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**Abstract**

PURPOSE: Concordance between spouses may be due to partner selection factors and/or the effects of marriage/environment. The extent to which partner selection factors contribute to spouse concordance has important implications for heritability studies. The aim of this study was to examine the magnitude of spouse correlation in lung function measures and its relationship to duration of marriage.

METHODS: Cross-sectional and longitudinal data collected over the period 1969 to 1995 for 2615 couples from the Busselton Health Study have been analyzed using the program FISHER.

RESULTS: Unadjusted correlations were around 0.45 for forced expiratory volume in 1 second (FEV1) and 0.25 for FEV1/FVC (forced vital capacity) and were reduced to 0.05 and 0.10, respectively, after adjustment for age, height, and smoking. No trend with marriage duration was apparent in both cross-sectional and longitudinal analyses but there was a significant downward trend in the correlations with age at marriage.

CONCLUSIONS: The findings indicate that observed correlations in lung function measures are mostly due to partner selection factors and that partner selection factors have greater influence for couples that marry at younger ages. Family studies that aim to identify and separate genetic from other influences on lung function measures should not regard the mother–father correlation as due to common environment effects.