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Type A Global and Dimensions, Work Cues, and Employee Outcomes in a Female Sample

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Abstract

This paper tested the ability of two work cues, job challenge and career commitment, to moderate the relationships of Type A behavior with outcomes in a sample of female nurses. It also tested the predictive ability of three dimensions of the Thurstone Temperament Schedule Activity Subscale (TTS) of Type A behavior. Among the findings, job challenge moderated the relationship between global Type A behavior and both anxiety and intent to quit. Career commitment buffered the relationship between Type A behavior and anxiety; it also predicted lower health complaints and intent to quit. Among dimensions of the TTS, the drive fast dimension predicted health complaints while the work quickly/speed dimension predicted performance.

The impact of Type A behavior on health has been a focus of attention since the construct's appearance in the literature in 1959 (Friedman & Rosenman, 1959). Type A behavior has been defined as an action-emotion complex observed in persons who are aggressively involved in a chronic struggle to achieve more and more in less and less time and, if required, in competition against the efforts of other things or persons (Friedman & Rosenman, 1974). With the failure of several studies in the 1980s to replicate earlier connections between Type A behavior and coronary heart disease (CHD), work with the construct has extended in two main directions. Researchers following the first direction have considered variables that might moderate the relationship between Type A behavior and various outcomes (e.g., Jamal & Baba, 1991; Lee, Ashford, & Bobko, 1990). Those pursuing the second direction have looked for specific dimensions of the Type A complex (e.g., hostility) that might associate with outcomes of interest (e.g., Edwards & Baglioni, 1991; Williams, Barefoot, & Shekelle, 1985). To identify specific dimensions, they have often factor analyzed existing Type A scales (e.g., Bluen, Barling, & Burns, 1990; Lee, Jamieson, & Earley, 1996; Lee, King, & King, 1987). Although more attention has been devoted to the second direction in medical psychology, the first direction fits nicely with the recent trend in the organizational behavior literature to emphasize person-environment contingencies and fit (e.g., Chatman, 1989; Pervin, 1989; Wood & Bandura, 1989).

Early interest in the Type A behavior-coronary heart disease (CHD) relationship focused on white males. Type A behavior among females has been studied far less frequently (Thoresen & Low, 1991). In particular, the interplay of Type A behavior with health and work-related attitudes and outcomes among women has received relatively little attention (Bedeian, Mossholder, & Touliatos, 1991). As a result, we know much more about the role of Type A behavior in the work lives of men than of women. This omission is important because for many persons who exhibit high Type A behavior, work is a primary outlet for the pursuit of success (Ivancevich & Matteson, 1988). Placing high value on career success and competent task performance are beliefs that motivate Type A behavior (Price, 1982).

In the present paper we seek to extend work in the areas mentioned above. The primary aim of this paper is to examine two work cues as moderators of the Type A behavior relationship with health and intention to quit. We expect one work-related cue, job challenge, to exacerbate the effects of Type A behavior on relevant outcomes and a second one, career commitment, to buffer such effects. In examining these work cues, we anticipate that their relationships with Type A behavior may differ depending on whether Type A behavior is represented as a global construct or is divided into subscales. Therefore, we explore the relationships of both the global Thurstone Temperament Schedule Activity Subscale (TTS: Thurstone, 1953) and its possible subscales with outcomes. Finally, we study Type A behavior in a sample of female nurses. As in Ganster, Schaubroeck, Sime, and Mayes (1991), we view Type A behavior as a set of behaviors shown by susceptible individuals in response to certain environmental stimuli (Matthews, 1982).

MODERATING ROLE OF JOB CHALLENGE

A work-related cue to which people high on Type A behavior respond is job challenge. The notion of challenge, that is, tasks that stretch skills, is central to several models of Type A behavior (e.g., Friedman & Rosenman, 1974; Matthews, 1982; Smith & Anderson, 1986; Thoresen & Powell, 1992). Price (1982) argues that those high in Type A behavior set excessively high standards because the challenge provided by these standards allows them to prove their self-worth by meeting the challenge. Further, those high in Type A behavior seek out challenges, often placing themselves in situations in which they cannot respond effectively to all the challenges presented (Smith & Anderson, 1986) and see more challenge in the same situations than those low in Type A behavior (Yuen & Kuiper, 1992). When those low in Type A behavior fall short of high standards, they accept their limitations and lower their standards. Those high in Type A behavior, on the other hand, refuse to accept their failure and raise their standards (Glass, 1977). Their efforts produce a chronic sense of time urgency, impatience, accelerated pace of ordinary activities, long work hours, and polyphasic activities.

