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John Henryism and Blood Pressure Differences Among Black Men. II. The Role of Occupational Stressors

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In this study, the effects of psychosocial job stressors on the resting blood pressure (BP) of 112 black male workers were examined. The subjects resided in a rural, poor, predominantly black community in eastern North Carolina. The job stressors included unemployment, lack of job security, lack of job success, the perception that wages earned were too low for the work performed (and inhibited anger about unfair wages), and the perception that being black had hindered chances for achieving job success. The effect-modifying influence of on-the-job social support, and John Henryism, on several of these relationships was also examined. For systolic blood pressure, a main effect was observed for job security, and an interaction effect was observed for employment status and time of day of interview. For diastolic blood pressure, significant interactions were observed for job success and John Henryism, and for job success and the perception that being black had hindered chances for achieving job success. These findings fur-

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ther clarify under what conditions John Henryism may be associated with higher BPs in this sample of black men. These findings also shed light on the emotional pathways through which selected job stressors may influence resting BPs in these men.

INTRODUCTION

In an earlier paper (James *et al.*, 1983), we described the development of a new scale to measure the concept of John Henryism. High scores on the John Henryism Scale mean that the respondent is predisposed to cope actively with behavioral stressors in his environment and, moreover, believes that he can control such stressors through a combination of hard work and determination. Thus, high John Henryism connotes physical vigor, tenacity, and a strong sense of personal efficacy when confronting behavioral stressors.

Such a behavioral predisposition might be expected to be uniformly associated with positive health outcomes, but our initial study (James *et al.*, 1983) suggests that this is probably not the case. Within a community probability sample of working-class, black men, we found that men who scored *below* the sample median on education, but *above* the median on John Henryism, had higher diastolic blood pressures (DBP) than men who scored above the median on *both* measures. These results suggest that when *actual* coping resources are high (as reflected by high educational attainment), routine behavioral stressors are probably fairly easy to control. Under favorable conditions, such as these, high John Henryism may actually help to reduce autonomic arousal, thereby contributing to lower resting blood pressures (BPs). In contrast, when actual coping resources are low (as reflected by low educational attainment), routine behavioral stressors are probably more difficult to control. Under these less favorable conditions, high John Henryism may potentiate autonomic arousal, thereby contributing to higher resting BPs and a higher risk for essential hypertension (James *et al.*, 1983).

The current study has four objectives. The first is to determine if selected psychosocial job stressors influence resting BPs of labor force participants within our study population. The job stressors include (1) the experience of unemployment, (2) perceived low job security, (3) perceived unfair wages, (4) perceived low job success, and (5) the perception that being black has hindered one's chances to achieve job success. The second objective is to determine if inhibited anger over unfair wages is associated with higher BPs among men who feel that their wages are too low. The third

objective is to determine if on-the-job social support from supervisors and co-workers attenuates whatever harmful effects perceived unfair wages, and inhibited anger about unfair wages, might have on BP. The fourth objective represents a further test of the validity of the John Henryism hypothesis. We examine whether high John Henryism potentiates the effects that three presumably *unfavorable* work conditions have on BP. These conditions are unemployment, low job security, and low job success.

Numerous authors (e.g., Liebow, 1967; Ross and Hill, 1967; Gary, 1981; Harris, 1982; Gilbert and Kahl, 1982) have concluded that occupational settings can represent an important source of stress for black workers. Such stressors commonly involve unfavorable personnel decisions regarding hiring, retention, wages, and apprenticeship and promotion opportunities (Harris, 1982). Despite widespread knowledge of these issues, to the best of our knowledge, the current study is the first to examine the role that stressors of this type might play in increasing the risk for hypertension in blacks.

Only a few studies have dealt with the relationship between psychosocial job stressors and BP in white workers. Perhaps the best-known study on this topic is by Kasl and Cobb (1970, 1980), who documented changes in selected risk factors (e.g., BP, pulse rate, and serum cholesterol) for coronary heart disease (CHD) as a small group of blue-collar workers went through the experiences of anticipating the permanent closing of their factories, the actual loss of their jobs, and subsequent reemployment at new jobs. Overall, BP changes in terminees did not differ from control group of continuously employed men; however, the pattern of BP changes was different for rural versus urban terminees. Rural men experienced higher BPs when unemployed than during either the anticipation or the reemployment phase. Urban men, on the other hand, experienced elevations in BP during the anticipation phase only.

