

The Male-Taller Norm in Mate Selection

John Stuart Gillis
Walter E. Avis
St. Thomas University

It has been suggested that an important factor influencing human mate selection is a social norm that the male should be taller than the female. With the aim of providing empirical evidence concerning the possibility of such a male-taller norm, height data were collected from bank account application forms of 720 couples. According to probability theory, the chance expectation for the occurrence of couples with females taller was 2/100. The actual value found was only 1/720, which was seen as supporting the notion of a male-taller norm.

Human height has long been of interest to research workers in the area of mate selection. In 1889, Galton collected stature data from a small sample of married couples and erroneously concluded that marriage choice seemed to be "wholly independent of stature" (p. 88). Some years later, Pearson and Lee (1903) reanalyzed Galton's data and examined a sample of their own consisting of more than 1000 couples. It was concluded that there was, in fact, "strong evidence" of sexual selection based upon stature, in the form of what was referred to as "assortative mating." This term was used to describe the finding that husbands and wives tended to resemble one another in size, meaning that tall people tended to marry tall people and short people showed a preference for short people. After Fisher (1918) presented a mathematical formulation of how assortative mating must be taken into consideration when trying to estimate the inheritability of characteristics such as height, approximately two dozen studies have been carried out in which the degree of assortative mating for height has been reported. Upon summarizing these studies, Spuhler (1968) indicated that, with Europeans and Americans of European descent, a reasonable conclusion to be drawn is that a tendency for husbands and wives to be of similar height has been well documented.

Another aspect of height that may be involved in mate selection is the relative heights of males and females. In this regard, the situation has been aptly described by Berscheid and Walster (1974): "It is exceedingly curious that, despite the voluminous literature on the determinants of date and mate selection, no investigation has focussed upon the fact that a cardinal principle of date selection is that the man must be as tall or taller than the woman."

While some writers, such as Eckland (1969), Feldman (1975), and Smith (1946), have explicitly proposed that a male-taller norm exists, nothing other

than a small amount of anecdotal material has been presented to support this view. Other, more indirect recognition of the probable existence of a male-taller norm may be seen in some recent studies involving computer-matched dating (Byrne et al., 1970; Curran & Lippold, 1975; Walster et al., 1966). Since randomness of matching was desired in all of these investigations, couples were matched without regard for such well-known, powerful factors in date preference as race, religion, and socioeconomic status. However, in each case, the investigators did not dare violate the restriction that the female should never be taller than the male.

In another, more recent, study dealing with stated height preferences in interpersonal attraction, Graziano, Brothen, and Berscheid (1978) discussed the possibility that their results might be explicable in terms of "the cardinal principle" that men must be taller than women in date selection. However, as with previous studies, data on behavioral preferences with respect to height were not obtained. The only research that has been carried out in which numerical information was collected concerning the possibility of a male-taller norm in mate selection was by Beigel (1954). He found that in only one of 192 couples was the female taller than the male. However, no attempt was made to determine how this value compared with chance expectation.

In view of all of these past hypotheses concerning the likelihood of a male-taller norm in mate selection and the scanty amount of data so far collected, the present investigation was undertaken with the aim of gathering empirical evidence that could be used to evaluate the plausibility of the existence of such a phenomenon. Additional objectives were to develop a statistical standard against which data could be evaluated and to investigate possible causes of the male-taller norm, should scientific evidence of its existence be found.

METHOD

After an extensive search for reliable information about height from an adequately large sample of married couples, a source was discovered with a number of desirable features. It was learned that, to facilitate identification of customers, some banks require information about such physical features as height on applications for accounts. Because it is in their own best interest for customers to report accurately, it seems highly likely that such data would be sufficiently reliable for the purposes of the present investigation. Furthermore, while bank accounts cannot be regarded as representative of all socioeconomic classes, a better cross-section of society seems likely to be obtained than through many other forms of sampling.

Procedure

Through the cooperation of an understanding, socially aware bank manager, it was possible to obtain information based upon all of the joint checking

accounts in a particular branch of the bank. Respecting the confidential nature of the data source, a bank employee who normally had access to the material carefully examined all records under instructions to record the number of instances in which the female's height was greater than the male's.