Byrne (1996) argues that competitiveness underlies the toxic effects of Type A behavior on health. When those high in Type A behavior perceive the possibility of failure, their pronounced competitiveness produces an ensuing high level of frustration which provokes extreme physiological and psychological responses that threaten health. Laboratory experiments have supported the view that simply evoking competitiveness in people high in Type A behavior may have health-threatening implications. For example, when Fichera and Andreassi (1998) administered oral IQ and reaction time tests to a sample of women, those high in Type A behavior showed significantly higher levels of elevated heart rates and blood pressure than did those low in Type A behavior. In another study (Contrada, 1989), combining a challenging task with inadequate time for successful completion produced elevated rates of blood pressure in subjects classified as high in Type A behavior in structured interviews. Challenging jobs should evoke a competitive response from those high in Type A behavior, exposing their vulnerability to negative reaction to the possibility of failure.

Such responses led Schaubroeck, Ganster, and Kemnierer (1994) to argue that complex jobs represent the types of challenging situations that lead persons with a strong Type A behavior pattern to exhibit labile responses on a cardiovascular index such as blood pressure and on a hormonal stress index such as cortisol production. In support, they reported that job complexity associated with cardiovascular morbidity only among individuals high in Type A behavior. They claim that no other study has examined Type A behavior's interaction with job complexity to predict health outcomes. The present study, which examines the interaction of Type A behavior with the closely-related dimension of job challenge in predicting health complaints, expects results similar to the Schaubroeck et al. study. Therefore,

H1: Job challenge will moderate the relationship of Type A behavior with somatic complaints and anxiety. Specifically, among individuals high in job challenge, as Type A behavior increases, somatic complaints (H1a) and anxiety (H1b) will increase.

BUFFERING ROLE OF CAREER COMMITMENT

In recent years, researchers have begun to explore potential buffers of the Type A behavior-health outcomes relationship such as task variety (Lee, Barley, & Hanson, 1988), perceived control (Lee et al., 1990), hardiness (Contrada, 1989), and optimism (Lee et al., 1993). In this area, few self-cognitions have received attention. Career commitment is investigated in this paper as such a cognition.

Career commitment has been defined as "the strength of one's motivation to work in a chosen career role" (Hall, 1971, p.59). Its measurement and applicability to work attitudes and behaviors have been developed by Blau (1985; 1988) and have predicted turnover intentions in particular (Blau, 1988; Aryee & Tan, 1992). Work-related commitment has helped individuals to deal more evenly with the anxieties generated by stress-inducing circumstances (e.g., Begley & Czajka, 1993; Mathieu & Zajac, 1990). Among nurses, career commitment has predicted performance (McCloskey & McCain, 1988) and buffered the effects of job stress (Reilly, Dwight, Godfrey, Davis, and Lynch, 1994). Of particular relevance to the present study, Reilly et al. (1994) found support for a buffering relationship: for those with low career commitment, a strong relationship existed between job stress and their experience of strain; for those with high career commitment, no such relationship existed. Persons high in Type A behavior, who are especially drawn to stressful situations, should find such commitment particularly valuable.

Persons exhibiting Type A behavior are characterized as involved in an incessant struggle to achieve and maintain their place in the world in the face of sometimes unfair decisions and scarce resources (Price, 1982). As a buffer, career commitment can reassure those high in Type A behavior concerning the choices they have made, thus neutralizing the relationship that otherwise would exist between Type A behavior and poorer health. In a world in which people must constantly prove their worth, those high in Type A behavior who believe their careers worthy receive reassurance about the value of their efforts. In a world in which people must secure their own justice, those high in Type A behavior who believe in their careers see evidence that they have secured a measure of justice. In a world in which resources are scarce, those high in Type A behavior who develop a personally satisfying career see evidence of their success in obtaining a valuable resource. Therefore,

H2: Career commitment will moderate the relationship of Type A behavior with somatic complaints and anxiety.

Specifically, among individuals low in career commitment, as Type A behavior increases, somatic complaints (H2a) and anxiety (H2b) will increase.

INTENT TO QUIT AS AN OUTCOME

Although much recent work on Type A behavior concentrates on health outcomes and performance, we seek to extend the focus to intention to quit. Nursing, the profession studied in this paper, has been characterized by high turnover among staff, with attendant concerns from nursing managers to alleviate it. Job challenge should interact with Type A behavior to predict intent to quit: those high in Type A behavior who respond to job challenge cues view the work environment as burdensome, even as they create some of their own stressful circumstances, and desire to leave. Career commitment's possibilities as a buffer are less clear. Its primary role thus far has been as a direct inverse predictor of intent to quit one's career (Blau, 1985), one's job (Blau, 1989), or both (Aryee & Tan, 1992). It involves such strong positive regard for one's career that its association with intent to quit seems likely to be direct rather than as a moderator. Therefore,

H3: Job challenge will moderate the relationship of Type A behavior with intent to quit. Specifically, among individuals high in job challenge, as Type A behavior increases, intent to quit will increase.

