CORRECTIONAL INSTITUTION WORKERS' COPING STRATEGIES AND THEIR EFFECT ON DIASTOLIC BLOOD PRESSURE

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ABSTRACT

An organizational field study involving ninety-five youth counselors and juvenile probation officers examined the ways these individuals coped with the stressful events of their daily living. Lazarus's cognitive-phenomenological analysis of psychological stress provided the theoretical framework. Subjects indicated on Lazarus's Ways of Coping Checklist those coping thoughts and actions used in the specific encounter described as stressful. As hypothesized, individuals experiencing higher diastolic blood pressure were more likely to cope using strategies characterized by wishful thinking, avoidance, and minimization of threat than were individuals exhibiting lower blood pressure. Age, sex, and smoking were added to the multiple regression analysis as control variables. Further research directions are introduced.

That correctional institutions are unpleasant places for those incarcerated is well known; that they are unpleasant and stressful places in which to work is also becoming more widely acknowledged (Brodsky, 1982). Recently, both academic studies and popular literature have focused upon potentially stressful aspects of work in the criminal justice field (Cullen et al., 1985; Roberg, Hayhurst, and Allen, 1988; Terry, 1981).

The recency of this emphasis is somewhat surprising, given that several factors known to produce stress are intrinsic to the structure and culture of the correctional institution and to its social role. Correctional institutions are held responsible for protecting society from criminals and also for rehabilitating these offenders. However, this twin mission of custody and rehabilitation generally has proven to be unachievable (Long et al., 1986). For
most correctional institutions, these goals are incompatible and contribute to a contradiction between what the organization actually does and what it says it does (Goffman, 1961; Hepburn, 1987).

This confusion, in turn, may precipitate role conflict and role ambiguity at the individual level among the institutions’ employees (Kahn et al., 1964). The impact of role conflict and/or ambiguity on stress has received ample attention in the literature (see, especially, Caplan et al., 1975), including research in the correctional field (see Malloy and Mays, 1984; Sigler, 1988). More recently, this research has emphasized the fit or lack of fit between the individual employee and the work environment and its relationship to job stress (French, Caplan, and Harrison, 1982). Few would argue with the categorization of correctional workers’ jobs as stressful; these employees continuously strive to accommodate their conflicting job goals and role definitions (Brodsky, 1982; Cheek and Miller, 1983). What is less readily agreed upon is (1) the relationship between this kind of stress and individuals’ methods of coping and (2) individuals’ methods of coping and specific psychological, physiological, and behavioral outcomes.

The research presented in this article hypothesized that a specific physiological indicator—diastolic blood pressure—among a sample of correctional workers would reflect the way individual workers coped with stress. Specifically, it was predicted that correctional workers experiencing higher diastolic blood pressure would cope using mechanisms characterized by greater reliance on wishful thinking, minimization of threat, and avoidance.

THEORETICAL FRAMEWORK

Stress has been conceptualized from several different perspectives (Krantz, Grunberg, and Baun, 1985), but it is generally acknowledged to be ubiquitous. Stress is assumed to be an inevitable part of normal living—although some individuals experience more frequent, severe, or sustained episodes of stress than others. Not surprisingly, stress has been examined in conjunction with a wide range of correlates (Beehr and Newman, 1978), and the results of the investigations frequently have been vague and imprecise (Kasl, 1984). Recently, however, there have been changes in the focus and direction of stress-related research.

In contrast to the view that health-related outcomes are merely a consequence of stress (Holroyd and Lazarus, 1982), the role of coping in human adaptation has been receiving greater emphasis. Coping has been investigated frequently in clinical settings and is readily acknowledged in “common sense” terms. As a theoretical concept, however, it is more problematic (Lazarus and Folkman, 1984). Coping is conceptualized in primarily psychological terms. It is defined as the process of managing demands (external and internal) that the individual appraises as taxing or exceeding his or her available resources (Lazarus, 1981). The emphasis of this definition is on the psychological act of appraisal.

