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SEXUAL SELECTION – WOMEN'S PREFERENCES FOR THE MALE PHYSIQUE

ABSTRACT: A group of young women were presented with a set of nine male silhouettes drawn in such a way that three depicted the extreme endomorphic, mesomorphic and ectomorphic body types; three the intermediate types; and three body types with a slight predominance of a given component (meso-, ecto- or endomorphic) over the other, evenly balanced, components. The silhouettes were fashioned after photographs from Sheldon. It was expected that the most mesomorphic "male" somatotype would be chosen as the most attractive. Contrary to expectation, the silhouette that scored highest in attractiveness was the one having a balanced proportion of the three components with a slight predominance of ectomorphy. Hence, it represented a physique with moderately developed musculature and a rather slim build. This result supports the postulate that a significant factor of sexual selection leading to the development of sexual dimorphism in modern man was that of intra-sexual competition among males.

KEY WORDS: Sexual dimorphism – Attractiveness – Somatotypes

Sexual dimorphism is a species characteristic that, at least in vertebrates, is obviously associated with the mating system. It has been known since Darwin's time that those differences in animal morphology and behaviour that concern the so-called secondary sexual characteristics result from sexually different reproductive strategies. Darwin proposed the term sexual selection for the evolution of those differences and suggested that it followed two patterns: selectivity of one sex (usually females) towards representatives of the other, and intrasexual competition (usually males) for access to mating partners (Miller 2000).

In primates in whom sexual dimorphism in size can be striking, a significant factor affecting body size and proportions is sharp competition among males. In those species where the competition is less intense, including the rather few monogamous and polyandrous ones, size dimorphism is markedly less pronounced (Plavcan, van Schaik 1997). The considerable dimorphism of fossil hominids has greatly decreased in *H. sapiens*, which tends to be interpreted as a manifestation of change in the mating system. It is believed that changes in the social structure have brought about a decline in sexual competition among males and an increase in the role of sexual selectivity of females (Lewin 1998).

Connected with the notion of selectivity towards a sexual partner is that of attractiveness. Studies of the attractiveness of a face, both male and female, have shown good looks to be highly correlated with the intensity of the average quality of the morphological features making up the image of the face. The interpretation of this phenomenon in adaptation terms is fairly obvious (Jones 1996, Kujawa, Strzałko 1998). The attractiveness of the physique, however, might be a different matter. Owing to the different reproductive strategies of men and women, an evaluation of the somatic traits of a potential partner can be made on the basis of sex-dependent criteria. For example, the feature that is known to affect male assessments significantly is the waist-hip ratio (WHR) in women (Pawlowski 2000, 2003). As for female evaluations of the male physique, intuition (perhaps male intuition?) suggests, and the authors of psycho-evolutionary works would seem to take for granted, that what makes a man highly attractive are very pronounced "dimorphic" traits of his body build (Aronson *et al*. 1994, Buss 1999, 2003). They include, for instance,

