

TYPE A BEHAVIOR, FAMILY HEALTH HISTORY,
AND PSYCHOLOGICAL DISTRESS

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Summary.—This study examined the relationship between Type A behavior and family health history to psychological distress in the face of daily life stress. Measures of stress, Type A behavior, family health history, and psychological distress were collected for 196 employees over 4 mo. Analyses of covariance showed that Type A individuals experienced significantly more psychological distress than Type Bs. Family health history and stress did not directly affect psychological health status.

Recent research on the stress-illness relationship has focused on possible moderating variables such as personality, social support, cognitive outlook, health habits, and coping skills (Antonovsky, 1979; Johnson & Sarason, 1978; Kobasa, 1979; Lazarus, 1966). This study investigated the relationship of Type A behavior and family health history to psychological health status. Data on these mediators have been obtained from individuals for whom information concerning daily life stress and psychological distress are also available.

With respect to personality variables in stress-illness research, a great deal of attention has recently focused on the Type A behavioral pattern. This overt style is characterized by hard-driving, time-urgent, impatient, competitive, aggressive, achievement striving, and hostile behaviors in individuals perceiving environmental situations as being particularly challenging, threatening or stressful (Friedman & Rosenman, 1974). It is important to emphasize that Type A behavior is neither uniform nor all-inclusive for all individuals. As such, it represents characteristic behavioral responses of individuals rather than dichotomous personality traits (Matthews, 1982). To date, this behavioral response pattern has been shown to exert an independent pathogenic contribution to the development of coronary heart disease in a number of studies (Haynes, Feinlieb, & Kannel, 1980; Rosenman, Brand, Jenkins, Friedman, Straus, & Wurm, 1975).

Recent research suggests that this behavioral pattern is multidimensional with only certain components of the pattern contributing directly to coronary heart disease (Matthews, 1982; Cooper, Detre, & Weiss, 1981). It is becoming clear that the various assessment techniques used to measure Type A behavior (e.g., Structured Interview, Jenkins Activity Scale, Framingham scale) measure overlapping aspects of this behavioral pattern (Matthews, 1982; Mayes, Sime, & Ganster, 1984). For example, the Structured Interview appears particularly sensitive to psychomotor manifestations of Type A responses (such as verbal hostility and speech patterns). On the other hand, the Jenkins Activity Scale

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and Framingham scale appear more sensitive to self-reported competitive drive and anxiety, respectively (Matthews, 1982).

To date, limited empirical evidence has accumulated linking pattern A responses with health outcomes other than coronary heart disease. In general, individuals responding in a Type A manner do not report greater state or trait anxiety, neurotic or somatic symptoms, or depression than those expressing Type B behaviors (Chesney, Black, Chadwick, & Rosenman, 1981). Two explanations are possible in accounting for these findings. First, given the multidimensional nature of Type A behavior and the overlapping assessment methods used, it is possible that only certain aspects of the behavioral pattern are being assessed in the various studies to date. Most have utilized either the Structured Interview or the Jenkins Activity Survey which have shown mixed results with psychophysiological outcomes in a variety of laboratory studies (Matthews, 1982). Second, several studies suggest that individuals expressing Type A behaviors typically minimize and ignore their psychological and physical symptoms (Schlegel, Wellwood, Copps, Gurchow, & Sharratt, 1980). Hence, the relationship between Type A behavior and self-reported health outcomes may be stronger than originally hypothesized.

Recently, Kobasa, Maddi, and Zola (1983) demonstrated that although physical illness and Type A were unrelated, under conditions of high life-events stress, hardy Type As experienced the least amount of physical illness when compared to other groups. Suls (1979) demonstrated that negative life-events stress was significantly associated with symptoms of psychological distress in individuals expressing Type A behaviors.

Additional support for an association between Type A behavior and health outcomes other than cardiovascular disease has been cited in three recent studies (Woods & Burns, 1984; Mayes, Sime, & Ganster, 1974; Nowack & Hanson, 1983). Although each of these studies utilized different measures of Type A behavior and physical and psychological health outcomes, significant relationships between these variables were consistently observed.

Because little information exists concerning the psychological correlates of the Framingham scale (Smith, Houston, & Zurowski, 1983), this study investigated the relationship between Type A behavior and psychological distress. In this study, psychological distress refers to psychophysiological outcomes of stress including anxiety, depression, interpersonal sensitivity and somatic complaints. In this way, the hypothesis that Type A behavior contributes to health outcomes other than coronary heart disease could be explored further.

With regard to family health history, it is generally assumed that individuals with a weak constitutional predisposition are more likely to experience illness in the face of stress than their less hardy counterparts. Several mechanisms have been postulated to account for this theoretical relationship.

