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OCCUPATIONAL STRESS AND COPING BEHAVIORS IN CLERICAL AND SECRETARIAL WORKERS

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Abstract

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Clerical and secretarial workers completed an open-ended questionnaire in which they recorded stressful job-related incidents. This information was used to construct a behavioral stress scale and coping behaviors inventory. Another group of clerical and secretarial workers (N=282) rated these incidents according to their perceived stressfulness and categorized concomitant coping behaviors. They also listed the occurrence of specific psychosomatic illnesses and filled out a widely-used measure of occupational stress. Factor analytic results suggest that clerical and secretarial workers consider instances of role conflict and interpersonal problems to be the most important job-related stressors. The average respondent is a moderately stressed woman who employs a range of both action-oriented and cognitive-oriented behaviors, with the cognitive-oriented behaviors predominating slightly. However, as the level of perceived occupational stress increases, the use of action-oriented behaviors rises in this group.

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INTRODUCTION

General Models for Stress Research

A recent critical review of the stress literature observed that "like most interesting psychological concepts, the term 'stress' is somewhat ambiguous" (Hogan & Hogan, in press). An inevitable consequence has been the appearance of numerous definitions of stress with widely varying meanings and numerous theories of stress with diverse conceptual bases.

In the broadest sense, stress may be conceived in terms of three components: (1) stressors; (2) stress responses; and (3) subjective or psychological factors that mediate between (1) and (2) (Hogan & Hogan, in press). In this context, a stressor is defined as an undesirable physical or psychological stimulus in the environment (e.g., extreme cold, interpersonal disagreement) that elicits some type of response. This response represents the person's immediate or delayed reaction to the stressor (e.g., physically leaving the stressful environment; falling ill). Mediating subjective factors (.e.g., prior experience with the stressor, level of anxiety, perceived stress threshold) may seriously affect the manner in which one evaluates the stressor and how he subsequently reacts to it. These components form the seminal framework of much modern theory.

Unfortunately, even at this very basic stage, consensus is lacking. In defining stress and resultant theoretical formulations, some researchers emphasize the stimulus variables, others the response variables. Still others emphasize the mediating variables or some combination of stimulus, response, or mediating variables (Weitz, 1970).

The General Adaptation Syndrome (GAS) proposed by Hans Selye in 1956 defines stress primarily as a response process. Basically, GAS implies that the stress response consists of three stages: (1) an initial alarm stage of physiological arousal; (2) a resistance stage where the organism copes with the stressor; and (3) an exhaustion stage in which relief is obtained from the stressor, or death of the organism occurs. Selye's formulation is significant primarily for historical reasons; his pioneering work formed the basis for much current theory and research. However, this theory examines physiological processes only and therefore possesses limited utility in explicating the psychology of stress.

S. B. Sells (1970) also conceptualized stress primarily as a response process. In this case, psychological, not physiological, stress is examined. In Sells' theory, two basic conditions are necessary for a state of stress to arise: (1) the individual is called upon to respond to circumstances for which he possesses no adequate response; (2) the consequences of failure to respond effectively are

important to the individual. Sells' concept is extremely broad, although narrow enough "to distinguish stress from other phenomena of human behavior" (p. 139). General models such as this one have provided the foundation for later, more complex paradigms such as McGrath's process model.

McGrath (1970,1976) proposed an elaborate definition and theory of stress in terms of a stressor and stress response. He defines stress as an environmental situation in which there exists a (perceived) substantial imbalance between demand and response capability with possible resulting adverse consequences. More simply stated, stress involves an interaction between person and environment. This situation confronts the individual with a demand or constraint, and the resulting stressfulness of this demand depends primarily on three factors:

1. A person must perceive the situation as being stressful regardless of whether stress exists by any objective criteria.

2. The situation must be interpreted by the person in relation to his abilities to deal with the stressor.

3. The individual must evaluate the possible consequences of actively coping with or altering the existing situation (McGrath, 1976).

The above definition and resulting contingencies led McGrath (1976) to postulate a general paradigm for the study of psychological stress. McGrath views the "stress

situation" as being a four-stage, closed-loop cycle. The four stages are composed of (A) a situation; (B) a perceived situation; (C) a response selection; and (D) a behavior. However, it is the linking processes that connect these stages which form the substance of stress research.