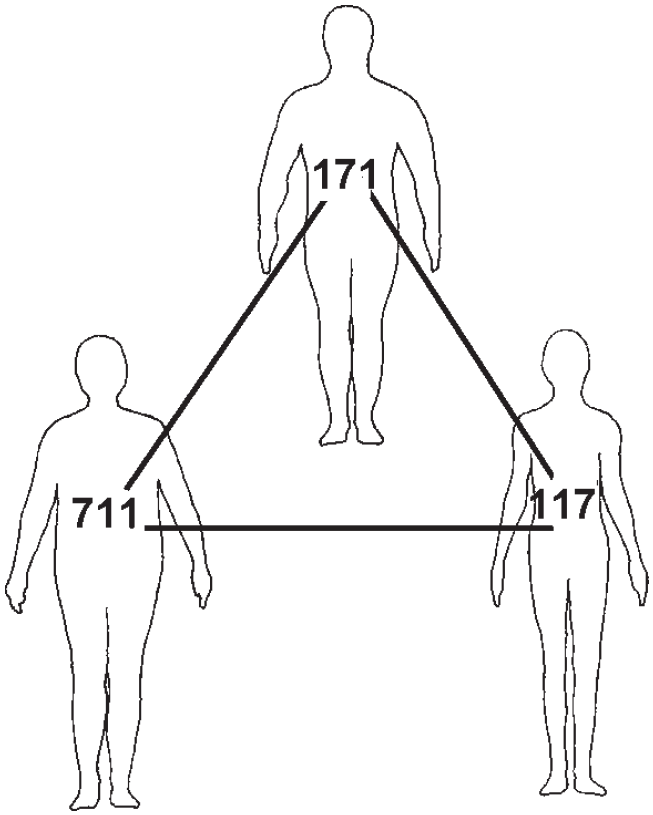


FIGURE 1. Extremes of endomorphic (711), mesomorphic (171) and ectomorphic (117) somatotypes redrawn from photographs in *Atlas of Man* (Sheldon 1954).

markedly broader shoulders than the pelvis and well-developed musculature, or in Sheldon's somatotypologic nomenclature, pronounced mesomorphy (Sheldon *et al*. 1940, Sheldon 1954).

If sexual dimorphism in modern man's body build is mainly the result of womens' selectivity, one can presume that the male somatotypes women find the most attractive are those with a high proportion of mesomorphy. I have decided to verify this inference.

To find a standard of the "male" physique as opposed to the "female" one, I made use of Sheldon's (1954) somatotype classification. Archaic though it may be, its advantage is a visual presentation of the intra-population variability of the male physique which rests on the assumption that three components should be taken into consideration in its description: Ectomorphic (or one expressing the body surface/ body volume ratio), endomorphic (or visceral), and mesomorphic (or muscular). In Sheldon's method each component is assigned from one to seven points, and a full description of a body build can be expressed by means of three digits referring to the points assigned to each of the three factors. Hence, the extreme endomorph has 7 points for endomorphy and one for each, mesomorphy and ectomorphy, which can be written as 711 *(*see *Figure 1)*. Analogously, the extreme mesomorph has the somatotype 171, and the extreme ectomorph, 117. A graphic picture of the somatotype variability field is a triangle with those extreme types at the vertices and the evenly balanced somatotype 444 in the center *(Figures 2, 3)*.

Out of the "Sheldon triangle" nine male somatotypes were chosen representing varying degrees of ecto-, meso- and endomorphy. Three of them depicted extreme endomorphic, mesomorphic and ectomorphic body types; three, intermediate types; and the remaining three, body types with a slight predominance of the given component (meso-, ecto- or endomorphic) over the other, evenly balanced, components. The silhouettes were fashioned after photographs from *Atlas of Man* by Sheldon (1954) *(Figures 2, 4)*. These were offered to a group of independent judges for evaluation on a scale of nine to one, from the most to least attractive. The group of judges consisted of 184 young women, aged 20-30, who could be divided into subgroups according to their (1) origin (urban/rural), (2) marital status (single/married), and (3) educational status (lower/higher) *(Table 1)*.

TABLE 1. Frequencies (%) of categories according to marital status, educational status and place of origin among 184 women – judges in the experiment.

Marital status		Educational status		Place of origin	
single	74	lower	36	villages and small towns	44
married	26	higher	64	cities	56

The somatotype chosen as the most attractive by 62% of the judges was a moderately ectomorphic one. All the remaining silhouettes scored significantly less. The distributions of the "most attractive" scores obtained by the particular somatotypes did not display any significant differences (as measured by the Kolmogorov-Smirnoff test) between the subgroups of judges *(Table 2, Figures 5, 6)*.

TABLE 2. Numbers of women choosing particular somatotypes (see *Figure 4*) as most attractive (somatotypes 8 and 9 were never chosen).

Somatotype	Number of choices	%
1	115	62.5
2	6	3.3
3	7	3.8
4	19	10.3
5	23	12.5
6	9	4.9
7	5	2.7

Fuller information about the evaluations of the attractiveness of the somatotypes is provided by a diagram of the mean values of points obtained from the ranking. The mean number of points scored by the "moderate ectomorph" type is definitely (significantly according to ANOVA test) the highest *(Table 3, Figure 7)*.

FIGURE 2. Sheldon's (1954) diagram of somatotypes. In frames somatotypes chosen for presentation in this experiment.