One hypothesis is that stress affects the constitutionally weakest organs and physiological systems, directly resulting in physical breakdown and illness. Some investigators (Selye, 1956) consider the adverse results of stress to be related to "adapational exhaustion" whereas others (Moos, 1979) argue that such a breakdown is due to physiological activation.

A second hypothesis posits that some individuals are at risk in the face of stress as a result of constitutionally faulty stress responses. Either these responses tax the organ systems directly or limit the protection of the body to fight against disease agents. Recent theorizing has suggested that the immune system may play a critical role in stress resistance. Some investigators suggest that immunosuppressive factors may be partially determined genetically and that they affect adaption to daily life stress (Pelletier, 1977).

Research on constitutional predisposition generally has examined twin studies and family health histories. In his review of various disorders, Weiner (1977) finds varying degrees of evidence for the role of family health history in the stress-illness relationship. Some additional studies link family health history to major health outcomes such as cancer and heart disease (Silverberg & Holleb, 1974; Insull, 1973; Friedman, *et al.*, 1974). Hence, some limited evidence exists that family-health history may contribute either resources or vulnerabilities to the influence of stress on health status.

To date, available research on family health history and Type A behavior suggests that these variables are largely unrelated to each other but show significant interaction effects in laboratory psychophysiological studies (Morrell & Katkin, 1982). In some preliminary data from these studies, individuals expressing Type A behaviors with poor family health histories of illness showed significantly greater physiological responses under stress (as assessed by blood pressure and heart rate responses) than did those with low family-health histories (Morrell, *et al.*, 1983). As such, the relationship between Type A behavior and family-health history in the stress-illness relationship appears worthy of further investigation. How family constitution would affect psychological distress outcomes and interact with Type A behavior was the focus of this study.

In summary, this study investigated the relationship between Type A behavior and family-health history to psychological health status in the experience of daily life stress. It was expected that Type A individuals possessing strong family health histories would experience significantly less psychological distress compared to their less hardy Type A counterparts. Consistent with recent research, a significant relationship between Type A behavior and psychological distress was also expected.

METHOD

Questionnaires were distributed by mail to 300 human service employees at the University of California, Los Angeles. Included was a cover letter and

demographic data-page soliciting participation over a period of 4 mo. During the first data collection period 196 of the questionnaires were returned; the response rate was 65%. Four months later the respondents were encouraged by mail to complete an identical set of questionnaires. During this second data-collection period, 146 of the original 196 were returned and usable for a response rate of 77%. This homogeneous sample was predominantly 20 to 55 yr. of age, college-educated, and in supervisory roles. The sample also included a majority of women (67.7%).

A measure of family-health history was assessed via the Family Health Survey (Morrell & Katkin, 1983). This 40-item survey check list contains items pertaining to cardiovascular and cerebrovascular disorders of an individual's parents and grandparents. Sample items included high blood pressure (hypertension), hardening of the arteries (atherosclerosis), heart attack, and stroke. Total scores were derived by summing the number of disorders checked for all relatives, resulting in a possible range from 0 to 24.

Psychological distress was assessed by the Hopkins Symptom Checklist (Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974). This measure has shown a moderately high internal consistency (Cronbach's alpha) of .86, test retest reliability of .75 over a 6-mo. period, and growing construct and criterion-related validities with normal adult samples (Derogatis, *et al.*, 1974). The Hopkins check list has 58 items and has been repeatedly factored into five distinct dimensions including anxiety, depression, somatic complaints, interpersonal sensitivity, and compulsive thoughts.

Type A behavior was assessed via the 10-item Framingham scale (Haynes, Levine, Scotch, Feinlieb & Kannel, 1978). This scale predicted incidence of heart disease among 1822 subjects classified as being free from any clinical symptoms at the beginning of the 8½-yr. Framingham Study. Type A persons classified by this scale can be characterized as dissatisfied and uncomfortable with the competitiveness, negative affect, and job pressures that their lives entail (Matthews, 1982). In previous studies, this scale has demonstrated adequate internal consistency (Cronbach's alpha) of .70 (Haynes, *et al.*, 1978).

Stress was measured using the 117-item Hassles scale (Kanner, Coyne, Schaefer, & Lazarus, 1981). This scale lists minor irritants of daily living including the areas of work, family, friends, the environment, practical considerations, and chance occurrences. This scale has demonstrated adequate test-retest reliability (.68) over 4 mo. Also, the Hassles Scale has correlated more strongly than life-events measure of stress to a variety of health outcomes in a number of recent studies (Kanner, *et al.*, 1981; Monroe, 1983; Nowack & Hanson, 1983). The predictive strength of the Hassles scale may be attributed to the adversiveness of daily life hassles rather than the cumulative experience of major life events which provide no clues about how these events are appraised or translated into the stresses of daily living (Kanner, *et al.*, 1981).

