Husband-Wife Similarities in Dental Caries Experience

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Husbands and wives constitute genetically unrelated individuals living together, often sharing a common diet, and subjected to similar environmental stresses. Examination of resemblances in the dental caries experience (DMFT) in spouse pairs can contribute to an understanding of dental caries epidemiology in the adult (KLEIN, *JADA* 33:735–743, 1946).

In this study, individual husband and wife DMFT data for 1,800 spouse pairs from the Ten-State Nutrition Survey of 1968–1970 (ROWE ET AL, *Pediatr* 57:457–461, 1976) have been compared. Race-specific husband-wife correlation coefficients (r) were calculated for five different age groups, arranged according to the husband's age. Partial correlations were also calculated, holding per capita income constant, to exclude socioeconomic variables. In addition, DMFT correlations were also calculated on a state-by-state basis to detect spurious correlations resulting from regional differences in examination quality and coding.

Husband-wife DMFT correlations were positive for all five age groupings in both whites and blacks (table). The correlations were generally significant where sample size exceeded

100 and were highly significant overall (P <0.00001). Partial correlations, correcting for socioeconomic status, were similar to the raw-order correlations differing by only 0.01 overall. Thus, spouse DMFT correlations averaged close to 0.19 for 1,275 white pairs and 0.20 for 525 black pairs.

DMFT findings pertain to the ten states surveyed (Massachusetts, New York, Michigan, Kentucky, West Virginia, South Carolina, Louisiana, Texas, California, and Washington) and include New York City. They are neither regional in nature nor the product of differences in examination criteria. The magnitude of the husband-wife DMFT correlations resembles those for triceps and subscapular fatness, hemoglobin and hematocrit levels, and for serum and urinary vitamins (GARN, CLARK, and GUIRE, *Ecol Food Nutr* 5:47–50, 1976). Dietary habits in common would seem to be a viable explanation for the husband-wife DMFT similarities and the tendency for the correlations to increase with age.

The positive spouse DMFT correlations at midpoint age 20, even after income correction, suggest assortative mating with regard to dental caries experience. Studies of engaged and newly married couples and of couples living together may help to elucidate factors that lead to initial and increasing husband-wife DMFT resemblance.

TABLE

SPOUSE CORRELATIONS FOR DMFT

	White				Black			
	Zero-Order		Partial		Zero-Order		Partial	
Age Midpoint	N	r	N	r	N	r	N	r
20	130	0.10	91	0.05	50	0.28	32	0.29
30	378	0.18	353	0.21	121	0.12	98	0.13
40	330	0.17	312	0.17	137	0.14	112	0.22
50	291	0.26	276	0.24	119	0.26	107	0.10
60	146	0.19	146	0.21	98	0.26	81	0.20
All ages*	1,275	0.19	1,178	0.19	525	0.20	430	0.17
State-specific†	1,271	0.24			520	0.18		

* Pooled from five age-specific values of r grouped according to age of husband.
† Pooled from state-specific husband-wife DMFT correlations.