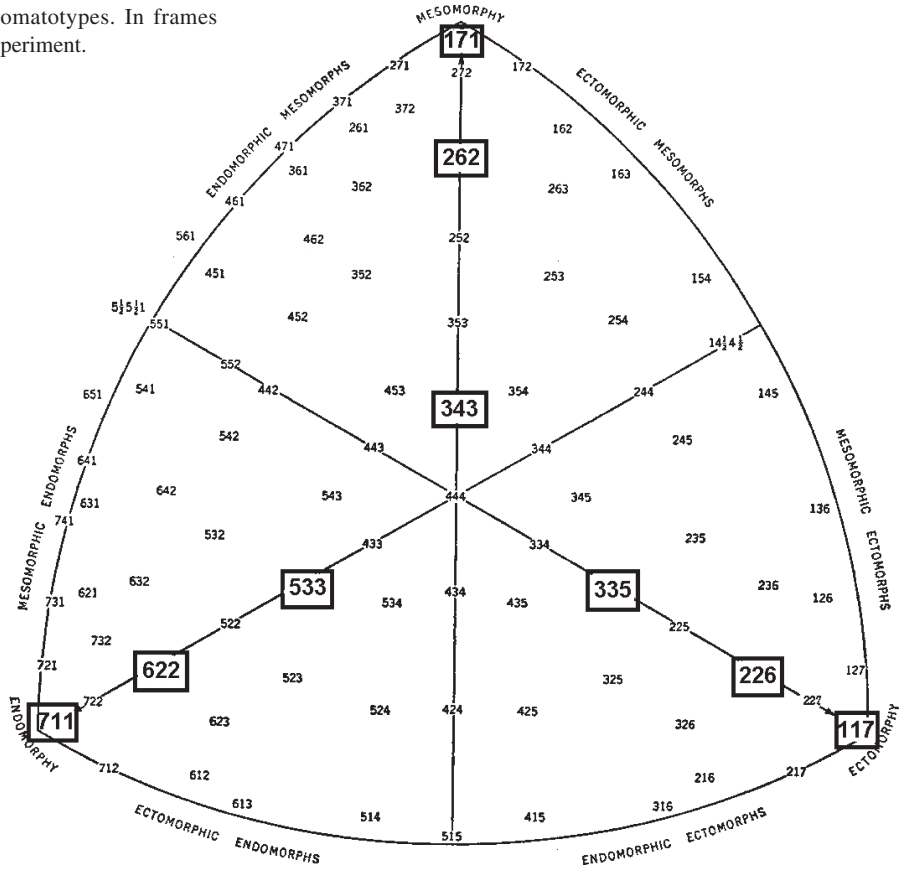
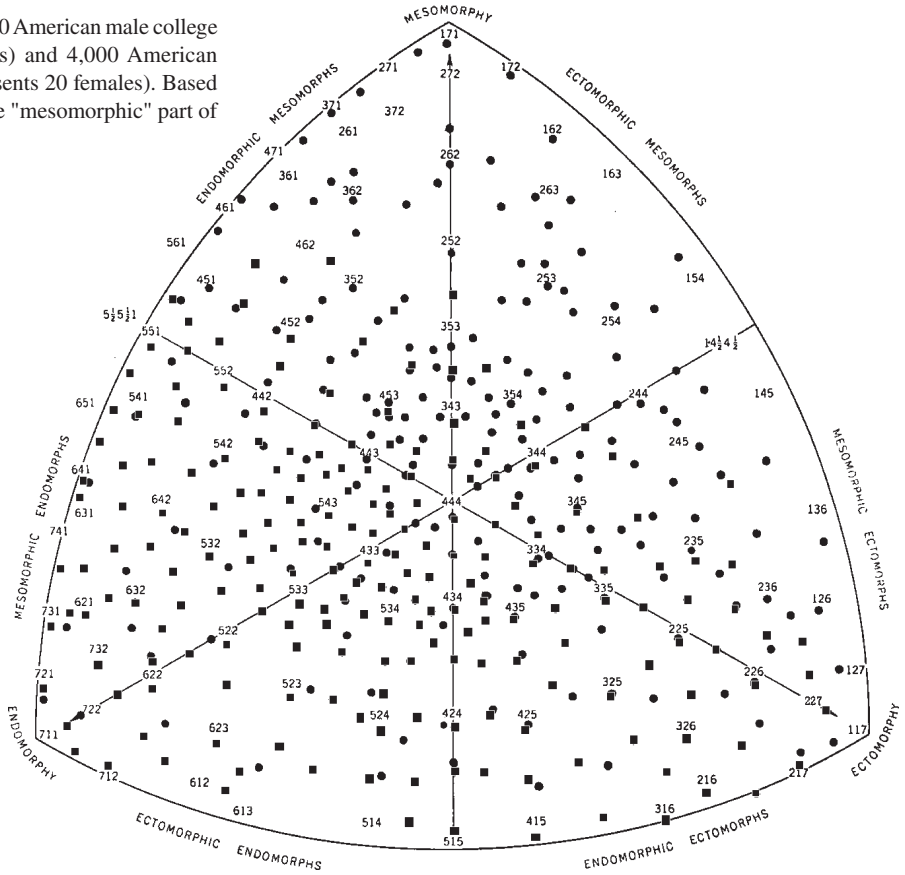


