Commentary: Masculinity, femininity and heart disease

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Women have less and later coronary heart disease (CHD) than men worldwide, unlikely to be explained by men’s more unfavourable lifestyle or the pressures of their more frequent work outside the home, previously popular explanations. Differences in male and female personality are another explanation for male–female CHD disparities. In a 1999 systematic review of psychosocial factors in the aetiology of CHD, Hemingway and Marmot found type A behaviour/hostility was the only personality trait that had been studied prospectively in at least two population-based studies with CHD outcomes; a positive association was found in 6 of the 14 studies. The concept of coronary-prone (type A) behaviour was introduced by Friedman and Rosenman, who reported that a behaviour pattern characterized by aggressiveness, competitiveness, hostility and time urgency was associated with CHD in both sexes, and that women who stayed home were less likely to be type A than women who went out to work.

The competitive and aggressive characteristics of the original type A behaviour pattern are central components of the ‘masculine’ personality traits described by social psychologists. If masculinity and femininity are stable traits and not merely reactive states, then it should be possible to study these traits as risk factors for CHD. The Bem Sex Role Inventory (BSRI) is based on the premise that there are two distinct categories of behaviour: masculine, with attributes that are particularly desirable or acceptable for men (e.g. aggressive, competitive), and feminine, with attributes that are particularly desirable or acceptable for women (e.g. nurturing, supportive). Bem proposed that both men and women have some masculine and feminine traits, and that androgynous individuals (those who score high for both masculine and feminine attributes) might be the most flexible to changing situations, and therefore the healthiest. As reviewed elsewhere, Bem’s thesis that masculinity and femininity were not simply two ends of a single bipolar dimension, and that some opposite sex characteristics might be independent traits, was a major step away from most sociologic thinking at the time.

In this issue of the International Journal of Epidemiology, more than 30 years after Bem published her seminal paper in 1974, Hunt and colleagues publish the first prospective peer-reviewed study of Bem’s masculinity and femininity scores and subsequent death from CHD. In their study, 704 men and 847 women from Glasgow completed the BSRI in 1988 when they were aged 55 years, and were followed to 2005, by which time 88 men and 41 women had deaths attributed to CHD. In an analysis using masculinity and femininity as continuous variables, high masculinity scores did not increase the risk of fatal CHD, as might have been predicted, but high femininity scores were cardioprotective in men. This association was independent of smoking, binge drinking, body mass index, systolic blood pressure and income. In contrast, neither masculinity nor femininity scores were associated with fatal CHD in women, but there were only 41 CHD deaths in women.

Originally Bem used Student’s r-ratios to classify individuals into sex-types. In response to two influential critiques published in 1975—reviewed by Annandale and Hunt—Bem’s 1981 manual recommended a median split analytic method, whereby those who were classified as masculine had both a high masculinity score and a low femininity score, and those classified as feminine had both a high femininity score and a low masculinity score. In the current article, Hunt and colleagues repeated their analysis using the median split method, and found no evidence that high femininity with low masculinity was cardioprotective. Masculinity defined by median split, however, predicted a significantly increased risk of CHD death in men. Thus, depending on how the BSRI scores were analysed, femininity was good for men or masculinity was bad for men. Some readers may find it curious, as I did, that the title of the Hunt paper, ‘Decreased risk of death from coronary heart disease amongst men with higher “femininity” scores: a general population cohort study’ highlights the cardioprotective effect of femininity in men, and curiously ignored the equally strong evidence from the same study, with an alternate analysis, for an unfavourable effect of masculinity in men.

Data are insufficient to determine whether masculinity or femininity scores represent a trait (permanent) or a state (reactive). As Hunt and colleagues note, some studies suggest that masculine and feminine personality types vary by age or by birth cohort. Sex roles have changed in the western world, with more house-husbands caring for children, and more women working outside the home when they have children at home. Likewise, cigarette smoking has been taken up later by women, sometimes as a symbol of power and independence. In a study of birth cohorts from Scotland, the strongest association of BSRI-defined scores with cigarette smoking was in women in the 1950s birth cohort, where each increase in femininity score...
unit increased the odds of being a smoker by 46%.

After midlife, femininity and masculinity distinctions may dwindle; it would be interesting to see whether this fits with the age-related decline in men’s testosterone levels and in women’s estrogen levels. On average, older men have endogenous estradiol levels that are four times higher than levels in postmenopausal women of similar age.

Future studies should track BSRI scores starting at younger ages, and look for changes by age, birth cohort, occupation, marital status, classic and novel risk factors and circulating hormone levels. Other studies are needed to examine male and female psychology as a determinant of CHD in different cohorts. It is late, but not too late, to examine the consistency and cardiovascular consequences of femininity and masculinity.

References