Several other studies have reported moderately strong associations between various kinds of work overload and risk for hypertension. Cobb and Rose's (1973) study of air traffic controllers, and the work by House *et al.* (1979) of blue-collar, factory workers are well-known examples. These studies are informative, but their applicability to rural and low-income black workers is unknown, since many of the latter frequently work under conditions which are quite different from those of urban workers, whether blue- or white-collar.

Researchers have long been interested in the hypothesis that chronically suppressed anger may be of etiologic significance in essential hypertension (Diamond, 1982). The best-known epidemiologic works on this topic are those by Harburg *et al.* (1973, 1979) and Gentry *et al.* (1982, 1983), who studied the relationship between risk for hypertension and

anger-coping styles among black and white adults in Detroit, Michigan. These investigators found that individuals who responded to hypothetical anger-provoking situations by denying that they would get angry or by choosing not to express their anger openly had higher BPs than persons who said they would get angry and would show it. Gentry *et al.* (1983) also observed that black males were more likely than any other group to give "anger-in" responses.

It should be noted that anger inhibition can be treated as either a situation-specific response (e.g., inhibited anger over unfair wages) or as a transsituational personality characteristic. Gentry *et al.* (1982) used the latter approach and apparently found a stronger association between anger inhibition and hypertension risk than was evident in earlier analyses of the same data by Harburg *et al.* (1973, 1979), wherein the anger-in versus anger-out responses evoked by hypothetical conflict with different authority figures were treated as theoretically independent events. While the potential strengths of the transsituational approach in studying the effects of anger inhibition on BP are recognized, the situation-specific perspective is employed in the current study because of our interest in isolating the effects of inhibited anger over unfair wages, on BP, in this sample of low-income, black men.

Finally, influential writers (e.g., Erikson, 1963; Vaillant, 1979; Levinson, 1978) on the psychosocial development of adult males have emphasized the importance of ego-satisfying, productive work for good psychological health. Levinson (1978) concluded that by the time many ambitious men enter their 30s, they have developed a plan for achieving worldly success through and on their jobs. That success may be symbolized by income, material wealth, community prestige, etc; but many younger men are said to be keenly aware of a timetable that marks the progress they are making toward their goals. According to Levinson (1978), the symbolism of the Ladder often helps them to clarify changes in their position in the job hierarchy and to determine if they are moving up the rungs of their own Ladders of Success on schedule. A positive evaluation is evidence that they consider themselves "successful," or nearly so.

Implicit in our formulation of the research objectives for this study is the assumption that numerous factors, societal and personal, combine to impede the progress of many black workers in their attempts to climb their symbolic Ladders of Success. We also assume that, within the work setting, high John Henryism is a manifestation of the individual struggles these workers engage in to neutralize these impediments and to gain for themselves some measure of security and upward mobility in their jobs. The research question is, What price do they pay in terms of their cardiovascular health?

METHODS

Study Population

The study community is a small (1980 population, <2000), poor, predominantly black town in the Coastal Plains regions of North Carolina, an area well known for extremely high rates of hypertension and stroke. During the winter of 1980–1981, the first author conducted health interviews with 132 black male residents of the study community. Respondents ranged in age from 17 to 60 years. They were identified through a probability sample of 200 households, and 91% of all men contacted participated in the study. Of these 132 men, 5 were medically disabled and 15 were full-time students, leaving 112 men (85% of total) who were eligible for labor force participation. Eighty-one of these 112 men held full- or part-time jobs, while 31 (28%) were unemployed. Seven of the 81 employed men were controlled hypertensives. Additional details about the study population are provided by James *et al.* (1983).

Study Variables

Blood Pressure

Approximately 15 min into the interview, three consecutive BP measurements were taken on each individual. Questions concerning work, social support, etc., followed the measurement of BP. The interviewer was certified to measure BP according to guidelines established by the Hypertension Detection and Follow-up Program (HDFP). Systolic blood pressure (SBP) was recorded at the time of sound appearance (first phase Korotkoff) and DBP was recorded at the time of sound cessation (fifth phase Korotkoff). For statistical analysis, SBP and DBP were represented by the average of the second and third BP readings.