FIGURE 3. Distribution of somatotypes of 4,000 American male college students (each round dot represents 20 males) and 4,000 American female college students (each square dot represents 20 females). Based on Sheldon (1954). There are no females on the "mesomorphic" part of the diagram.



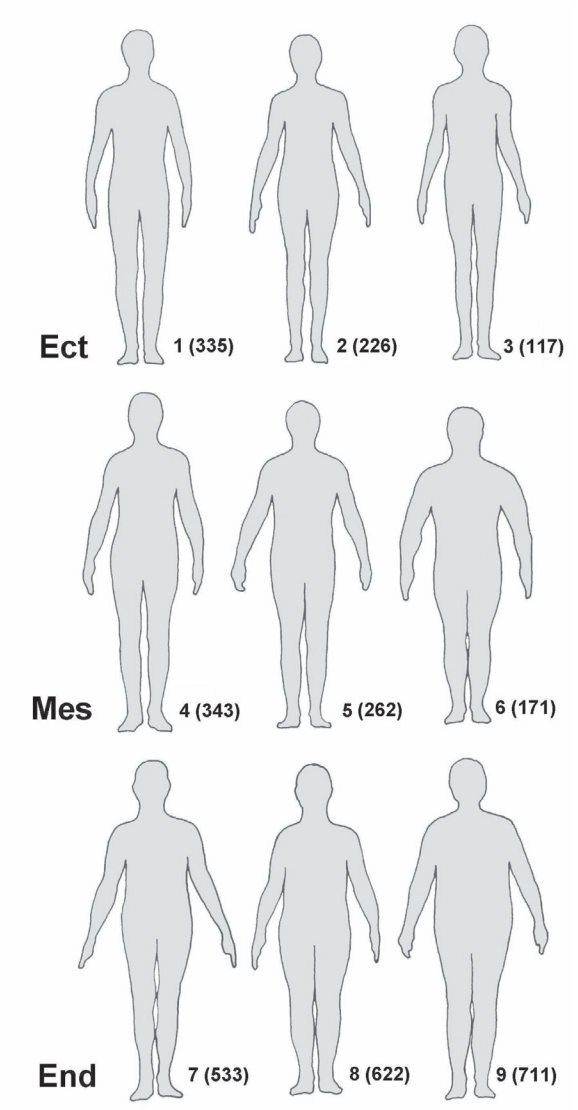


FIGURE 4. Male's somatotypes presented for evaluation by female judges. Ect – ectomorphic, Mes – mesomorphic, End – endomorphic.

