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ABSTRACT

The Type A disease association may be obscured by the failure of epidemiological studies to take into account the person by situation nature of the Type A construct. Past research suggests that it is not coping with demand that is stressful for Type As, but rather the perception that the job or life event is less than completely controllable that leads to distress. To further explore this issue, Type A behavior, life change, psychological impairment, and symptom reports were measured on two occasions 6 months apart in 183 male public school principals. Subjects, categorized as Type A or Type B by the Jenkins Activity Survey, completed questionnaires that assessed the experience and appraisal of life change and psychological and physical impairment. The results indicated that events which Type As perceived as moderately controllable, particularly those also perceived as negative, were associated prospectively with psychological distress and physical symptoms. Type Bs reported greater physical and psychological symptomatology if 6 months prior they had reported elevated levels of life change that they appraised as negative and uncontrollable. The results provide a field analog of laboratory demonstrations of the challenge induced stressful response style of the Type A. (Author/NB)

Type A Behavior, Life Change, and Illness: A Prospective Study

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Abstract

At six month intervals, one hundred and eighty-three male public school principals (categorized as Type A or Type B by the Jenkins Activity Survey) completed questionnaires that assessed the experience and appraisal of life change and psychological and physical impairment. Results indicated that events which Type As perceived as moderately controllable, particularly those also perceived as negative were associated prospectively with psychological distress and physical symptoms. Type Bs reported greater physical and psychological symptomatology if six montns prior they reported elevated levels of life change that they appraised as negative and uncontrollable. The results are discussed as a field analog of laboratory demonstrations of the challenge induced stressful response style of the Type A.

Type A Behavior, Life Change and, Illness: A Prospective Study

Since it was first described over two decades ago, the Type A coronary-prone behavior pattern has been the focus of considerable research on behavioral risk for coronary heart disease (CHD). However, epidemiological evidence fails to provide a consistent association between Type A behavior and clinical disease endpoints. While the Review Panel on Coronary-Prone Behavior and Coronary Heart Disease (1981) concluded that available data indicate that Type A behavior is an established independent behavioral risk for CHD, a more recent review by Matthews and Haynes (in press) cites epidemiological evidence which questions some of these earlier conclusions. As we have noted elsewhere (Rhodewalt, Hays, Chemers, & Wysocki, 1984; Rhodewalt, Wysocki, Sansone, Hill, & Chemers, 1985), it is possible for the Type A disease association to be obscured by the failure of epidemiological studies to take into account the person by situation nature of the Type A construct. That is, laboratory studies find that Type A-B differences in cognitions, behavior, and physiological reactivity arise only in those situations that are psychologically challenging or control threatening to the Type A (Holmes, 1983, Houston, 1983). In contrast, most epidemiological investigations of Type A behavior attempt to find Type A-B differences without regard to situational factors (for review see Dembroski, MacDougall, Herd, & Shields, 1983).

In several demonstrations, we have provided evidence that Type As who perceive their jobs to be stressful (Rhodewalt et al., 1984; Rhodewalt et al., 1985) or who are experiencing high levels of life

change (Rhodewalt & Agustsdottir, 1984; Rhodewalt et al., 1984) report the greatest incidence of concurrent psychological and physical impairment. Of particular interest are findings that it is not coping with demand per se that is stressful for Type As, but rather the perception that the job (Rhodewalt et al., 1985) or life event Rhodewalt & Agustsdottir, 1984; Rhodewalt et al., 1984) is less than completely controllable that leads to distress. These findings are consistent with the view that the deleterious effects of Type A behavior are attributable, in part, to elevated autonomic arousal associated with active coping behavior (Pittner, Houston, & Spiridigliozzi, 1983).

The present study is a preliminary report of an attempt to link prospectively Type A coping with moderately controllable events and subsequent psychological distress and illness reports. Type A behavior, life change, psychological impairment, and symptom reports were measured on two occasions six months apart in 183 public school principals. It was predicted that because of Type As' stressful responses to threats to their control, events perceived as moderately controllable would be more strongly associated with reports of distress and symptoms in Type As than in Type Bs.