John Henrysim

John Henryism was measured by an eight-item, Likert scale, with three response options for each item. Illustrative items from this preliminary[4] scale are "I've always felt that I could make of my life pretty

[4]A new, 12-item version of this scale has been developed: The John Henryism Active Coping Scale, or JHAC12. This scale is available, upon request, from the first author.

much what I wanted to make of it," and "Once I make up my mind to do something, I stay with it until the job is completely done." Response options were "true," "somewhat true," and "not true." High levels of John Henryism resulted from endorsing each item.

Occupational Stressors

Employment Status. Employed, 0; unemployed, 1.

Job Security. Employed men were asked if they ever worried about losing their jobs. A "never" response equaled "high" job security (value = 0); any other response equaled "low" job security (value = 1).

Job Success. Employed men were asked to indicate their current location on their personal Ladders of Success and to evaluate their progress in moving up the Ladder. Responses were summed to form a Job Success index score. The variables comprising the index were as follows: (1) What do you think your chances are of making it to the top rung, or very near the top rung, of your Ladder. . . ? (very good. . . very poor); (2) Where would you place yourself right now on your Ladder...? (on the very top rung... on the very bottom rung); and (3) Compared to where you thought you would be on the Ladder, at this point in your life, are you... (well ahead of schedule... well behind schedule)? The standardized alpha coefficient for the Job Success index was 0.59.

Race as a Hindrance to Job Success. Employed men were asked if they thought being black helped or hindered them in climbing their Ladder of Success. "Helped more than hindered" was scored 0, while "hindered more than helped" and "helped and hindered about the same" were scored 1.

Unfair Wages. Employed men were asked if they get paid what they think they are worth on their jobs. The responses "yes, definitely" and "yes, probably" were scored 0, while "definitely not" and "probably not" were scored 1.

Anger Inhibition

Anger About Wages. Men who said they felt underpaid were asked if this made them angry. "Very angry and resentful" and "somewhat angry and resentful" represented "anger-out" responses and were scored 1. "Not at all angry or resentful" represented "anger-in," or the "inhibited-anger" response, which was scored 0.

Confounding Factors and Effect Modifiers

Since age, education, Quetelet index (wt/ht^2), number of cigarettes smoked daily, and time of day of interview could confound relationships between job stressors and BP, the influence of these variables was controlled in all analyses. In addition, when the relationship between Job Success and BP was tested, the importance the individual worker placed on job success (i.e., reaching the top of the Ladder) was also controlled in the analysis.

In selected analyses, John Henryism and on-the-job social support from supervisors and co-workers were treated as potential effect modifiers. A composite variable representing on-the-job social support from supervisors and co-workers was created to assess whether such social support "buffered" the effects of the two Wage variables on BP. Additionally, we examined the possibility that men who scored low on the Job Success index, and who felt that being black had hindered their chances for job success, might have higher BPs than other men.

Data Analysis

A backward, hierarchial elimination strategy (Kleinbaum *et al.*, 1982) was used to determine the most efficient linear regression model for obtaining mean BP levels for dichotomous categories of the six predictor variables. These included the five psychosocial job stressors and the anger-inhibition variable. Separate regression models were constructed and evaluated for each variable. The initial model consisted of the predictor variable, six covariates (age, education, smoking, Quetelet index, time of day of interview, and John Henryism score) and six first-order interaction terms formed by the product of the predictor variable and the covariates.

The first stage of modeling addressed the presence of interaction. In order to minimize the possibility of Type I error, two separate, overall F statistics were computed for interactions involving variables of "physiologic" significance (smoking, Quetelet index, time of day) or "psychosocial" significance (age, education, John Henryism). If the multiple, partial F statistic was nonsignificant ($P > 0.10$), the corresponding set of interaction terms was deleted from the model. All main effects and any remaining interaction terms were then submitted to a stepwise, backward elimination procedure, with the alpha to remain set at 0.10. To enhance validity, age, smoking, Quetelet index, and the time of day of interview were forced into each model. Analyses were conducted in this manner separately for SBP and DBP.