TYPE A DIMENSIONS

TTS has shown promise in previous studies of Type A behavior. It has demonstrated superior construct validity to other self-report measures (Chesney, Black, Chadwick, & Rosenman, 1981; Mayes, Sime, & Ganster, 1984; MacDougall, Dembroski, & Musante, 1979; Rahe, Hervig, & Rosenman, 1978) and has related as well as or better than the more widely used Jenkins Activity Survey (JAS) to the structured interview (MacDougall et al., 1979; Mayes et al., 1984). Further, Mayes et al. (1984) reported that the global TTS related positively to JAS dimensions of speed and hard driving/competitiveness and to three indices of job strain; depression, irritation, and physical symptoms. Similarly, Ganster et al. (1991) found a positive correlation between the TTS and somatic complaints. Although Lee et al. (1996) included the TTS in examining the dimensionality of four self-report Type A measures, its dimensionality when used alone has not been examined. Lee et al. (1996) reported the TTS to represent primarily overt behaviors (e.g., time urgency, impatience, accelerated pace) of the Type A syndrome. In two samples of university students, these overt behaviors were related positively to psychiatric health disorder symptoms, but were unrelated to academic performance. The validity of the TTS dimensions has not been tested in organizational settings. This paper will explore dimensions of the TTS and their relationships to organizational outcomes. Based on Lee et al. and Mayes et al.'s findings, we predict that:

H4: TTS scale dimensions will represent overt behaviors of the Type A syndrome. They will relate positively to somatic complaints and anxiety but not to job performance.

METHODS

Sample

Out of 185 surveys distributed to nurses in a metropolitan teaching hospital, 77 were completed, representing a 42 percent response rate. While response rates from nursing samples have achieved levels above 50 percent (e.g., Fox, Dwyer, & Ganster, 1993), the typical range appears to be 30-50 percent (e.g., Bedelan, et al., 1991: 48 percent; Blau, 1985: 40 percent; Jamal & Baba, 1991: 51 percent; Motowidlo, Packard, & Manning, 1986: 31 percent). The respondents ranged in age from 22 to 65 with a mean of 34. Since the focus of this study was on female nurses, four male respondents were excluded from the data analyses. The respondents averaged eight years in their job specialty, seven years with the hospital, and five years in their unit. The modal respondent had completed college; most others had LPN and RN degrees.

Several attributes of the nursing profession contributed to its suitability for this study. First, people high in Type A behavior produce more stressful events or job conditions for themselves, find the events more stressful, and show a sense of urgency in overcoming obstacles to task performance (Ivancevich & Matteson, 1984). Nurses high in Type A behavior have reported a similar pattern: more work overload, time pressures, and role conflict (Ivancevich, Matteson, & Preston, 1982; Jamal and Baba, 1991). Second, enough variance in exposure to environmental stressors across nursing departments exists so that adequate tests of relationships are possible (CaIdwell & Weiner, 1981; Stehie, 1981). Third, substantial variance has been observed among nurses high in Type A behavior in quality and quantity of performance and in psychosomatic complaints (Jamal, 1985).

Procedure

When a hospital staff coordinator met with all nurse managers to explain the purpose and significance of this study,

15 of them agreed to their units' participation. Depending on unit size, an approximate 10 to 50 percent was randomly selected from each unit. The hospital staff coordinator distributed the survey to those selected. To assure anonymity, participants were asked to provide information on demographic characteristics such as age, education, and job tenure but not on unit or shift. To submit their completed questionnaires, participants were provided stamped envelopes addressed to the second-listed author. Respondents were also asked to give their supervisor a form with questions on the supervisors' performance. Accompanying material guaranteed confidentiality and provided the supervisor a stamped envelope addressed to the second-listed author in which to return the form. Completed evaluations were returned for 68 of the 73 respondents, a 93 percent response rate.

Measures

Type A behavior was assessed with the modified 20-item Thurstone Temperament Schedule Activity Subscale (TTS; Thurstone, 1953). The 5-point response scale ranged from "definitely true" to "definitely false." As a global measure, its reliability was .67.