RESULTS

In order to be as exact as possible about the mean and standard deviation values to be used in statistical formulations, actual measured height data of 98 married couples were collected from a medical clinic in the same area as the bank. The means and standard deviations for the sample were found to be as follows:

mean		standard deviation
males	175 cm (70.0 ins)	5.8 cm (2.3 ins)
females	160 cm (64.0 ins)	5.8 cm (2.3 ins)

One way to estimate the chance expectation of the female being taller than the male is to consider the differences between the heights of the spouses (height of male minus height of female). Since it is well known that height is normally distributed, if humans marry randomly with regard to height, the differences between the heights of the spouses may be assumed also to be normally distributed. Using formulas which are given in some statistics texts (such as Ferguson, 1976: 109-110), the mean of the differences in heights was calculated to be 15 cm and the standard deviation to be 8.2 cm. The probability of the female being taller—that is, a difference in height being negative—was found from normal curve tables to be about 3.4/100.

However, it is known from studies of assortative mating that the correlation between the heights of spouses is about 0.2. Considering this correlation, the standard deviation of the differences between the heights of the spouses was calculated to be 7.3 cm. Given this reduced standard deviation, the chance expectation of couples with taller females is 2.0/100.

Another way to view the present situation of two normally distributed variables, male and female heights, is by analogy to a forced-choice signal detection task. Assuming that the female corresponds to noise (no malice intended) and the male to signal (it is traditional in signal detection to have the larger values as the signal), it is possible to obtain the expected percentage of cases that would occur by chance in which the female value would be greater than the male. All that is required is that an index called d' be calculated by subtracting the respective means and dividing by the standard deviation, which previous research has shown repeatedly to be equal for males and females. The occurrence of a couple in which the female's height is observed to be greater than that of the male is analogous to a false alarm in signal detection terms. The chance expectation of such an event may be read directly from tables (Elliott,

1964), and is, of course, equal to that obtained from the normal curve tables: about 3.4/100.

The actual value found in the data from the bank was 1/720. Clearly, there was far less than a chance tendency for females to be taller than males.

Having found this empirical support for the existence of the male-taller norm, we took the next logical step and investigated possible causal factors. This was done by examining stated height preferences of the ideal mates of males and females. Upon doing a statistical analysis of the data that had been descriptively listed by Beigel (1954) in his Tables 4 and 5, we found a significant difference between the absolute height differential desired by males and females ($t = 4.93$, $d.f. = 1.16$, $p < .001$). Females stated a mean preference for a male taller by 16.8 cm (6.7 in.), while males were looking for a woman shorter by 11.3 cm (4.5 in.). Similar results have been obtained by the present authors in a sample of undergraduate students. It was found that females indicated a preference for males to be 15.0 cm (6.0 in.) taller, while the males were seeking girls who were 11.3 cm (4.5 in.) shorter ($t = 3.27$, $d.f. = 126$, $p < .001$).

DISCUSSION

The results of the present investigation would appear to confirm the existence of a male-taller norm with regard to human mate selection. One writer has suggested that a male-taller norm may be attributed to a chauvinistic male desire to keep females at a lower social level (Epstein, 1974). However, the present findings suggest that females may be even more responsible than males for maintenance of the norm. Such an outcome is consistent with the idea of the importance of "female biological choice" in mate selection, which has been recognized in studies of other species (Smith, 1978).

With regard to possible consequences of the male-taller norm, it is interesting to note that hundreds of young girls have undergone a controversial treatment to reduce their height (Wettenhall et al., 1975). For purely "psychosocial" reasons, 10-13-year-old girls have been given estrogens in daily doses from 10 to 100 times higher than ordinary birth control pills for one to five years in order to reduce their height by only an average of 2.4 cm. Because of a possible higher risk of cancer and other potential side-effects of estrogens, up to 50% of North American physicians refuse to use this treatment procedure (Gillis, in press).

The fact that methods for reducing male height have been known for many years but only a handful of boys have actually undergone treatment would suggest that motivation is not simply a desire to be shorter per se. Instead, a likely reason for parents seeking treatment for their daughters is an awareness of the male-taller norm and a belief that taller girls may have more difficulty finding a mate. However, it would appear that these fears on the part of parents may be greatly exaggerated. Making use of the numerical information about the male-taller norm gained in the present study, we have developed a computer simulation of mating and found that the influence of the male-taller norm on marital eligibility is only slight (Gillis and Avis, Note 1).