In the second stage, the above modeling strategy was modified in order to test several interactions of special theoretical significance. The first model focused on the interaction between Job Success and John Henryism, after controlling for the importance of job success. The second model focused on the interaction between Job Success and Race as a Hindrance to job success. Finally, to test the social support buffering hypothesis, a composite variable representing on-the-job support from supervisors and co-workers was included in the models for Unfair Wages and Inhibited Anger over Unfair Wages.

RESULTS

Bivariate Correlations Among Study Variables

Table I presents the bivariate correlations among the study variables. Most of the significant correlations are in the expected direction; and it should be noted that none of the correlations among the occupational stressors is so high that redundancy of measures poses a problem. As expected, John Henryism correlates highly with the job success variables. Lack of Job Security and low support from supervisors are correlated. Of interest, also, are several correlations involving Inhibited Anger over Unfair Wages. For example, better-educated men were more likely to say they were angry about unfair wages, and men who felt that being black had hindered their chances for job success were considerably more likely to say they were angry about unfair wages.

To simplify presentation of the multivariable results, we merely note, without including supporting data, that the null hypotheses could not be rejected ($P > 0.10$) for the following variables: Unfair Wages, Inhibited Anger over Unfair Wages, and the perception that being black had Hindered chances to achieve job success.[5] On-the-job social support did not alter these findings for Unfair Wages or for Inhibited Anger over Unfair Wages.

Employment Status

Unemployed men ($N = 31$) had significantly higher adjusted SBP than employed men ($N = 81$); however, this relationship was further modified ($P \leqslant 0.03$) by the time of day the interview was conducted. Specifically, unemployed men who were interviewed during late morning

[5]The *N*s for these analyses were as follows: Wages Fair ($N = 39$) vs Unfair ($N = 42$); Anger over Wages Expressed ($N = 21$) vs Anger Inhibited ($N = 21$); Race-Hindered ($N = 44$) vs Race-Helped ($N = 37$).

Table I. Bivariate Correlations Among Study Variables

	John Henryism	Age	Education	Income	Job Insecurity	Job Success	Importance of Success	Hindered	Wages	Angry	Supervisor	Co-worker	SBP
John Henryism													
Age	0.18												
Education	−0.27**	−0.47**											
Income	0.12	0.27**	0.21										
Job Insecurity	−0.13	−0.09	0.04	0.06									
Job Success	0.36**	0.09	0.00	0.15	−0.28**								
Importance of Success	0.26**	−0.15	0.07	0.03	−0.06	0.20							
Hindered[a]	−0.16	−0.07	0.12	0.07	0.18	−0.33**	−0.09						
Wages[b]	−0.02	0.09	0.01	0.12	0.18	−0.27**	0.04	0.31**					
Angry[c]	−0.19	−0.28	0.38**	0.00	0.11	−0.22	0.09	0.51**	0.34*				
On-job social support													
Supervisor	−0.11	0.21	−0.16	0.07	−0.32**	0.25*	−0.08	−0.21**	−0.22*	−0.17			
Co-worker	−0.12	0.01	−0.13	0.09	−0.04	−0.03	−0.05	0.08	−0.10	−0.12	0.27**		
SBP	−0.02	0.36**	−0.18	0.19	0.20	−0.03	−0.25**	0.08	0.02	0.01	0.06	−0.12	
DBP	−0.00	0.44**	−0.36**	0.02	0.05	−0.14	−0.26*	0.05	0.03	−0.24	0.10	−0.05	0.66**

[a]Race hindered = 1; other values = 0.
[b]Wages unfair = 1; other values = 0.
[c]Angry about wages = 1; not angry = 0.
*$P \leq 0.05$.
**$P \leq 0.01$.

Table II. Predicted Values[a,b] for Systolic Blood Pressure (mm Hg) by Employment Status and Time of Day ($N = 112$)

	12 noon	6 PM
Employed ($N = 81$)	125.56	129.20
Unemployed ($N = 31$)	132.61	124.44

[a]Adjusted for age, Quetelet index, and number of cigarettes smoked daily.
[b]These results were unchanged when the seven controlled hypertensives were excluded.

had the highest SBPs. Table II shows the predicted values for SBP, by employment status, and the two times of day around which a sizable number of interviews was conducted.