The job challenge construct was formulated with reference to the task design literature's identification of two types of job complexity: psychological complexity and task-person complexity (Campbell, 1988). Psychological complexity, similar to job enrichment (Hackman and Oldham, 1975), is measured by skill variety, significance, autonomy, challenge, or stimulation and arousal (Campbell, 1988: 44). Task-person complexity, defined as the "extent to which a job makes mental demands that require skill and training on the part of the job incumbent" (Schaubroeck et al., 1994: 427), has been measured with job characteristics identified in research using the Dictionary of Occupational Titles (U.S. Department of Labor, 1977) such as education, training, and functions required, or as task difficulty, experience, familiarity, interest, or requirements relative to capabilities (Campbell, 1988). Job challenge is conceptualized here as comprising elements of both the psychological experience of complexity and the task-person skill requirements of complexity. The job challenge variable was constructed for this study using three items that measure the extent of skills, abilities, and development found in a job. We viewed a job that used a person's skills, required continuous learning, and prompted regular updating as a challenging job. The three items were: "On my job I get a chance to use my skills and abilities," "My job requires that I keep learning new things," and "I spend a significant amount of personal time reading professional-related journals and books." A seven-point response format ranging from "strongly disagree" to "strongly agree" was employed. The alpha coefficient for this scale was .64.

Since the job challenge scale was constructed for this study, we sought evidence to support its convergent validity. It was not possible to include additional job challenge scales in the questionnaire for this study, so we collected additional data from two groups of part-time MBA students ($n=48$) who were working full-time while attending classes in the evenings and/or weekends. We administered the job challenge scale and two related scales: the three-item skill variety scale from the Job Diagnostic Survey (Hackman & Oldham, 1975) and a reverse-scored three-item measure of skill underutilization (Caplan, Cobb, French, Van Harrison, and Pinneau, 1975). These two measures were employed by Schaubroeck et al., (1994) to measure psychological job complexity. In their study, skill variety correlated .50 ($p<.001$) with skill utilization. In our study, skill variety correlated .60 ($p<.01$) with skill utilization. In addition, job challenge correlated .55 ($p<.01$) with skill variety and .60 ($p<.01$) with skill utilization. Since this data was intended to address questions of convergent validity, it contained only the measures just described and not others such as Type A behavior or outcomes.

Blau (1985; 1989) developed a seven-item career commitment scale with nursing personnel, validated it in other samples, and showed its reliability and distinctness from the job involvement and organizational commitment constructs. He (1985) reported scale internal consistencies of .87 and .85 and a test-retest reliability of .67 over a seven-month period. Sample items include, "I definitely want a career for myself in this profession." "If I could do it all over again, I would not choose to work in this profession," and "I like this vocation too well to give it up." The coefficient alpha for this measure in the present paper was .85.

The General Health Questionnaire (GHQ Goldberg & Hillier, 1979) measured health complaints. Respondents were asked to report on a four-point Likert scale any symptoms experienced over the previous month. The two subscales of somatic symptoms and anxiety/insomnia were used in this study. The GHQ has demonstrated satisfactory reliability and construct and concurrent validities against clinical settings (Goldberg & Hillier, 1979). While originally developed to assess psychiatric symptoms, its items are similar to those used in scales for somatic complaints and anxiety (e.g., Caplan et al., 1975) and it has been used frequently to measure health complaints and distress (e.g., Iversen & Sabroe, 1988; Jackson, 1983; Parkes, 1990). A factor analysis of the fourteen items indicated that a two-factor solution was the best fit. In that solution, the seven somatic complaints items loaded on one factor and the seven anxiety items loaded on the other factor, with one somatic complaints item also loading on the anxiety factor. Somatic symptoms assessed general lack of physical well-being and specific complaints such as headaches; anxiety/insomnia assessed the extent of losing sleep over worry and feeling nervous and strung-up all the time. These subscales were also used in Lee et al. (1991), where they showed means of 1.7 and 1.7 and standard deviations of .58 and .62, respectively. Our scale means were 1.9 and 1.9 with standard deviations of .51 and .62, respectively. The coefficient alphas for somatic symptoms and anxiety/insomnia, .81 and .88 in the Lee et al. (1991) study, were .78 and .90 in the present study, respectively.

Turnover intent was assessed by a five-item scale from Walsh, Ashford and Hill (1985). Responses to such statements as "I intend to leave (the hospital) within the next 6 months" and "I am starting to ask my friends and contacts about other job possibilities" were measured on a seven-point agree-disagree response format. A factor

analysis of these items demonstrated the existence of a single factor. The coefficient alpha for this scale in the present study was .85; in Ashford, Lee, & Bobko (1989), it was .92; and in Walsh et al. (1985), it was .90.

