Blood-Pressure Responses During Social Interaction in High- and Low-Cynically Hostile Males

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The Cook and Medley Hostility (Ho) Scale has been found to predict the development of coronary heart disease, coronary death, and death from other causes. Enhanced physiological responsiveness among high—Ho subjects may represent a link between hostility and health. The present study examined the systolic and diastolic blood-pressure (SBP, DBP) and heart-rate (HR) responses of high- and low-Ho undergraduate males while they presented their position and listened to their partner's opposing position in a current events discussion task. Compared to low-Ho subjects, the high-Ho group displayed larger SBP and DBP responses. These results and others suggest that cynical hostility is associated with greater physiological responses to interpersonal stressors.

KEY WORDS: hostility; cardiovascular reactivity; cynicism; blood pressure.

INTRODUCTION

Several recent studies have identified hostility as a risk factor for coronary heart disease (CHD) morbidity and mortality, as well as other causes of death (for reviews, see Dembroski and Costa, 1987; Matthews, 1988; Williams et al., 1985). The Cook and Medley (1954) Hostility (Ho) scale is a 50-item scale derived from the Minnesota Multiphasic Personality Inventory (MMPI). The scale appears to assess primarily anger proneness, resent-
ment, suspicion, and mistrust (Smith and Frohm, 1985). The Ho scale has also been found to be related to overt behavioral measures of antagonism in interpersonal interactions (Smith et al., 1988). Thus, the scale apparently assesses a dimension variously described as cynical hostility, cynical mistrust, or simply cynicism (Costa et al., 1986; Smith and Frohm, 1985).

Williams et al. (1980) found that high Ho scale scores were associated with coronary artery disease (CAD) severity in a sample of patients undergoing diagnostic coronary angiography. This association was larger than and independent of the relationship between Type A behavior and CAD. Three prospective studies have indicated that high-Ho persons are more likely to develop CHD or die prematurely from CHD or other causes than the low-cynically hostile persons (Barefoot et al., 1983, 1987b; Shekelle et al., 1983). Three failures to replicate this relationship have been reported (Leon et al., 1988; Hearn et al., 1989; McCranie et al., 1986), although some aspects of these negative results have been criticized on methodological grounds (Williams, 1987). Scores on a similar measure of suspiciousness and mistrust have been found to predict all-cause mortality (Barefoot et al., 1987a) and CHD (Ostfeld et al., 1964) in other studies. Thus, although the evidence is not completely consistent, cynical hostility appears to be a risk factor for CHD and other life-threatening illnesses.

There are several potential links between hostility and health (Smith and Pope, 1988). Williams et al. (1985) have suggested that given their proneness to anger and suspicion, high-Ho persons are more likely to display the exaggerated levels of physiological responsiveness associated with anger and vigilance. Such physiological responses are a plausible link to disease, although more definitive evidence of the health effects of physiological reactivity is needed (Krantz and Manuck, 1984).

To date, the evidence of an association between Ho scores and physiological reactivity is somewhat mixed. Two recent studies found no relationship between Ho scores and cardiovascular responses to traditional laboratory stressors such as mental arithmetic and the Stroop color word test (Sallis et al., 1987; Smith and Houston, 1987). In contrast, Hardy and Smith (1988) found that high-Ho subjects displayed higher diastolic blood pressure (DBP) reactivity during a role-play task involving high levels of interpersonal conflict than did low-Ho subjects. Cynical hostility was unrelated to DBP in a low-conflict condition, however. Suarez et al. (1988) have also reported similar results. High-Ho subjects who were harassed while working on a stressful word identification task displayed greater DBP and systolic blood-pressure (SBP) reactivity compared to low-Ho subjects. Working on the same task without harassment, however, did not produce differences between high- and low-cynically hostile subjects. Finally, Weidner et al. (1989) found that high-Ho subjects, compared to low-Ho subjects, displayed greater SBP and DBP reactivity while working on unsolvable anagrams. Subjects had previously