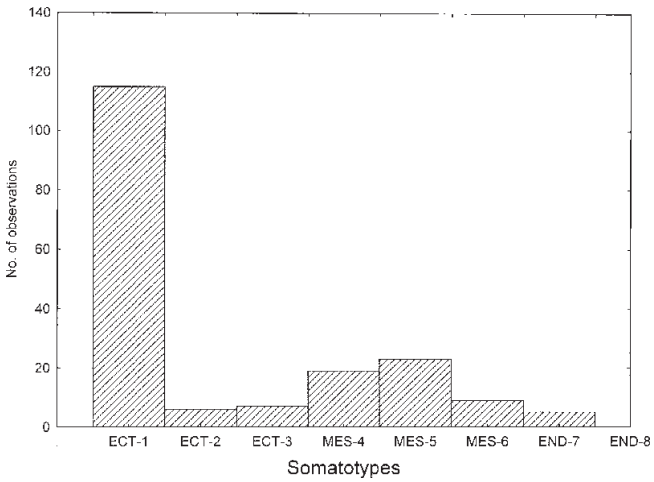


FIGURE 5. Number of judges choosing particular somatotype as the most attractive (somatotypes 8 and 9 were never chosen).

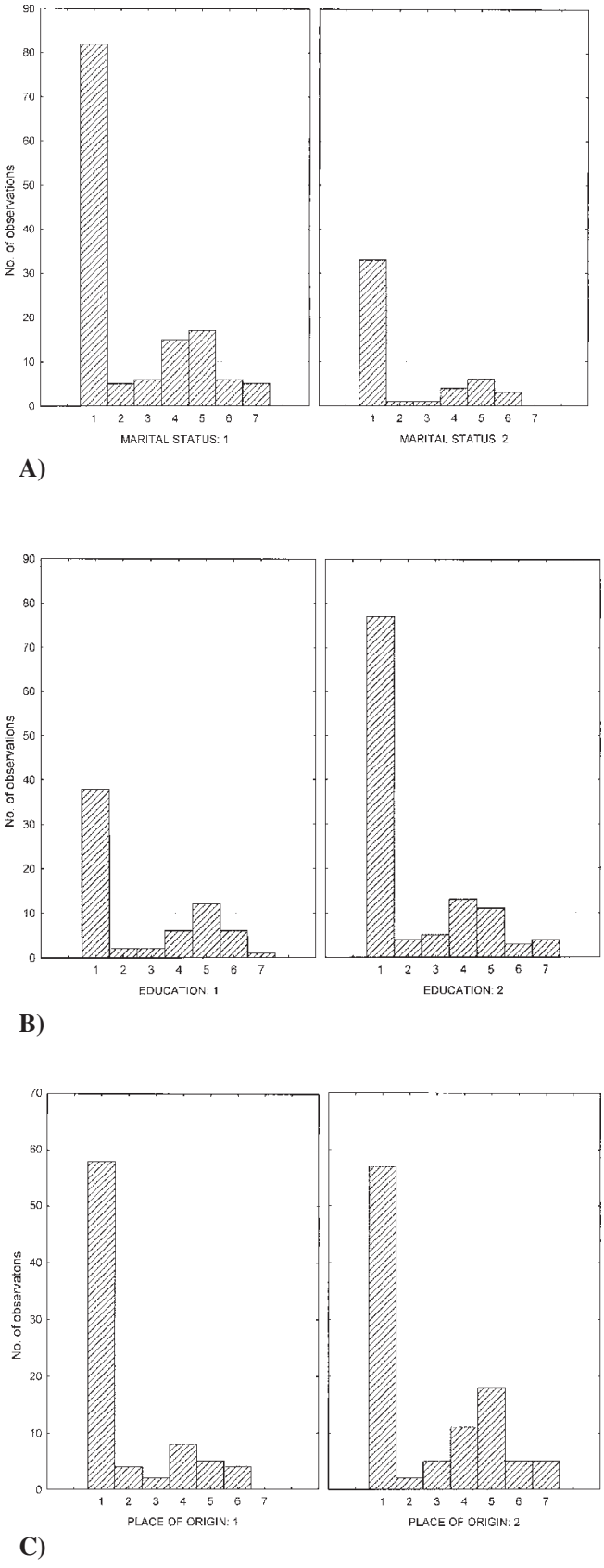


FIGURE 6. Somatotypes chosen as the most attractive by two categories of judges, differing in: (A) marital status (1 – single, 2 – married), (B) educational status (1 – lower education, 2 – higher education), and (C) place of origin (1 – cities, 2 – villages and small towns).