The five-item performance measure, taken from Ashford et al. (1989), included questions using seven-point scales on performance effectiveness, quality, satisfactoriness, and in comparison to coworkers. Their mean, standard deviation, and reliability of 5.5, .95, and .82 compared with the present paper's 5.66, .98 and .93, respectively.

Results

Table 1 presents the means, standard deviations, and a correlation matrix of the variables used in the study. With the small sample size, relationships are indicated that met the .10 level of significance. To detect common method variance effects, we conducted Harman's (1976) one-factor test on all measures as recommended by Podsakoff and Organ (1986). In the factor analysis, the best fit contained seven factors: all items loaded on their own factor except the somatic complaints and anxiety items, which loaded together. Harman's one-factor test cannot completely rule out the existence of common method variance, but such variance effects do not appear pervasive here.

Table 1
Means, Standard Deviations, and Correlations of the Study's Variables^a

	Mean	SD	1	2	3	4	5	6	7	8	9
1 TTS: drive fast	3.17	1.21									
2 TTS: speed	3.76	.68	.06								
3 TTS: speech	3.54	.87	.34**	.02							
4 TTS global	3.46	.41	.47**	.79**	.37**						
5 Job challenge	5.15	1.02	-.01	.08	-.05	.10					
6 Career commitment	4.68	1.28	-.13	-.07	-.20+	-.20+	.34**				
7 Somatic complaints	1.91	.53	.23*	.06	.01	.21+	.13	-.32**			
8 Anxiety	1.79	.62	.18+	.16	-.14	.33**	.20+	-.33**	.66**		
9 Intent to quit	2.98	1.36	.14	.05	.12	.12	.02	-.45**	.28*	.54**	
10 Performance	5.66	.98	.10	.31**	.03	.28*	-.06	-.07	.00	.21+	.07

^aN = 58. Decimal points are omitted in the correlations.
** p=.01; * p=.05; + p=.10.

To test hypotheses 1-3, somatic complaints, anxiety, intention to quit, and performance were hierarchically regressed on the independent variables. Since none of the demographics of age, education, job position, and company tenure showed significant effects, they were excluded from subsequent analyses. In the regressions, global TTS was entered first, followed by job challenge and career commitment. Finally, the interactions of Type A behavior with moderators were entered. Procedures recommended by Cohen and Cohen (1983) were used to test and interpret interactions. These regressions are presented in Table 2.

Table 2
Regressions of Health Complaints, Intent to Quit, and Performance on Type A Global and Work Cues^a