Following Lazarus and Folkman (1984), the present research was based upon the premise that stress depends on the manner in which an individual cognitively appraises a transaction and then copes with it. According to this perspective, an individual viewing an event as challenging would be more likely (given individual differences) to cope through the use of a direct action- or problem-focused strategy to change the situation. Similarly, an individual viewing an event as threatening would be more likely to cope through the use of intrapsychic processes such as avoidance, wishful thinking, and/or minimization of threat.

This has been noted especially for workers in the correctional field (Cheek and Miller, 1983). Clinical evidence has supported the contention that role conflict and role ambiguity can lead to coping strategies emphasizing avoidance, minimization of threat, and/or wishful thinking for many correctional workers (Brodsky, 1982).

Research has indicated that many adaptational outcomes are a product of how effectively people cope (Holroyd and Lazarus, 1982). Adaptational outcomes can
be considered from a psychological, physiological, or behavioral perspective. Psychological outcomes studied include depression (Lazarus and Launier, 1978), nervous tension (Kahn et al., 1964), anxiety (Janis, 1958; Mechanic, 1962), lower self-esteem (French and Caplan, 1973), job dissatisfaction (Miles and Perrault, 1976), and burnout (Maslach, 1982; Whitehead, 1987). Physiological outcomes studied include poor physical health (Holmes and Masuda, 1974), coronary heart disease (Glass, 1977; Syme, Hyman, and Enterline, 1964), and psychosomatic complaints (for a review, see Cox, 1978). Research findings at the behavioral level have been limited (Lazarus and Folkman, 1984). It is important to emphasize the distinctions among adaptational outcomes because a beneficial outcome in one area frequently occurs at the expense of a positive outcome in another. Thus, stimulants can be used to help maintain morale, but at the expense of physical health.

The concepts of coping and adaptation, while related, do not fully overlap. Adaptation can be perceived in more general terms, in that it includes routine, even automatic, methods of adjustment. Coping, on the other hand, involves new or different situations presenting demands or requirements which individuals cannot routinely handle (Lazarus and Folkman, 1984). Two functions of coping, problem-solving and the regulation of emotional distress, have been frequently observed and discussed (Lazarus, 1981; Mechanic, 1962; Murphy and Moriarity, 1976). Problem-solving involves changing the situation for the better, if possible, either by altering the action one is responsible for or by altering the damaging or threatening environment. The emotional function involves managing the somatic and subjective components of stress-related emotions themselves (Lazarus, 1981).

Recent research has further specified and refined these two functions into several strategies (Kessler, Price, and Wortman, 1985), the following eight of which are included in the Ways of Coping Checklist, which was administered to the subjects in this study: Avoidance, wishful thinking, threat minimization, problem-focused, help-seeking, growth-related, emotional support-seeking, and self-blaming. From a theory-testing base, the present discussion focuses primarily on the first three of these strategies.

The nature of the relationship between cognitive processes such as coping and distinct psychological and physiological outcomes has not been fully specified (Lazarus and Folkman, 1984). However, Lazarus (1978) has shown that repeated use of strategies such as avoidance or minimization of threat as a means of coping with threatening situations can profoundly alter an individual's tissue makeup, increasing the risk of cardiovascular disorders. Studies in clinical settings (Weiner, Singer, and Reiser, 1962) have indicated that hypertensives emphasize coping strategies that distinguish them as a group from normotensives. Most frequently, these strategies involve the individual attempting to insulate and distance himself or herself from the problem's source. This is especially evident in correctional work, since the source of so many of the problem(s) lies at the organizational and societal levels. Finally, the association between coping strategies that emphasize suppression of anger and/or hostility and cardiovascular disorders such as heart disease and hypertension has been routinely noted by researchers (Schwartz, Weinberger, and Singer, 1981).