Method

Subjects. Out of an initial pool of approximately 300 elementary and secondary public school male principles recruited to participate in a survey study of occupational stress, 183 subjects completed both administrations and are included in the present data.

Measures. The Jenkins Activity Survey (JAS, Jenkins, Zyzanski, & Rosenman, 1971), a self-report assessment of the coronary-prone

behavior pattern was administered to all subjects and scored using the discriminate analysis derived weights provided by Jenkins et al. (1971). This system provides standardized Type A scores with a mean of 0.0 and a standard deviation of 1.0. Categorizing subjects above and below a standard score of 0.0 as Type A and B respectively resulted in 113 Type As and 70 Type Bs.

Life change was measured by a modified form of Holmes and Rahe's Schedule of Recent Life Experience (Holmes & Rahe, 1967). In addition to indicating which of 43 life events they had experienced in the previous six months, subjects were asked to categorize each event in terms of its desirability and degree of controllability.

Physical health was assessed with a symptom and illness checklist on which respondents indicated any health problem they had experienced during the previous six months. The checklist listed 26 specific health problems (e.g. high blood pressure, ulcers, flu, etc.) grouped into six categories (e.g. cardiovascular, gastrointestinal, infections, etc.). Psychological well-being was assessed with Langner's (1962) "Twenty-two Item Screening Inventory," a self-report measure of psychiatric symptomatology (e.g., feeling weak all over, nervousness, poor memory etc.), which is widely used in epidemeological studies of mental health.

Results

Preliminary correlations using Type A as a continuous variable are reported in Table 1. In general, these correlations indicate that Type As tended to report more life change, psychological distress, and symptoms at both assessments. These findings are consistent with

earlier research that finds Type As reporting more life change than Type Bs (Rhodewalt & Agustsdottir, 1984; Rhodewalt et al, 1984; Suls, Gastorf, & Wittenberg, 1979).

Table 2 displays the concurrent relationships between categories of perceived life change and psychological and physical symptom reports for Type As and Bs separately. As in our earlier studies (Rhodewalt & Agustsdottir, 1984; Rhodewalt et al., 1984) Type As who reported experiencing life change, particularly that which was appraised as negative and moderately controllable also experienced more psychological distress and physical symptoms. Unlike our previous research but consistent with Somes, Garrity, and Marx (1981), life change for Type Bs was associated with psychological symptomatology, particularly if they appraised the change as undesirable. As predicted, however, coping with events that were perceived as moderately controllable was reliably associated with symptom reports only for Type As.

The prospective correlations between life change and symptom reports assessed six months later are reported in Table 3. For Type As it appears that prospective effects are found largely for psychological impairment and not for reports of physical illness. Only when Type As previously report experiencing moderately controllable events, particularly ones that were negative, do they subsequently report symptoms. For Type Bs, experiencing high levels of life change six months prior, particularly those viewed as negative and/or uncontrollable, was still related to current reports of psychological distress and physical illness. It is interesting to note that Type Bs exhibited stronger relationships (although not significantly so)

between coping and symptom reports prospectively than they did concurrently.

Finally, displayed in Table 4 are the relationships between amounts of life change reported by Type As and Bs at the two assessment periods. In general, levels of life change are fairly stable across time for both Type A and B respondents. There is one curious exception. Type As who were experiencing high levels of undesirable, moderately controllable demand at Time 1 continued to experience high levels at Time 2 while Type Bs did not. In contrast, Type Bs who were encountering much demand over which they no control at Time 1 continued to experience high levels of these events at Time 2 while Type As did not.

It might appear that the study possesses all of the measures necessary to compute cross lag panel correlations (CLPC, Kenny, 1975) and thus, provide a more careful analysis of the causal relations among variables. However, CLPC was deemed inappropriate for the present data because one or more of the variables comprising the syncronous correlations were retrospective. In addition, significant differences in autocorrelations precluded CLPC (see Kenny, 1975).