RESULTS

Type A, Family Health History, Stress, and Demographic Data

Demographic variables of interest to this study included age, sex, education, number of people supervised, and number of hours worked per week. Type A behavior shows a significant relationship with both number of workers being supervised and number of hours worked (both $r_{s190} = 0.15$, $p < .05$). This finding is consistent with the underlying achievement-striving facet of Type A behavior in the workplace (Mettlin, 1976).

Type A, Family Health History, and Psychological Distress

To test the hypothesis that constitutionally hardy Type A individuals would experience less psychological distress than others, a three-way analysis of covariance was performed with the covariate being psychological distress measured at Time 1. Table 1 summarizes the results of this analysis of covariance with distributions of the independent variables dichotomized at the median to form high and low groups.

TABLE 1
MEANS, SDs, AND SUMMARY OF ANALYSIS OF COVARIANCE: EFFECTS OF STRESS,
TYPE A BEHAVIOR, AND FAMILY HEALTH HISTORY ON PSYCHOLOGICAL DISTRESS

Source	F	df	M	SD
Covariate				
Psychological Distress	198.46*	1	119.68	27.14
Stress	1.63	1	23.50	14.28
Family History	0.79	1	6.04	2.52
Type A	6.71*	1	0.58	0.17
Stress $\times$ Family History	0.98	1		
Stress $\times$ Type A	2.90	1		
Stress $\times$ Family History $\times$ Type A	1.08	1		

Note.— $N = 130$; the covariate was psychological distress, assessed at Time 1. * $p \leq .01$.

The significant main effect of Type A indicates that this behavioral pattern is associated with psychological distress. There were no significant main effects or interactions due to stress or family-health history. These findings suggest that daily life stress and family-health history did not directly contribute to self-reported psychological distress over 4 mo.

DISCUSSION

The results tend to support a positive association between the Framingham measure of Type A behavior and self-reported psychological distress. This association is particularly important in light of evidence suggesting that individuals exhibiting Type A behaviors tend to deny and ignore psychophysiological symptoms (Matthews, 1982). One explanation for this finding may

be that the Framingham measure of Type A is highly predictive of those dimensions that underly the psychological distress outcome. In fact, previous research has shown that this Type A scale is significantly correlated with anxiety (Smith, Houston, & Zuarawski, 1983). Hence, different Type A measures may be associated with distinct health outcomes because of the multidimensional nature of the behavioral pattern. Additional research is required to delineate what dimensions of Type A behavior are actually being measured by the various assessment behaviors and what etiological role they play in both psychological and physical health. These studies should attempt to assess Type A behavior using multiple assessment approaches and include as many physical and psychological health-outcome measures as possible.

In this study, daily life stress (hassles) did not directly influence self-reported psychological distress. However, this result must be viewed cautiously due to the reliance on self-report methodology and the potential overlap between the independent and dependent variables.

One possibility is that the period of 4 mo. was too short a time to assess the influence of stress on psychological health status as measured (i.e., depression, anxiety, somatic complaints). Alternately, the time was sufficient to show changes in health status but such outcome measures were not included in this study (e.g., physical illness, burnout). The measure of stress employed in this study (Hassles scale) appears to contain relatively minor irritants of daily living (e.g. traffic, noise, waiting in lines); however, upon close inspection numerous items also appear to reflect directly psychological symptoms or problems. Such overlap (e.g. trouble relaxing, not getting enough sleep) although theoretically defensible, confounds the independence of these measures. This item overlap may mean that the relationship between daily hassles and psychological distress ($r_{100} = .60, p < .01$) has not been clearly established because one could argue the constructs have not been operationally distinguished (Monroe, 1983). Although the present version of this scale may not be free of such limitations, assessment of daily life hassles appears conceptually promising as a measure of stress and worthy of investigation (Lazarus, 1981).

Family-health history also did not directly contribute to self-reported psychological distress as hypothesized. Some evidence on the influence of family-health history (as measured by parents' illnesses) with health status was offered by Kobasa, Maddi, and Covington (1981). In that study family-health history and cognitive outlook were significantly associated with self-reported physical illness over a period of five years. It is possible that family-health history may be more predictive of physical illness and physiological reactivity under laboratory stress than the more stable psychological health measure in this study over the short time (Morrell, *et al.*, 1982). Clearly, research is needed to clarify the role of family-health history in the stress-illness relationship. For maximum effectiveness, such studies should be longitudinal in design

and employ procedures which delineate causal inferences with regard to multiple outcomes of psychological and physical health.

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