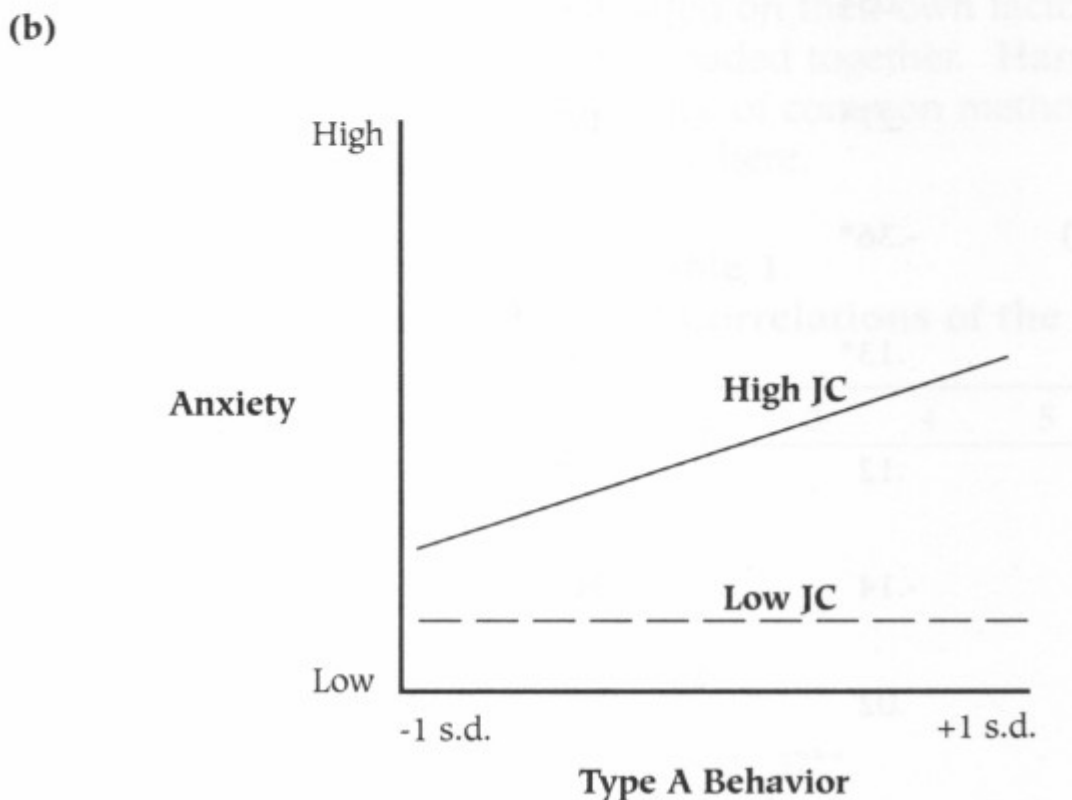
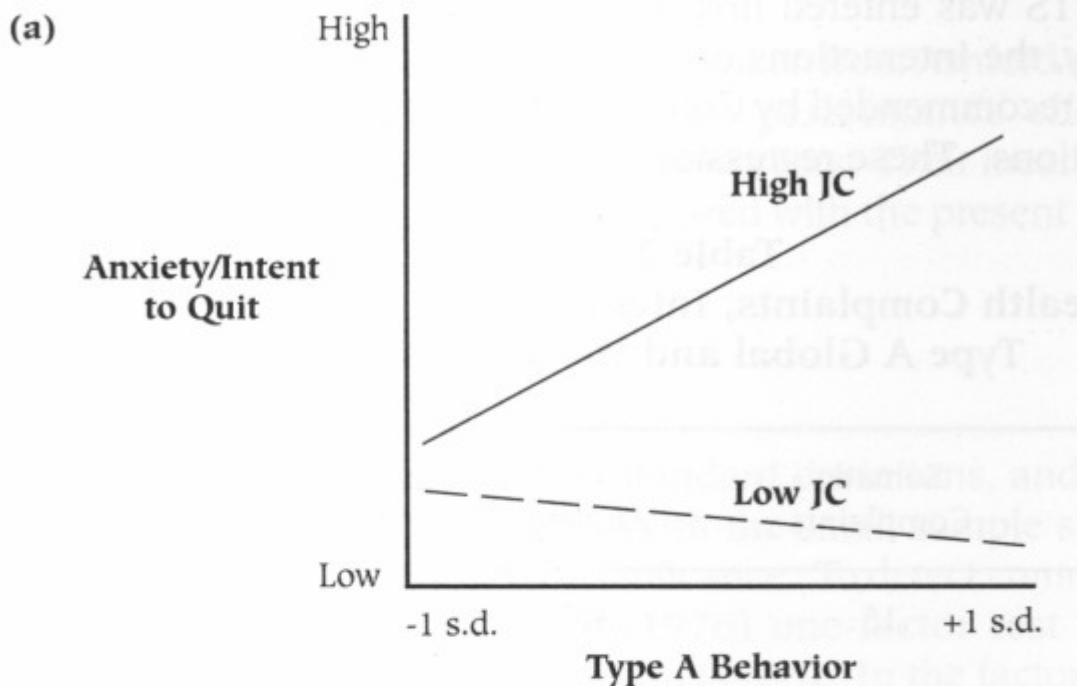
	Somatic Complaints	Anxiety	Intent to Quit	Performance
Type A: Global (TTS)	.15	.32*	.13	.35*
ΔR^2	.05+	.11**	.02	.09*
Job challenge (JC)	.27*	.33**	.21+	-.10
Career commitment (CC)	-.36*	-.36*	-.49**	.03
ΔR^2	.13*	.16**	.22**	.01
TTS X JC	.12	.32*	.37**	.02
TTS X CC	-.14	-.21+	-.16	.09
ΔR^2	.02	.09*	.10*	.01
F	2.67*	5.62**	5.31**	1.26
Total R ²	.20	.35	.33	.11

^a Coefficients presented in the table are standardized betas. N = 58.
+p<.10; *p<.05; **p<.01.

In the interactions, the relationship of TTS with anxiety was moderated by both job challenge and career commitment and the relationship of TTS with intent to quit was moderated by job challenge. The nature of the interactions, illustrated in Figure 1, conforms to those predicted. Specifically, among those high in job challenge, as Type A behavior increased, anxiety and intent to quit both increased. Among those low in job challenge, no such relationship existed. Among those low in career commitment, as Type A increased, anxiety increased. Among those high in career commitment, no such relationship existed.