The most frequently investigated mechanism for evaluating how coping affects selected adaptational outcome variables is physiological mobilization. Typically, this process is modeled in one of two ways. The generality model posits the nonspecific response of the body to any noxious stimulus (Selye, 1976). The specificity model maintains that each somatic complaint, such as high blood pressure/hypertension, has its own distinctive pattern of mobilization and physiological response (see Mason, 1975; Selye, 1976). The latter model is the more relevant for the present study because it posits that specific patterns of appraisal and coping (e.g., wishful thinking, avoidance, and minimization of threat) may be linked to specific patterns of physiological response (e.g., elevated diastolic blood pressure) and, hence, to specific illness outcomes.
To summarize, prior research has supported the contention that the criminal justice field is a stressful environment in which to work (Cullen et al., 1985; Long et al., 1986). Similarly, it has been found that many correctional employees likely perceive these stressful situations as threatening and respond with coping strategies that can ultimately jeopardize their good health (Brodsky 1977, 1982). Finally, based on previous research and theoretical considerations (Julius et al., 1986; Schwartz et al., 1981), it was hypothesized in the present study that an emphasis on wishful thinking, minimization of threat, and avoidance strategies of coping would be associated with elevated diastolic blood pressure.

Previous research (National Center for Health Statistics, 1982) has identified various demographic and other variables, such as smoking, age, sex, level of salt intake, and obesity, as potential "risk factors" associated with an increased likelihood of developing one or more cardiovascular disorders. However, only three of these variables, smoking, age, and sex, have been overwhelmingly accepted by behavioral researchers as risk factors (Krantz et al., 1985). Given this fact, the current research examined smoking, age, and sex as potential controls for the primary relationship posited between correctional workers' diastolic blood pressure and their mode of coping.

METHOD

Research Setting and Subjects

All data were collected on-site by the lead author as part of an on-going longitudinal field study, in its eighth year. The ninety-five subjects for this study were selected from workers employed at a juvenile detention center in a large metropolitan area in California. The sample included all subjects who completed the Ways of Coping Checklist and allowed their blood pressure measurement to be taken. This represents sixty-five percent (95/146) of those asked to complete the questionnaire and have their blood pressure measured. The center is the short-term detention facility for juveniles who come under the jurisdiction of the county's Superior Court. The subject population was composed of youth counselors and juvenile probation officers. Preliminary analysis found that blood pressure and type of coping incident reported were virtually identical across the two groups, which allowed report of aggregated results. Most of the subjects are male (78 percent), and all had completed college. The mean age of this sample was 34.41 (s.d. = 8.42).

Measures

With the exception of blood pressure, which was measured at the job site during work hours with the help of a trained medical technician (R.N.), all data were collected by the lead author. The coping questionnaire was consistently administered immediately after the diastolic blood pressure measurement was obtained so that the coping questions could not be seen as a cause of the blood pressure readings. Both measures were collected over a one-month period.

Diastolic blood pressure was measured on the job site by placing a blood pressure cuff (Sphygmomanometer) around each subject's right arm while the subject was seated. The subjects' diastolic scores ranged from a low of 50 to a high of 110. The apparatus, owned by the county, is subject to regular inspections. Sources such as the National Center for Health Statistics (1982) have long recognized the relevance and appropriateness of using diastolic blood pressure as an indicant of physiological arousal. Similarly, the linkage between high diastolic blood pressure and various cardiovascular disorders is well established (Chesney, 1987).

Coping was assessed using sixty-two items obtained from the Ways of Coping Checklist (Stress and Coping Project, 1980, 1983, 1985). The eight scales used in this study employ items identical to ones that have been previously identified and validated (Folkman and Lazarus, 1980). In general, the Ways of Coping instrument has been extensively examined (Scherer, Wiebe, Luther, and Adams, 1988). The instructions asked subjects...
to refer to a recent (last thirty days), self-described, most stressful event and to indicate whether or not the strategies contained in the questionnaire were used in dealing with the event.

Examples of scale items include: wishful thinking (e.g., “hoped a miracle would happen”), avoidance (e.g., “avoided being with people in general”), minimization of threat (e.g., “accepted sympathy and understanding from someone”), problem-focused (e.g., “made a plan of action and followed it”), growth (e.g., “changed or grew as a person in a good way”), seeking emotional support (e.g., “accepted sympathy and understanding from someone”), blame self (e.g., “criticized or lectured yourself”), help seeking (e.g., “asked someone you respected for advice and followed it”).

RESULTS

The results supported the theoretically posited relationship between diastolic blood pressure and coping strategies characterized by wishful thinking, minimization of threat, and avoidance. The multiple regression procedure used here involved the simultaneous testing of subsets of independent and control variables with the dependent variable, diastolic blood pressure.

