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Williams R B, Haney T L, Lee K L, Kong Y H, Blumenthal J A & Whalen R E. Type A behavior, hostility, and coronary atherosclerosis. *Psychosom. Med.* 42:539-49, 1980.

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In this study we evaluated the association between Type A behavior, hostility, and coronary disease in 424 patients undergoing routine diagnostic coronary angiography at Duke Hospital during the late 1970s. In both men and women, Type A and high hostility scores were independently associated with more severe disease on the angiogram. [The SC® and the SSC® indicate that this paper has been cited in more than 285 publications.]

Pursuing the Noble Hypothesis

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When studies failing to find a relationship between Type A behavior and coronary disease endpoints began to appear in the late 1970s, I dismissed them at first as methodologically flawed. But then a particularly well-done study¹ convinced me the Type A hypothesis should be refined by focusing on the specific components of Type A as they relate to disease.

When Jim Blumenthal had wanted earlier to obtain a measure of hostility along with Type A on the angiographic patient sample in his dissertation research, it was serendipity (his other advisor had some mimeographed copies lying around) that led him to choose the Cook and Medley Hostility (Ho) scale from the widely used Minnesota Multiphasic Personality Inventory (MMPI). In the press of publishing Jim's finding of more severe coronary disease in Type A patients,² we neglected to follow up a finding of increased disease in high Ho-scoring patients until the negative Type A studies came along.

Besides trying to salvage the by-then beleaguered Type A research enterprise, by asking whether hostility might be the only harmful part of Type A, I now realize I was also pursuing what Aldous Huxley once termed "the noble hypothesis": that hypothesis, among those which could be true, that would do the most human good if proven true. Surely it would do more good to show that being mean and nasty causes you to drop dead than to show that getting things done quickly is deadly!

Soon after our hostility paper was published, the "brilliance" of using the MMPI Ho scale to measure hostility became evident. Other researchers were able to rescore archival MMPI data that had been collected decades earlier and show that the Ho scale predicted both coronary disease and all-cause mortality.^{3,4} When Rick Shekelle and John Barefoot showed me these results documenting the prospective prediction of mortality by Ho scores, it was one of those peak experiences every researcher dreams of.

Over the ensuing years, research on hostility and health has burgeoned, with mounting evidence strengthening the case that hostility is harmful to health.⁵ For example, we have just been able to show that high Ho scores in late adolescence predict poorer health behaviors at midlife.⁶

I believe our paper is widely cited because it stimulated so much other research that documents hostility as a risk factor for major illnesses. Our paper and the research it stimulated surely played a key role in my selection as the first recipient of the Society of Behavioral Medicine's Upjohn Distinguished Scientist Award in 1992.

Interventions are now needed to prevent hostility's health-damaging effects. This is why my wife, Virginia, and I have written a book⁷ to help the "average" hostile person assess and control his/her own hostility.

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