1. The first process linking A and B involves what Lazarus (1966) popularly termed "cognitive appraisal" or the "subjective experience of stress" (McGrath, 1976). In this stage, the person appraises the situation.

2. The second process link connecting B and C is basically a decision-making process wherein the individual chooses some response from a set of alternative responses (including no response). Lazarus (1966) coined the term "secondary appraisal" to refer to this specific process.

3. The third linking process between C and D involves the actual execution of the response(s) chosen in 2. This response or performance process hopefully results in the alteration of the unfavorable situation. This link is the easiest to evaluate since it results in some type of (coping) behavior that may be qualitatively or quantitatively analyzed.

4. The fourth link between D and A considers the consequences of outcome for the person after he initiates the chosen response in 3. This process link feeds back into 1; i.e., the consequences resulting from dealing with the stress effect the perception and appraisal of stress, and

the closed loop cycle is completed.

McGrath's process model is concerned primarily with occupational task performance. The model makes no attempt to integrate relevant mediating variables or long-range outcome variables (e.g., stress-related disease) into the stress cycle.

House (1974) introduced a theory of occupational stress and its relationship to chronic disease. This theory postulates that objective social conditions conducive to stress (e.g., relationships with co-workers) exist in the environment. Whether or not the objective social situation is deemed stressful depends upon the perception of the individual experiencing it. This perceptual process results from an interaction between the particular social conditions and personal characteristics of the individual (e.g., specific abilities, type of job). Also, characteristics of the objective social situation influence the degree to which a potentially stressful situation (e.g., work overload) actually results in subjective feelings of stress. "In short, this paradigm says (1) that the relationship between social conditions and outcomes like heart disease is mediated through the individual's perception of the situation, and (2) that the perceived meaning of objective conditions depends on both the nature of the person and the nature of the social situation" (p. 14).

Since all people who experience the same degree of

perceived stress in comparable situations rarely develop similar outcomes (e.g., mental or physical illnesses), the intermediate step, the stress response, linking stress perceptions and outcomes is crucial. House categorizes these responses as physiological, psychological (cognitive/affective) and/or behavioral. The behavioral responses are termed "coping" responses, and they seek to alter the objective situation itself. The psychological responses are labeled "defenses," and they serve primarily to alter one's perception of the situation. In turn, defenses are mediated by specific individual or situational conditioning variables.

The final phase of the model is the stress outcome, which is also presumed to be physiologically, psychologically, and/or behaviorally-based. Again, individual or situational conditioning variables mediate the effect of outcomes. These conditioning variables are particularly significant at this point in the cycle; knowing the objective situation, level of perceived stress, and stress response may not greatly enhance the predictability of outcomes. The outcomes may depend heavily upon specific characteristics of the person or the situation. For example, genetic predispositions to heart disease may be more predictive of outcomes than any other variable in the stress cycle.

In summary, House's theory proposes that objective social conditions conducive to stress induce perceptions of stress in the individual. The individual responds to this

stress, and this response produces certain enduring outcomes. Via a feedback loop, stress responses affect social conditions through coping efforts and stress perceptions through the use of defenses. At each phase of the cycle, individual or situational mediating variables may interact to influence stress perceptions, responses and outcomes. Like McGrath's model, House's theory also possesses some shortcomings. For example, it deals only with socially-induced stress, and it fails to assess the impact of outcomes on the other phases of the stress cycle.

Stress in the Workplace

The earliest interest in psychological stress arose in the domain of clinical psychology, specifically psychoanalytic theory (Hogan & Hogan, 1981; Pearlin & Schooler, 1978). Clinical psychologists defined psychological stress primarily as an intrapsychic phenomenon virtually isolated from exogenous influences. Stress was presumed to occur because one did not possess the "right" personality characteristics to deal effectively with life's vicissitudes. Only recently have social scientists attempted to study the components of stress away from a clinical setting and under controlled laboratory conditions (Folkins, 1970; Holmes & Houston, 1974; Houston, 1971). Even though the methodology changed from the clinic to the lab, the orientation did not. Stress was still defined as an internal process, and the

(alas, fruitless) search for the stress-prone or stress-resistant personality commenced.

Although research is still being conducted in the clinic and in the laboratory, the concept of stress has generated interest in the applied disciplines. Specifically, psychologists are now investigating the influence of both internal and external (i.e., environmental) forces on stress, much as postulated by McGrath and House. The work environment has become a popular target for current research.