Discussion

The purpose of the present study was to examine the prospective association between coping with life change and psychological and physical outcomes for Type A and B individuals. It was predicted that because of the control mastery orientation of the Type A, they would find events they perceived as moderately controllable most disruptive. Findings from preliminary analyses indicate that such events are prospectively associated with physical symptom reports and

psychological distress for Type As individuals. In addition, for Type As, high levels of undesirable demand, regardless of controllability, are associated both concurrently and prospectively with psychological distress. Type Bs also report elevated psychological and physical difficulty in response to coping with high levels of negative demand. This finding was observed both concurrently and prospectively. However, events that are perceived to be uncontrollable rather than moderately controllable are the most upsetting for Type Bs.

The present findings then, generally support the conclusion that one potentially useful avenue to increasing the Type A behavior - CHD risk association is to find those Type As performing in environments that elicit their stressful control mastery behaviors. Type As who find themselves chronically attempting to exercise control in moderately controllable environments should be at the greatest risk for CHD.

Of course all of the present speculation is based on subject self-reports and, consequently, there is another perspective from which these data may be viewed. Several sources of contamination that can spuriously inflate observed relationships between life change and illness are present in our self-report measures (Schroeder & Costa, 1984). Two sources of concern are the presence of items simultaneously being life events and health events and the possibility that some third factor like negative affectivity or neuroticism is contributing to the life change-distress associations. In future analyses of these data we will attempt to disentangle these various explanations. Nonetheless, the person by situation approach to the study of Type A behavior is one we feel is timely.

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Table 1

Correlations between Type A behavior (JAS) and categories of life change, psychological impairment, and physical symptoms at Time 1 and Time 2.[a,b]

	Time 1	Time 2
Total LCU	.24***	.26***
Negative LCU	.20**	.15*
Totally Controllable LCU	.11	.20**
Moderately Controllable LCU	.19**	.20**
Uncontollable LCU	.18*	.05
Negative Moderately Controllable LCU	.17*	.16*
Psychological Impairment	.25***	.26***
Physical Symptoms	.16*	.15*

a n=183

b o = p<.10, * = P.05, ** = p<.01, *** = p<.001

Table 2

Correlations between categories of life events (LCU) and concurrent reported psychological and physical impairment.

	Type A (n=113)		Type B (n=70)	
	Psychological Impairment	Physical Symptoms	Psychological Impairment	Physical Symptoms
Total LCU	.27**	.27**	.22°	.13
Negative LCU	.24*	.26**	.35**	.16
Totally Controllable LCU	.02	.07	.07	.06
Moderately Controllable LCU	.27**	.28**	-.08	.12
Uncontrollable LCU	.22**	.16°	.26*	.11
Negative Moderately Controllable LCU	.26**	.30***	.19	.07

Table 3

Correlations between categories of life events (LCU) and prospectively measured psychological and physical impairment.

	Type A (n=113)		Type B (n=70)	
	Psychological Impairment	Physical Symptoms	Psychological Impairment	Physical Symptoms
Total LCU	.21*	.12	.25*	.31**
Negative LCU	.23*	.06	.29*	.32**
Totally Controllable LCU	.07	.06	.16	.22°
Moderately Controllable LCU	.21*	.14	.10	.10
Uncontrollable LCU	.14	.03	.29*	.36**
Negative Moderately Controllable LCU	.29**	.13	.10	.09

Table 4

Correlations between life change at Time 1 and life change at Time 2

	Type A	Type B
Total LCU	.41***	.42***
Negative LCU	.28**	.29*
Totall Controllable LCU	.35***	.24*
Moderately Controllable LCU	.34**	.04
Uncontrollable LCU	.11	.36**
Negative Moderately Controllable LCU	.36***	.03