Job Security

A significant main effect ($P \leqslant 0.02$), with no interactions, was observed for Job Security on SBP. As shown in Table III, men who scored high on Job Security ($N = 49$) had SBP's which, on average, were 8 mm Hg lower than those of men who scored low on Job Security ($N = 32$). The difference in DBP did not reach statistical significance.

Job Success

When importance of job success was statistically controlled, a main effect (−) for Job Success ($P \leqslant 0.04$) and a significant interaction (+)

Table III. Mean[a,b] Blood Pressure (Standard Error) by High and Low Levels of Job Security

	Job Security		
	High ($N = 49$)	Low ($N = 32$)	P
SBP	125.79 (2.06)	133.75 (2.55)	0.02
DBP	80.37 (1.56)	83.06 (1.94)	NS

[a]Adjusted for age, Quetelet index, time of day, and number of cigarettes smoked daily.
[b]These results were unchanged when the seven controlled hypertensives were excluded.

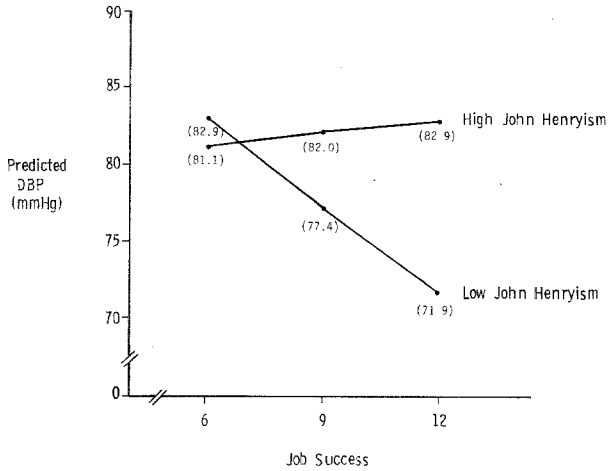

Fig. 1. Predicted DBP by job success with John Henryism interaction, controlling for smoking, Quetelet index, time, age, and importance of job scales.

involving Job Success and John Henryism ($P \leqslant 0.05$) were observed for DBP. Job Success was not a significant predictor of SBP. The results for DBP held even after the exclusion of the seven controlled hypertensives. In interpreting these findings, the significant interaction for Job Success and John Henryism takes priority over the Job Success main effect. Figure 1 summarizes the interaction effect, by showing predicted values for DBP for high and low John Henryism combined with three levels of Job Success. For high John Henryism, DBP values change little with increasing Job Success; but high Job Success was associated with a sharp decline in DBP among men who scored low on John Henryism.

In the model which assessed whether the relationship between Job Success and BP was modified by the perception that being black had Hindered job success chances, the final regression model showed main effects for (+) age ($P \leq 0.0003$), (−) John Henryism ($P \leq 0.02$), (+) Hindered ($P = 0.10$), and (−) Job Success ($P \leqslant 0.02$) and significant interactions for (−) Job Success and Hindered ($P \leqslant 0.06$), as well as for (+) Job Success and John Henryism ($P \leqslant 0.01$). These relationships persisted after the controlled hypertensives were excluded. As before, the interactions take priority over the main effects in interpretation of the results. Figure 2 summarizes the two significant interactions by showing predicted values for DBP, at three levels of Job Success, for high-John Henryism men who differed in their perceptions of the effects race had on their chances to achieve job success. Diastolic blood pressures were *lower* for high-John

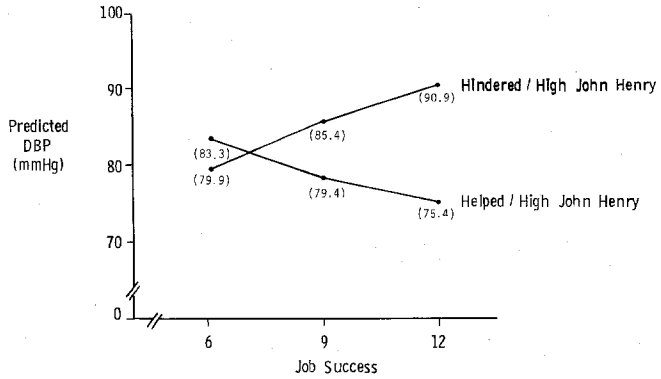

Fig. 2. Predicted DBP by job success with interactions for help/hinder and John Henryism, controlling for smoking, Quetelet index, time, and age.