Specifically, a multiple linear regression model \( y = b_0 + b_1 x_1 + b_2 x_2 + \ldots + b_3 x_3 + \epsilon \) was fit to the data where \( x_1, x_2, \text{and } x_3 \) were the theory-based variables: minimization of threat, wishful thinking, and avoidance. Similarly, \( x_4, x_5, x_6, x_7, \text{and } x_8 \) were the nontheory-based variables: self-blaming, emotional-support-seeking, growth-oriented, problem-focused, and help-seeking coping strategies. Finally, \( x_9, x_{10}, \text{and } x_{11} \) were the three control variables: smoking, age, and sex.

First, the simultaneous hypothesis \( b_1 = b_2 = b_3 = 0 \) was tested. This hypothesis was rejected \( (F = 15.36, p < .0001) \), indicating that one or more of the three theory-based variables related to diastolic blood pressure (Table 1). Each of these three variables was then tested separately, and all were found to be significantly related to diastolic blood pressure in the hypothesized direction (Table 2). These three variables explained twenty-seven percent of the variation in blood pressure above and beyond the contribution of the other variables.

Next, the simultaneous hypothesis \( b_4 = b_5 = b_6 = b_7 = b_8 = 0 \) was tested. This hypothesis was accepted \( (p = .614, \text{ n.s.}) \), indicating that the five nontheory-based variables did not, as predicted, relate to diastolic blood pressure. Each of these five variables was then tested separately, and all were found, as predicted, not to be significantly related to diastolic blood pressure (Table 3).

Finally, the simultaneous hypothesis \( b_9 = b_{10} = b_{11} = 0 \) was tested, and this hypothesis was accepted \( (F = 3.26, p < .03) \). Separate analysis of each control variable indicated that only age related to diastolic blood pressure (Table 4).

DISCUSSION

The hypothesized relationships between correctional workers’ coping strategies and their diastolic blood pressure were supported. Individuals experiencing higher diastolic blood pressure were found to cope with greater reliance on wishful thinking, avoidance, and minimization of threat than were individuals exhibiting lower blood pressure.

Role-strain-induced problems experienced by correctional workers (and their employing institutions) have been well delineated (Territo and Vetter, 1981). They include job dissatisfaction (Polisky, 1981), job burnout (Whitehead, 1987), and self-reported health problems (Long et al., 1986).

There are two core aspects of such work-related strain, the interaction of which has been found to determine whether adaptive coping or maladaptive behavior and stress-related disease results (Cooper and Marshall, 1975). The first involves the individual’s personal characteristics; the second involves the characteristics of the work environment. This interaction is known as the degree of person-environment (P-E) fit (French, Caplan, and Harrison, 1982). The findings of the present study address the individual dimension of the P-E interaction.
TABLE 1

**HYPOTHESIS TESTS, THEORY AND NONTHEORY-BASED VARIABLES WITH DIASTOLIC BLOOD PRESSURE**

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>$R^2$</th>
<th>Change</th>
<th>$F$</th>
<th>Significance $F$</th>
<th>DF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nontheory-based independent variables</td>
<td>247.8</td>
<td>.02</td>
<td></td>
<td>0.71</td>
<td>.614</td>
<td>5</td>
</tr>
<tr>
<td>(problem-focus, growth, seek emotional support, self-blame, and help-seeking)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theory-based independent variables</td>
<td>3195.7</td>
<td>.27</td>
<td></td>
<td>15.36</td>
<td>.000</td>
<td>3</td>
</tr>
<tr>
<td>(wishful thinking, minimization of threat, avoidance)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control variables</td>
<td>677.7</td>
<td>.06</td>
<td></td>
<td>3.26</td>
<td>.026</td>
<td>3</td>
</tr>
<tr>
<td>(age, sex, smoking)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residual</td>
<td>5757.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>83</td>
</tr>
</tbody>
</table>