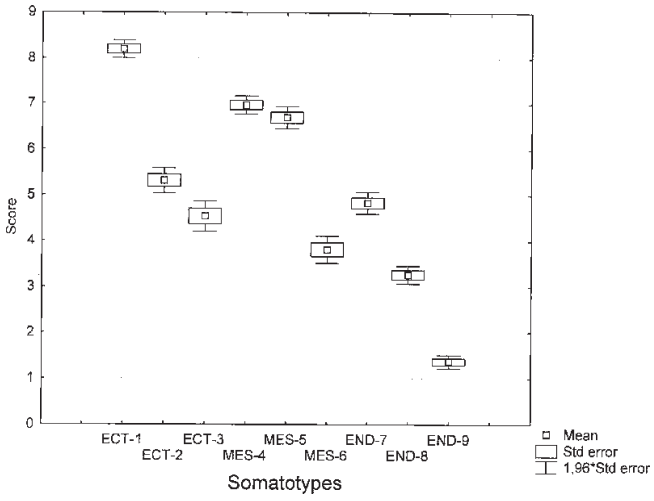


FIGURE 7. Mean scores for nine somatotypes, ranked by judges on scale from 9 (most attractive) to 1 (least attractive).

TABLE 3. Mean scores of attractiveness for all somatotypes (see *Figure 4*).

Somatotype	Mean	Median
1	8.2	9
2	5.3	5
3	4.5	4.5
4	7.0	7
5	6.7	7
6	3.8	3
7	4.8	5
8	3.3	3
9	1.4	1

Let us return to the inference presented earlier. If sexual dimorphism in human body build (especially male's somatic traits) is mainly the consequence of women's selectivity, then women should find male somatotypes with strongly expressed mesomorphy most attractive. The experiment, however, negated this consequently. It clearly shows that the preferences of the women judges were not for the somatotypes expressing growing sexual dimorphism, and that this result invalidates the antecedent about a significant role for women's selectivity. Clearly, one cannot draw far-reaching evolutionary conclusions from the experiment presented. Still, its results do not contradict the postulate that a significant factor of sexual selection leading to the development of sexual dimorphism in modern man was that of intra-sexual competition among males. In other words, women like muscles less. Perhaps males like them more.

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REFERENCES

ARONSON E., WILSON T. D., AKERT R. M., 1994: *Social Psychology. The Heart and the Mind*. HarperCollins College Publ., New York.

BUSS D. M., 1999: *Evolutionary Psychology: The New Science of the Mind.* Allyn and Bacon, Boston, Mass.

BUSS D. M., 2003: *The Evolution of Desire: Strategies of Human Mating*. Basic Books, New York.

JONES D., 1996: *Physical Attractiveness and the Theory of Sexual Selection*. Museum of Anthropology, University of Michigan, Ann Arbor.

KUJAWA B., STRZAŁKO J., 1998: Standard of physical attractiveness. *Przeglad Antropologiczny – Anthropological Review* 61: 31–48.

LEWIN R., 1998: *Principles of Human Evolution.* Blackwell Science, Malden, Mass.

MILLER G., 2000: *The Mating Mind. How Sexual Choice Shaped the Evolution of Human Nature.* Doubleday, New York.

PAWŁOWSKI B., 2000: The biological meaning of preferences on the human mate market. *Przegląd Antropologiczny – Anthropological Review* 63: 39–72.

PAWŁOWSKI B., 2003: Variable preferences for sexual dimorphism in height as a strategy for increasing the pool of potential partners in humans. *Proc. Royal Soc. London B* 270: 709–712.

PLAVCAN J. M., VAN SCHAIK C. P., 1997: Interpreting hominid behavior on the basis of sexual dimorphism. *J. of Hum. Evol.* 32: 345–374.

SHELDON W. H., 1954: *Atlas of Man. A Guide for Somatotyping the Adult Male at All Ages.* Harper & Brothers Publishers, New York.

SHELDON W. H., STIVENS S. S., TUCKER W. B., 1940: *The Varieties of Human Physique.* Harper & Brothers Publishers, New York.

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