Henryism men who reported that being black had actually helped them in their efforts to achieve job success. In contrast, DBPs were *higher* for high-John Henryism men who reported that being black had made job success more difficult for them to achieve.

DISCUSSION

The results from this study suggest that psychosocial job stressors may indeed be related to resting BPs in our study population. In most instances, however, these relationships are not simplistic. For example, the time of day of interview exerted a strong influence on differences in mean SBP observed for employed and unemployed men. Unemployed men interviewed in late morning had higher SBPs than other men. Three potential explanations for this finding seem likely: diurnal variation, heightened autonomic arousal among unemployed men during late mornings for reasons that may be substantatively important, and chance.

In a recent review, Raftery and Miller-Craig (1978) summarized several studies involving intraarterial 24 hr recordings of BP in both hypertensive and normotensive subjects. According to these investigators, BP is relatively high from about 10 AM to early or midafternoon. At about 6–7 PM, BP begins to fall steadily, reaching its lowest values between 1 and 3 AM, after which it rises steadily, reaching peak levels at about 7 AM.

It is not clear whether these summary data on diurnal variation can be applied to our study population; but it seems unlikely, for two reasons, that diurnal variation can adequately explain the employment status by time of

day interaction that we observed in our data. First, DBP was not similarly affected, and second, employed men who were interviewed in late morning had one of the lowest mean SBPs.

An alternative explanation of this finding rests on the assumption that the reported interaction actually has substantive importance. That is, the interaction may reflect some of the same social and psychological processes that could have influenced Kasl and Cobb's (1980) finding that rural men, but not urban men, evidenced the greatest elevations in BPs during the unemployment phase. It is possible that healthy, but unemployed black men in a rural, Southern community face some of the same social stigma problems, and reduced job options, that white workers in rural areas elsewhere have typically faced. Hence, during mid- and late morning hours, many of the unemployed men in our study population may have been especially vigilant, or anxious, about finding new job leads; and the higher SBPs that we observed during this time could have been a result of heightened levels of autonomic arousal.

It is also possible, of course, that the reported interaction is merely a chance finding. Our modeling strategy was designed to minimize Type I errors while, at the same time, permitting comprehensive tests of the relationships of interest. Nevertheless, we did conduct a fairly large number of statistical tests, and because the employment status by time of day interaction was not predicted beforehand, a chance explanation cannot be ruled out. In addition, we are unaware of any other published studies which dealt with the potential influence of time of day as extensively as we did. Research interest in the long-term health consequences of unemployment should increase in the years ahead. Therefore, opportunities to evaluate the clinical as well as methodological significance of this interaction—within a broader context of knowledge—should also increase.

Our second major finding concerned job security. Men who never worried about losing their jobs had lower SBPs than men who worried some, or a great deal, of the time. We interpret these differences to mean that the men in the latter group were more fearful, or anxious, about their job situations and one of the consequences of such fear, or anxiety, was an increase in resting SBP. In a recent experimental study of the cardiovascular differentiation of several human emotions, including fear and anger, Schwartz *et al.* (1981) concluded that fear elicits an epinephrine-like response and strongly affects heart rate (HR) and SBP, while anger elicits a norepinephrine-like response and influences DBP more greatly than HR and SBP. Ax (1953) and Schacter (1957) first demonstrated these effects.

If perceptions of low Job Security are associated with a fear-like psychophysiological state, and the latter impinges strongly on SBP, then our field data would be quite consistent with laboratory findings.

Moreover, the difference of 8 mm Hg in resting SBP values for men who scored low versus those who scored high on Job Security is clearly significant, clinically, and suggests that low job security is a potent occupational stressor in this sample of black workers.

