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SPOUSE-PAIR RISK FACTORS AND CARDIOVASCULAR REACTIVITY

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Abstract – Epidemiological research has identified increased risk for coronary heart disease in Type A men married to well-educated women. The present study examined mechanisms that may explain the increased risk associated with this specific spouse-pair combination. Cardiovascular and self-report responses to an individual, standardized laboratory stress task and a dyadic, interactive affect provocation task were assessed in Type A or B men married to women of either low (≤13 years) or high (>13 years) educational levels. Type A men with highly educated spouses (i.e., the highest risk group) also reported the greatest anger-out tendency, high trait anger, and low anger control scores. These men further exhibited elevated diastolic blood pressure at baseline and greater diastolic reactivity specific to the dyadic task than did the men in the lower risk groups. These findings, based on a laboratory study of spousal interactions, support the epidemiological high-risk designation of the Type A man with a highly educated spouse and confirm earlier conceptions that Type A research benefits more from a social interaction approach rather than from an individual trait perspective.

Keywords: Type A behaviour; Education; Marital satisfaction; Cardiovascular reactivity.

Every affection of the mind that is attended with either pain or pleasure, hope or fear, is the cause of an agitation whose influence extends to the heart.

William Harvey, 1628

The present study examines the relations between Type A behaviour in men, the educational status of their spouses, the interaction of these two variables on cardiovascular reactivity to psychological stress, and psychological characteristics, including anger, dyadic adjustment, and other indices of psychological adjustment.

Type A behaviour

During its 30-year lifespan, the Type A concept and its associated literature base has seen a number of major developments and refinements [1]. Initial efforts were directed at prospective evaluations of coronary heart disease (CHD) risk and led to the conclusion that the presence of Type A behaviour was associated with a roughly 2:1 risk (vis à vis its Type B counterparts) for CHD. Risk ratios varied somewhat, depending on the type of population sampled, that is, sex differences and blue- vs. white-collar employment differences emerged [2]. Later research challenged the notion that

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global Type A behaviour was the most powerful behavioral predictor of CHD [3], and researchers began looking for "active" or "toxic" ingredients instead of focusing on the global presence of the Type A behaviour pattern. This search for active ingredients has now identified a number of candidates for behaviorally based CHD risks: anger and hostility [4–7], inappropriate communication of affect [8, 9], self-involvement [10], self-esteem [11], and need for control [12].

Type A's and their spouses

The search for CHD risk factors has been further advanced by epidemiological approaches that isolated demographically definable population subgroups with the greatest CHD risk. A particularly compelling example of a high-risk subgroup in the Framingham study [13] involved the combination of Type A characteristics in men with educational status of their spouses. The 10-year incidence of CHD was 29.3% for Type A men married to highly educated women, 14.7% for Type A men married to less educated women (i.e., <12 years), 11.1% for Type B men married to highly educated women and 10.6% for Type B men married to less educated women. In another study of spouse-pair risk factors, Carmelli, Swan and Rosenman [14] found that Type A men married to women with 13+ years of education had an increased odds ratio for CHD of 3.6 as compared to Type B men with spouses of similar education (risk ratio 0.4). The same authors noted that highly educated women displayed greater activity and dominance levels than women with less than 12 years of education. Finally, Sanders, Smith and Alexander [15] studied 60 married couples and found that couples composed of two structured interview-defined Type A's showed a larger increase in hostile/dominant behaviour during discussions of marital conflicts than did couples consisting of two Type B's or Type A male/B female combination. These findings strongly suggest that the study of Type A men should be conducted with simultaneous consideration of spousal characteristics.

The question arises as to why spouse pairs may carry differential CHD risks. Research evidence on the behaviour of Type A's outside of the laboratory indicates that Type a individuals and their spouses tend to interact in a maladaptive manner. Poor marital communications are associated with both situation-specific maladaptation, such as heightened cardiovascular reactivity, and more general effects, including unsatisfactory marital and work relations, as well as poor health status [16]. The patterns of marital interaction and the associated health effects exhibited by Type A's overlap with those reported for maritally distressed couples, that is they share maladaptive and potentially pathogenic similarities, such as poor communication and a tendency towards reciprocal escalation of conflict.

Available evidence for between-spouse concordance in resting blood pressure further supports the notion that individual-specific cardiovascular characteristics may be influenced by the nature and quality of one's interpersonal relationships. Sackett, Anderson, Miller, Feinleib and Kannel [17] found significant positive correlations for between-spouse resting blood pressures (both SBP and DBP). The strength of the relations increased as a function of the length of the marriage. Speers, Kasl, Freeman and Ostfeld [18] further showed that significant spousal concordance in blood pressure levels was independent of age and socioeconomic or lifestyle factors. Sex-role socialization and orientation, occupational status, role strain, and status incongruity between spouses have been hypothesized as possible explanations for spouse-pair risk factors [19].