Stress on the job has been researched within six basic frames of reference (McGrath, 1976): (1) task-based stress (e.g., difficulty, load); (2) role-based stress (e.g., conflict, ambiguity); (3) stress generated within the individual (e.g., personality styles); (4) stress generated by the social environment (e.g., interpersonal relations); (5) environmental stressors (e.g., heat, noise); (6) stress arising from the behavior setting (e.g., crowding). The above list suggests that research on job-related stress encompasses an extremely broad area. Furthermore, these categories are not independent. For example, interpersonal problems may be exacerbated by the personality style of the individual. Each type of stress above has also been examined across diverse occupational groups in diverse settings and with diverse measures of stress. The result is a plethora of studies with many variations on the stress theme.

Most of the job-related stress research has focused

upon the initial phases of McGrath's and House's models, the perception and appraisal of specific situational (job) stressors, and how they relate to certain outcome measures, such as job performance and health problems. The intermediate stages, in which the individual chooses some response and executes this response, have been largely ignored. Only a few studies have attempted to examine specific coping behaviors and how they relate to the perception of job-related stress and to specific occupational outcome measures.

Kahn, Wolfe, Quinn, Snoek and Rosenthal (1964) conducted the first comprehensive research on role-based stress and resultant coping behaviors in the workplace. Through the use of intensive interviews and personality tests on samples of supervisory level personnel and on a large national survey sample, Kahn et al. examined the coping behaviors of workers as they related to four personality dimensions: neurotic anxiety, extroversion-introversion, flexibility-rigidity, and achievement-security orientation. In these analyses, the researchers categorized coping behaviors as (1) task-oriented behaviors aimed at solving the problem situation itself, (2) emotionally-oriented behaviors aimed only at the threat and tension generated by the problem situation, and (3) those behaviors dealing with derivative problems created by earlier coping attempts. Very generally, the results indicated that personality

characteristics mediated the effects of role stress; the anxiety-prone, introverted and flexible individuals suffered most under conditions of high stress. They also found that individuals who experienced high levels of role conflict and role ambiguity employed a larger number of avoidance behaviors (e.g., psychological and social withdrawal) than those who experienced less stress.

More recently, two related studies (Anderson, 1976; Anderson, Hellriegel & Slocum, 1977) examined the responses of owner-managers of small businesses to a single adverse environmental stimulus (a flood). Anderson (1976) found that highly stressed owner-managers employed considerably more emotionally-oriented responses and owned less productive businesses than their less stressed counterparts. Anderson, et al. (1977), reported that managers scoring as internals on the Internal-External Control Construct experienced less stress and employed more task-oriented behaviors than their externally-scoring cohorts. These studies suggest that highly stressed persons utilize more emotionally-oriented behaviors than their less stressed counterparts, and this relationship is moderated by certain personality characteristics.

Pearlin and Schooler (1978) conducted structured interviews with a very large urban sample. The relationships between life stressors, perceived stress, psychological resources (personality characteristics) and coping behaviors were

examined in the areas of marriage, parenting, household economics and occupation. Data from the occupational settings indicated that (1) specific coping behaviors (e.g., seeking advice, selective ignoring) were almost totally ineffective in reducing stress; (2) some personality characteristics (low self-denigration, with high levels of mastery and self-esteem) buffered the effects of stress to a very small degree; (3) a varied coping repertoire had a very minimal effect in reducing stress; (4) the better educated and more affluent subjects perceived less stress; and (5) males perceived less stress and employed more effective coping strategies than females. The authors suggested that such results occurred because the job environment is virtually beyond the individual's personal control. To substantiate this conclusion, Pearlin and Schooler demonstrated that the most efficacious work-related coping device involved a devaluation of the intrinsic aspects of work and a valuation of the extrinsic aspects (pay, vacation). They concluded, "stress is less likely to result when people disengage themselves from involvement" (p. 11).