**TABLE 2**

**PARAMETER ESTIMATES AND T-TESTS FOR THEORY-BASED VARIABLES**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Beta</th>
<th>Estimates</th>
<th>$T$</th>
<th>One-tailed $P$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimization of threat</td>
<td>1</td>
<td>1.06</td>
<td>2.24</td>
<td>.0137</td>
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<tr>
<td>Wishful thinking</td>
<td>2</td>
<td>1.21</td>
<td>4.15</td>
<td>.0001</td>
</tr>
<tr>
<td>Avoidance</td>
<td>3</td>
<td>2.18</td>
<td>2.22</td>
<td>.0143</td>
</tr>
</tbody>
</table>

**TABLE 3**

**PARAMETER ESTIMATES AND T-TESTS FOR NONTHEORY-BASED VARIABLES**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Beta</th>
<th>Estimates</th>
<th>$T$</th>
<th>One-tailed $P$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-blaming</td>
<td>4</td>
<td>.23</td>
<td>.29</td>
<td>.773</td>
</tr>
<tr>
<td>Emotional support-seeking</td>
<td>5</td>
<td>-.18</td>
<td>-.17</td>
<td>.864</td>
</tr>
<tr>
<td>Growth-oriented</td>
<td>6</td>
<td>.93</td>
<td>1.68</td>
<td>.097</td>
</tr>
<tr>
<td>Problem-focused</td>
<td>7</td>
<td>.00</td>
<td>.02</td>
<td>.982</td>
</tr>
<tr>
<td>Help-seeking</td>
<td>8</td>
<td>-.81</td>
<td>-.71</td>
<td>.480</td>
</tr>
</tbody>
</table>
The subjects in this study were selected from a larger sample, which had been identified as having a higher than normal incidence of high blood pressure. This is a characteristic that is increasingly likely to be found among workers in the correctional field in general. These findings and others suggest that the nature of the fit between many correctional workers and their jobs is not optimal (Caplan et al., 1975).

Correctional workers who accommodate this "mis-fit" by partially withdrawing from the situation through the use of strategies involving avoidance, wishful thinking, and/or minimization of threat potentially place their physical well-being, as well as that of their coworkers, at risk. Alternatively, they may quit their jobs (Foote, 1981) or be absent (Reiterman, 1981) with greater frequency.

The results of this study are correlational, and the usual caveats apply. The empirical implication, however, is that specific coping strategies are directly linked to a potential adaptational outcome. Previously, such a connection had been alluded to only in theory (Wolff et al., 1964), presented in rudimentary form (D'Atri and Ostfeld, 1975), or arrived at through role-playing (Julius et al., 1986). If similar results can be obtained under experimental conditions that allow for causal inferences, a more definite linkage could be established between adaptational outcomes and manner of coping. Specifically, training an individual in the use of certain techniques (such as biofeedback and/or relaxation therapy) to modify his or her dependence on avoidance, wishful-thinking, and minimization-of-threat strategies of coping could potentially lower that individual's diastolic blood pressure.

This study viewed coping as a process, what the individual actually does and how he or she appraises it, rather than simply as a stable trait and style. What is now needed is what Lazarus (1978) termed an ipsative-normative methodology. That is, in addition to the cross-sectional, inter-individual comparisons made here, intra-individual comparisons should be undertaken as well. Longitudinal research would make it possible to examine and compare changes in both an individual's manner of coping and diastolic blood pressure across different situations and then to compare these patterns with those of other individuals in similar situations.

The findings and research presented here are but the first step in what Mitchell and James (1989:404) described as the need for a new methodology to "assess the dynamic nature of both individual and environmental attributes over time and across different situations."

Finally, from both an individual and an organizational perspective, high blood pressure is an important outcome variable. The major cardiovascular disorders, including coronary heart disease and essential hypertension, account for approximately fifty percent of the deaths in the United States. The costs at the organizational level are equally staggering: cardiovascular disease accounts for over ten percent of the job time lost by U.S. workers (Cooper and Marshall, 1976). The correctional field is one area in which the incidence of high blood pressure is especially high (Sheppard, 1982).

Future research should investigate the effect(s) coping strategies have on other individual and organizational outcome variables, including job satisfaction, job performance, absenteeism, and turnover. For example, regarding turnover, the process of how
individuals adjust, or cope, psychologically to the act of leaving a job or organization for another has been earmarked as perhaps the most fruitful, but neglected, area for future research (Steers and Mowday, 1981).

REFERENCES