Our findings regarding the relationship between Job Success and DBP were both interesting and complex. After controlling for the traditional confounders, and for the importance of job success, we observed that high Job Success was associated with lower DBP values for low-John Henryism men but not for high-John Henryism men. It should be kept in mind when examining these results that each man used his own criteria in judging how far he had progressed on his Ladder of Success. This measurement approach was motivated by the realization that individual timetables for occupational advancement are important, and because of this, one man's success may be another man's failure. We believe, furthermore, that DBP values for high-John Henryism men changed very little with increasing levels of Job Success because high John Henryism and high Job Success both reflect feelings of personal competence in the work environment. The relatively high correlation between these two variables, as shown in Table I, supports this conclusion, as does the finding from our initial study (James *et al.*, 1983) that high-John Henryism men were more psychologically involved with their jobs than were low-John Henryism men. The latter point suggests that low-John Henryism men may also have been less ambitious about what, for them, represents job success. If, in addition, they experienced job success without having to engage in prolonged, personal struggles against environmental obstacles, their risk for hypertension may have been reduced.

In contrast to the above situation, our findings regarding the combined effects of Job Success and John Henryism, and Job Success and the Race-Hindrance variable, reveal what might result when job success is achieved only after considerable struggle against environmental obstacles (see Fig. 2). High-John Henryism men who felt that being black had hindered their chances for job success had higher DBPs with increasing levels of Job Success. Lower DBPs were observed among men who felt that being black had actually helped them. Whereas these interactions could easily be viewed as representing the classic John Henryism effect (i.e., success purchased at a high price), it is not immediately clear why DBP values would take on this particular form.

Definitive statements in this regard are not possible, but several correlations in Table I suggest that chronic anger may be involved in the above relationships in an important way. The Race-Hindered variable, for example, is positively correlated with both dissatisfaction with wages and Expressed Anger over Unfair Wages. It is conceivable that the Race-

Hindered variable is a good indicator of trait-like anger. Thus, if high-John Henryism men who said that being black had hindered them were angrier than men who said that being black had actually helped them, then the higher DBPs observed for men in the former group could have been influenced by higher levels of trait-like anger. This interpretation is consistent with laboratory evidence (Schwartz *et al.,* 1981) that anger sharply increases DBP. Our data point to some of the naturalistic stressors in the work environment that could contribute to chronic anger in some black workers.

Of the five psychosocial job stressors investigated in this study, only low Job Security had a direct, uncomplicated relationship with BP. Perceived unfair wages and Inhibited Anger about Unfair Wages were unrelated to BP in this study population. As single-item measures, the latter two variables may have been too weak to detect associations which actually exist. Alternatively, in an economically distressed, low-wage environment, such as our study community, labor force participants may be more concerned about finding jobs, and holding on to them, than they are with the level of wages per se. Hence, for some men, the failure to report being angry about unfair wages may not represent "anger-in," as originally conceived. Rather, it may reflect feelings of resignation, based upon the workers' realistic appraisal of their alternatives.

Finally, a major objective of this study was to provide a further test of the validity of the John Henryism hypothesis. We sought to determine if high John Henryism would potentiate the effects of three *unfavorable* work conditions on BP. The conditions were unemployment, low job security, and low job success. Evidence in support of the hypothesis was observed only for Job Success (see Fig. 2). Neither unemployment nor Job Security produced significant interactions which involved John Henryism. We have no satisfactory explanations for the latter findings. We can speculate, however, that the John Henryism situation, which we view as intense, prolonged coping with behavioral stressors under unfavorable conditions, is more adequately represented in the Job Success equation (Fig. 2) than in the equations we constructed for the other two variables.

In conclusion, this report is the first empirical study of the effects of psychosocial job stressors on resting BPs in blacks. In view of the high levels of unemployment and underemployment among black workers, and the widely held view (e.g., Harris, 1982; Liebow, 1967; Wilson, 1978) that occupational settings represent a major source of stress for blacks, more research is needed on this topic. Prospective studies of black workers are especially needed. In future studies, the role of social supports in mediating the relationship between job stressors and BP in black workers should be examined in greater depth than was possible in this paper. Research is also

needed to clarify whether occupational stressors and trait-like anger interact in black workers to influence their risk for hypertension. Finally, the relationships explored in this study should be tested in other groups, including middle-class blacks and working women.

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