Figure 1

Regressions of Anxiety and Intent to Quit on Type A Behavior with High and Low Job Challenge (JC: a) and Career Commitment (CC: b)



To test hypothesis 4, the responses to the 20 TTS items were subjected to an exploratory principal-components factor analysis with varimax rotation. Examination of the eigenvalues and scree plot revealed a three-factor solution as best. These factors accounted for forty four percent of the total variance. The three factors (with reverse-scored items indicated by “R”) are:

Factor 1: Speed: “I usually work quickly,” “I ordinarily work quickly and energetically,” “I often work slowly and leisurely” (R), “I am often in a hurry,” “I prefer to linger over a meal and enjoy it” (R), “I generally walk more slowly than most people” (R), “I eat rapidly even when there is plenty of time,” and “I like work that is slow and deliberate” (R). Cronbach’s alpha for this eight-item scale was .78.

Factor 2: Speech Pattern: “I usually speak more softly than most people” (R), “People consider me to be rather quiet” (R), and “I talk more slowly than most people” (R). The alpha coefficient for this three-item scale was .77.

Factor 3: Driving Fast: “I rarely drive a car too fast” (R) and “I like to drive a car rather fast when there is no speed limit.” The reliability coefficient for this four-item scale was .72.

In general, the TTS dimensions appear to have an interpretable, valid factor structure. Seven of the 20 original

items were eliminated as a result of the factor analysis. To further test hypothesis 4, the three dimensions of the TTS were substituted for the global TTS in the regressions described above. In these regressions (not shown), driving fast predicted somatic complaints ($\beta = .26, p < .10$) and anxiety ($\beta = .24, p < .10$), while speed predicted performance ($\beta = .28, p < .05$). Thus, hypothesis 4 was partially supported. The interaction terms of the three TTS dimensions by work cues failed to predict any of the outcomes.

DISCUSSION

This paper tested several predictions derived from the literature on Type A behavior, in which a portrait has emerged of Type A behavior as generating possible rewards in status and achievement, but exacting a penalty in poorer health and well-being. The results partially support hypothesis 1 and support hypothesis 3. People high in Type A behavior have been depicted as placing themselves in a bind: they gravitate toward challenging work and seek opportunities for achievement, but this very gravitation increases their distress and decreases their interest in staying in the organization. The literature shows those high in Type A behavior to be more easily aroused physiologically. We would extend this arousal to include psychosomatic arousal states such as anxiety. In the present paper, people high in Type A behavior involved in challenging work showed higher anxiety and intention to quit. These tasks seemed to tax people high in Type A behavior, who thus suffered health-related problems.

In this paper, we argue that under certain circumstances, people high in Type A behavior show both higher performance and higher psychosomatic arousal. Those higher in Type A behavior tend to focus on performance as an important environmental cue. They are very task-oriented and goal-directed because their self-image is intimately connected to a self-conception as competent. But the very act of recognizing an environmental cue as connected to performance, that is, in the form of a job challenge, generates emotional turbulence. For future research, we would conjecture a causal model in which people high in Type A behavior encounter evidence of challenge in their jobs which is interpreted as a threat to their self-worth and therefore generates anxiety. The anxiety then spurs people high in Type A behavior to action to meet a high standard of performance, which induces an elevated physiological response. In the process of responding, those high in Type A behavior who face frequent challenges strain their cardiovascular systems. They also experience the anxiety as unpleasant and blame the work environment that presents these challenges, thus inducing in them a desire to quit.

Hypothesis 2 predicted that career commitment would buffer the relationship of Type A behavior with somatic complaints and anxiety. The prediction was supported for anxiety but not for somatic complaints. For those low in career commitment, as Type A behavior increased anxiety increased. No such relationship was evident for those high in career commitment. We argued in this paper that a commitment to their career could serve as a source of reassurance and stability for Type As. Those high in Type A behaviors are facing the threats presented by Price (1982) as regular features of their lives. In a world that conveys questions about people high in Type A behavior's self-worth, the meaning of their efforts, and justice, a solid anchoring in a career can provide the self-confidence that can provide reassuring answers to these questions. Such people have an answer to the "why am I working so hard?" question that those without career commitment lack.

Career commitment showed a limited buffering role for those high in Type A behavior, but it played a useful role for respondents in this study regardless of their Type A behavior tendencies. Contrary to Blau's (1985) findings, it associated negatively with intention to quit. It also associated negatively with somatic complaints and anxiety. Rather than being valuable only to those high in Type A behavior, career commitment has value for all employees in this study. Apparently, its presence serves to provide stability for nurses in general. Since this construct has received less attention than other measures such as organizational and job commitment (Aryee & Tan, 1992), the results presented here support including it in future studies of commitment. Its effectiveness in this study may be of particular interest to the nursing profession, which is characterized by high rates of turnover and burnout.

