or sexual!). It develops\(^{12}\):

• **Strength** of muscles (40 % muscles for men; 23 % for women);

• **Speed** (reactions) and **impatience** (92 % of drivers who hoot at a traffic light are men!);

• **Aggression, competition, domination** (the dominant male maintains the quality of the species);

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\(^{10}\) Which leaves 50 % freedom!

\(^{11}\) **LYKKEN & TELLEGEN** (Minnesota University).

\(^{12}\) When in *optimal* concentration: not too weak, not too high (Kimura, 1999).
• *Endurance, tenacity*;

• *Healing of wounds*;

• *Beard and baldness* ;

• *Vision* (far away, as “teleobjective”);

• *Right side* of the body and fingerprints (Kimura, 1999);

• *Throwing* with precision;

• *Orientation*;

• Attraction by a *young* female (able to give birth).

Influence of œstrogens:

• *Dexterity*, separate movements of fingers (Kimura, 1999);

• *Left side* of the body (and fingerprints);

• In average, 15 % fat for a man and 25 % fat for a woman (to protect and nourish her baby);

• *Hearing*: women perceive larger range of sounds, they sing in tune 6 times more often, they have a sharper recognition of sounds and music (to recognize their baby);

• *Smell*: their *olfaction* is 100 times stronger (at certain periods);

• Nomination of *colors*: the cones, which recognize colors, are situated on the X chromosome;

• *Verbal and visual memory* of the localization of things;

• Attraction by a *dominant male*, strong, able to protect her, experienced, socially recognized — which means generally *older*.

To conclude: some applications in Psychotherapy
The research in neurosciences confirms a lot of traditional knowledge. It helps the everyday work in psychotherapy and counseling (with individuals or couples):

And now, to finish this brief lecture, some concrete examples of the daily impact of neurosciences. They help the Psychotherapist to:

• *Listen a woman* with patience, until she is finished, without trying to “solve” her problem (which would be a *male* reaction, oriented toward *action*: instead of “mother” her, he becomes her “father”);

• Encourage the man to *speak more* and to *express and share* his emotions;

• Underline the *importance of sight for men* and of *hearing for women*, especially in *erotic* preliminary (music and sweet voice);

• *Stimulate the ill persons*: install patients near a window (open on the outside world) helps healing; stimulate the aged: passive retirement accelerates aging;

• Exploit, during psychotherapy, the intimate *links between sexuality and aggression* (both of them, controlled by *hypothalamus* and by *testosterone*);

• Be very prudent about “*memories*” of *early sexual abuse*: the memory of a scene, real or only seen *in imagination*, is treated in the *same* brain regions, and creates the same neurochemical reactions (*40% of the “memories” are false memories*, *reconstructed* from conscious or unconscious fears or desires);

• Mobilize the *frontal lobes*, center of *responsibility* and autonomy (be able to say “no”); hence, richness of *paradoxical and provocative therapy*;

Some general remarks:

• To *make love* accelerates healing of wounds (testosterone);

• *Body oriented* therapies help to mobilize neurological paths: movement > right brain > limbic brain > emotions > deep engrammation (encoding) of experience...
• A certain amount of emotion helps memorization; verbalization afterwards helps to recall in the future;

• Long term memorization occurs mostly during dreams (REM sleeping); hence, in case of mental trauma (accident, death of a close person, rape, terrorist attack, earthquake…), usefulness of a debriefing before the first dream time (“emergency Gestalt”, Ginger, 1987).

• Women commit ten times more suicide attempts (they express their emotions); men succeed in their suicide (enactment);

• Women speak without thinking; men act without thinking!

• Women who are not happy in their relations, have problems in their job;

  men who are not happy in their job, have problems in their relations;

• Women need intimacy to appreciate sexuality; men need sexuality to appreciate intimacy.

Finally, it’s fundamental to follow the research in genetics and neurosciences and update in permanence (weekly) our knowledge.

• It’s probably not indifferent to work with a male or female therapist: it does matter, it makes the difference! (Krause-Girth, 2001).

• Our perception of the world is very different… but pleasantly complementary!

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