Two additional studies from the current occupational stress literature are relevant. Hall and Mansfield (1971) examined the responses of researchers at three research and development firms to an organizational crisis (a decrease in financial resources). As a result of this crisis,

the firms instituted changes that reflected greatly increased organizational structure and control. The scientists responded to this decrease in their professional autonomy by reducing their identification with the organization and with their individual work groups, but not their job involvement. Burke (1971) studied the engineering department of a large corporation and found that 65% of all reported coping responses fell into five categories: (1) talking to others; (2) working harder and longer; (3) changing to a non-work or play activity; (4) analyzing the situation and changing the strategy of attack; (5) withdrawing physically from the situation. Many of these strategies were found to be both effective and ineffective under different conditions. These two studies illustrate the complexity of coping strategies often encountered in normal (non-clinical) populations.

Objectives of this Study

The occupational stress literature suggests that certain occupations are psychologically stressful. Policemen (Diskie, et al., 1977), air traffic controllers (Rose, Jenkins & Hurst, 1978), nurses (Sheridan & Vredenburgh, 1978), and school teachers (Kyriacou & Sutcliffe, 1978) have all been identified as highly stressed groups.

Recently, researchers with the Framingham Heart Study[1] attempted to examine the relationship between employment

and subsequent development of coronary heart disease (Haynes, Feinlieb & Kannel, 1979). In this study, an extensive life history questionnaire was administered to employed and unemployed men and women. These subjects were then followed over an eight year period, and the incidence of heart disease was measured at the termination of the project. The results indicated that the level of coronary heart disease was much higher in female clerical workers than in any other group of women studied.

The implication of occupational stress in the development of heart disease is a widely-accepted and much-researched phenomenon (Cooper & Marshall, 1976; French & Caplan, 1970; House, 1974; Jenkins, 1971; Roseman & Friedman, 1958; Shiron et al., 1973). Therefore, the Framingham Study identified female clerical workers as belonging to a potentially stressed group. This research cited a few demographic and personality variables as possible contributing agents. Basically, this highest risk group was identified by women who (1) were ever married; (2) had three or more children; (3) harbored suppressed hostility; (4) had non-supportive bosses; and (5) had little job mobility. No attempt was made to identify specific job-related stressors or stress responses for these clerical workers.

As indicated earlier in this paper, a rudimentary step in defining the domain of stress in any context would be

the identification of (1) stressors; (2) stress responses; and (3) mediating variables between 1 and 2. The identification of mediating variables is intelligible only if 1 and 2 are defined. Therefore, an exploratory study was conducted to identify potential stressors and stress responses for this occupational group. The role of mediating variables is left to future research. The present study focuses on three major questions:

1. What specific job-related stressors do clerical and secretarial workers identify?

2. How stressful do they perceive these identified stressors to be?

3. What specific coping mechanisms or behaviors do they employ in handling these stressors?

CHAPTER I

METHOD

Overview

An initial questionnaire was distributed to clerical and secretarial workers in which they were requested to list all incidents they considered stressful in their jobs; they were also instructed to list coping behaviors employed in dealing with these stressful incidents. Next, a second questionnaire was constructed wholly from the incidents and behaviors reported in the initial questionnaire. Another sample of clerical/secretarial workers was then asked to rate these incidents according to their perceived stressfulness and to categorize concomitant coping behaviors. These respondents were also requested to divulge certain demographic information, list the occurrence of specific psychosomatic illnesses, and to fill out the Job Related Tension Scale (Kahn, Wolfe, Quinn, Snoek & Rosenthal, 1964).

Instrument Development

Critical Incidents Questionnaire. An unstructured questionnaire employing the critical incidents technique (Flanagan, 1954) was distributed to two groups of clerical/secretarial workers. The critical incidents methodology

involves obtaining a record of specific behaviors in defined situations from individuals in the best position to make observations and evaluations. The technique may be thought of as a flexible set of principles to be modified and adapted for each specific situation (Flanagan, 1954).

Subjects were instructed to list stressful incidents that had occurred in their past or present clerical or secretarial job(s). They were told to draw incidents from either past or present jobs so that those not presently employed could participate. Also, drawing incidents from the entire job history should increase the number reported. Although participants were not instructed concerning the number of incidents to list, five spaces were allotted. Most subjects listed at least two or three stressful incidents.

Participants were then instructed to rate how stressful (slightly, moderately, or highly) they judge each incident to be and the frequency of occurrence of each incident. They were asked to consider a range of problems when generating incidents, from the common, slightly stressful ones to the least common, highly stressful ones.