Three dimensions of the TTS emerged from the factor analysis: speed, speech pattern, and driving fast. Driving fast directly predicted somatic complaints and anxiety. Speed, which contained several items on working quickly, directly predicted performance, as did achievement striving in previous research (Bluen et al., 1990; Lee et al., 1993; Spence et al., 1987; Spence et al., 1989). Since working quickly to respond to emergencies is often necessary in nursing, this dimension may not relate to performance in slower-paced work. The inability of speech to predict health complaints was not a surprise, nor was the lack of ability of any interaction to predict performance, since Lee et al.'s (1996) study did not find such relationships.

Although Edwards and Baglioni (1991) suggest that component measures are superior to global measures in number of relationships detected, interpretability, and total explanatory power, this study found that the global TTS measure is superior to its dimensions in detecting moderating relationships. Each of the self-report Type A measure reflects unique aspects of the Type A behavior pattern (Byrne, Rosenman, Chiller, & Chesney, 1985; Edwards, Baglioni, & Cooper, 1990; Lee et al., 1987). Since the TTS primarily measures overt behaviors, future studies should evaluate global Type A versus components measuring behavioral dispositions and emotional responses to test their relative abilities.

With its sample of female nurses, this study indicated the potential relevance of the Type A behavior construct to working women. Ongoing debate exists concerning the extent and nature of connections between Type A behavior and coronary heart disease among women (Lawler, Schmied, Armstead, & Lacy, 1991). However, few studies have examined Type A behavior and work characteristics among professional women (Bedeian et al., 1991; Sorensen, Jacobs, Pine, Folsom, Luepker, & Gillum, 1987). As a result, it is not yet clear if the results found here will replicate

in other studies of women or in samples of males. Gender itself may moderate Type A behavior-outcome relations at work. For example, Price (1982) argues that females may respond to frustration with anxiety while males respond with anger. The present study did not seek to settle questions related to gender and Type A behavior but rather to contribute findings to the literature in an area that is important but infrequently studied. At present, it seems worthwhile to seek to understand more about the nomological network characterizing Type A behavior among women before comparing the network with that of men.

Limitations of the Study

The study has several limitations. First, its cross-sectional nature does not allow tests for directionality of relationships. To adequately test the model, longitudinal studies are needed. Second, since all variables except performance were collected in a single administration of a questionnaire, common methods variance is possible. Third, the sample size is relatively small. A concern of tests for interactions in smaller samples is that lack of interactions may indicate either lack of relationships or inadequate sample size. Fourth, the job challenge scale constructed for this study could benefit from further development. In particular, additional items that ask how challenging respondents' jobs are in relation to their current capabilities are desirable. Finally, since the results were derived from a sample of nurses taken from one hospital, they may not generalize to other organizations or professional groups.

Implications and Contributions

The paper's results have several implications. First, they support the value of seeking moderators of the relationship of Type A behavior with health and work outcomes. Second, in delayed organizations that depend on pushing decision-making authority to the lowest possible levels, significant challenges have been added to many employees' jobs. Those advocating the benefits of such an approach argue that people respond positively to the increased challenges. In this paper, job challenge associated either directly or interactively with higher somatic complaints, anxiety, and intention to quit. If such results hold in future studies, managers will need to consider the potential longer-term costs of high challenge jobs on increased health risks and turnover intentions. Third, career commitment showed several associations with health and intent to quit. Its performance in this study shows its potential to associate with reduced adverse conditions for employees. At a time when career management specialists emphasize the importance to employees of managing their own careers rather than relying on the organization to look after their welfare, career commitment may assume increased importance by comparison with more established measures such as organizational commitment.

Fourth, global TTS showed positive associations with health and performance as in previous studies conducted in organizational settings (Lee et al., 1990). Fifth, we identify dimensions of a respected global measure of Type A behavior, the Thurstone Activity Subscale, that correspond with previously identified overt behaviors of other Type A behavior measures: driving fast with health outcomes and work speed with performance, thus lending some support to the viability of these dimensions. Finally, in the face of questions in the literature about the value of Type A behavior as a predictor among women, it played a role in sorting out the relationships of work with health, intention to quit, and performance among female nurses.

Since the independent variables used in this study have either been treated mainly as outcomes – career commitment – or little studied – job challenge – their further use in the manner employed in this study seems warranted. If Type A behavior can predict people's approach to work and response to its opportunities, managers and employees who are aware of its impact may be able to interact more effectively with others in the workplace.

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