Part of the reason why the male-taller norm does not seem to have as great an impact upon marital eligibility as might be expected is an apparent moderating effect of the previously-described phenomenon of assortative mating. Since couples tend to resemble one another in height, taller males do not appear to be "used up" by shorter females as often as would be the case without assortative mating.

Yet, if height is not strongly related to marital eligibility, it seems logical to wonder why people would spend their "bargaining chips" upon such a frivolous characteristic as height. Why does the male-taller norm seem to be so pervasive? Perhaps it is important not that height and marital eligibility actually be strongly related, but that people tend to "believe" that a close relationship exists. Future research might therefore be fruitfully aimed at examining the possibility of a relationship between the strength of belief in a connection between height and marital eligibility and the degree of adherence to the male-taller norm in interpersonal behavior with the opposite sex.

REFERENCE NOTE

1. Gillis, J. S., & Avis, W. E. Human stature and marital eligibility. Manuscript submitted for publication, 1979.

REFERENCES

- Beigel, H. G. Body height in mate selection. *Journal of Social Psychology*, 1954, 39, 257-268.
- Berscheid, E., & Walster, E. Physical attractiveness. In L. Berkowitz (Ed.), *Advances in experimental social psychology*, vol. 7. New York: Academic Press, 1974.
- Byrne, D., Ervin, C. R., & Lamberth, J. Continuity between the experimental study of attraction and real-life computer dating. *Journal of Personality and Social Psychology*, 1970, 16, 157-165.
- Curran, J. P., & Lippold, S. The effects of physical attraction and attitude similarity on attraction in dating dyads. *Journal of Personality*, 1975, 43, 528-539.
- Eckland, B. K. Theories of mate selection. *Eugenics Quarterly*, 1969, 15, 71-84.
- Elliott, P. Tables of d' . In J. A. Swets (Ed.), *Signal detection and recognition by human observers*. New York: John Wiley, 1964.
- Epstein, C. F. Commentary on a paper by R. Seidenberg. In L. Gross (Ed.), *Sexual behavior*. Flushing, NY: Spectrum, 1974.
- Feldman, S. D. The presentation of shortness in everyday life—Height and heightism in American society: Toward a sociology of stature. In S. D. Feldman & G. W. Thielen (Eds.), *Life styles: Diversity in American society*. Boston: Little, Brown, 1975.
- Ferguson, G. A. *Statistical analysis in psychology and education*. New York: McGraw-Hill, 1976.
- Fisher, R. A. The correlation between relatives on the supposition of Mendelian inheritance. *Transactions of the Royal Society (Edinburgh)*, 1918, 52, 399-433.
- Galton, F. *Natural inheritance*. London: Macmillan, 1889.
- Gillis, J. S. *The psychology of human height*. Champaign, IL: Institute for Personality and Ability Testing, in press.

- Graziano, W., Brothen, T., & Berscheid, E. Height and attraction: Do men and women see eye-to-eye? *Journal of Personality*, 1978, 46, 128-145.
- Pearson, K., & Lee, A. On the laws of inheritance in man: I. Inheritance of physical characters. *Biometrika*, 1903, 2, 357-397.
- Smith, J. M. *The evolution of sex*. New York: Cambridge University Press, 1978.
- Smith, M. A research note on homogamy of marriage partners in selected physical characteristics. *American Sociological Review*, 1946, 11, 226.
- Spuhler, J. N. Assortative mating with respect to physical characteristics. *Eugenics Quarterly*, 1968, 15, 128-140.
- Walster, E., Aronson, V., & Abrahams, D. Importance of physical attractiveness in dating behavior. *Journal of Personality*, 1966, 4, 508-516.
- Wettenhall, H.W.B., Cahill, C., & Roche, A. F. Tall girls: A survey of 15 years of management and treatment. *Journal of Pediatrics*, 1975, 86, 602-610.

John Stuart Gillis is Associate Professor of Psychology at St. Thomas University in Fredericton, NB, Canada. He has a longstanding involvement in multivariate approaches to the understanding of personality.

Walter E. Avis is Associate Professor of Psychology at St. Thomas University in Fredericton, NB, Canada. He has research interests in statistics and computer applications in the social sciences.