Last, specific coping behaviors employed by subjects in handling each separate incident were requested. Participants were instructed not to ignore incidents that they considered stressful but about which they did nothing. For further clarification, an example was given. The

Critical Incidents Questionnaire used in this phase of scale development is shown in Appendix A.

Because of the sensitive nature of the information requested, complete anonymity was guaranteed, and participants were instructed not to place any identifying marks (names, companies, etc.) on the questionnaires.

The questionnaires were distributed to approximately 100 clerical/secretarial workers at Rice University and 18 clerical/secretarial personnel at the Civil Service Commission (Houston). Twenty-nine completed questionnaires were returned, 17 from Rice[2] and 12 from Civil Service. A total of 79 stressful incidents were reported.

Behavioral Stress Scale. Twenty-nine questions on the Behavioral Stress Scale were compiled from the 79 responses collected from the Critical Incidents Questionnaire. Unfortunately, too few critical incidents were collected to choose incidents purely on the basis of representativeness (i.e., frequency of occurrence across subjects). However, some repetitions did occur, especially in the area of co-worker relationships; for example, "employees who constantly include personal, private matters in the business setting" and "co-worker's attitude toward me" were two popular topics. Some responses were very job-specific (e.g., "being with students on the elevator" and "students asking inane questions") and therefore had to be eliminated. The final list of 29 stressful incidents was diverse,

ranging from discomfort caused by the office room temperature to the distress of being underpaid. These 29 items are shown in Appendix B in their final form.

The final list of 29 stressful incidents was categorized according to content. The seven categories arose from the data but are generally representative of types of occupational stressors identified in the literature (e.g., McGrath, 1976). These categories were created to facilitate analysis and discussion of the data and were not included in the questionnaires given to subjects. These categories are:

1. Interpersonal Problems
   (Items 1, 2, 3, 13, 14, 15, 16, 21)

2. Financial Problems
   (Items 4, 27)

3. Role Conflict - Defined.
   Defined as "the degree of incongruity or incomparability of expectations associated with the role" (House & Rizzo, p. 474)
   (Items 5, 6, 9, 11, 12, 19, 25, 29)

4. Work Overload, quantitative - Defined.
   Defined as having "too much to do"
   (Cooper & Marshall, 1976)
   (Items 7, 8)

5. Work Underload, quantitative & qualitative - Defined
   Defined as having "too little to do" and having work that is "too easy," respectively
   (Cooper & Marshall, 1976)
   (Items 10, 20)

6. Role Ambiguity - Defined.
   Defined as "the discrepancy between the information available to the person and that which is required for adequate performance of his role."
   (Kahn, et al., 1964, p. 73)
   (Items 17, 18, 28)

7. Physical Environment
   (Items 22, 23, 24, 26)

A blank was placed before each of the 29 incidents and the subjects were instructed to rate each item on a scale from 1 (not at all stressful) to 7 (extremely stressful). If any incident had never occurred, subjects were instructed to circle the NH (Never Happened) option. If any incident had happened more than once, subjects were instructed to consider only the most current one.

Explicit instructions, the seven-point stress scale and two examples were given. No further instructions beyond those included on the questionnaire were given to any subject. Like the Critical Incidents Questionnaire, total confidentiality was promised. The Behavioral Stress Scale is shown in Appendix B.

Coping Behaviors Inventory. Coping responses given in reply to the 79 stressful incidents on the Critical Incidents Questionnaire were carefully examined. They could be broadly grouped into two major categories that are widely identified in the literature: (1) cognitive or emotion-oriented responses that deal with tension, threat and other emotional consequences of the situation without action directed at changing the objective situation (e.g., denial, withdrawal); (2) action or task-oriented responses aimed at resolution of the problem, that is dealing with the objective situation (e.g., seeking information from others) (Kahn et al., 1964; Lazarus, 1966, 1978; Roskies & Lazarus, 1979).

Further scrutiny of the behaviors placed in these two categories resulted in four relevant sub-divisions within each of the two major categories; these eight categories sprang solely from the different types of responses reported by subjects. The cognitive-oriented responses were categorized as "1. did nothing or ignored the situation; 2. talked to friend or relative (not boss or co-worker) about situation; 3. discussed situation with co-worker(s); and 4. discussed situation with supervisor/boss." The common feature of these four responses is the absence of any overt action or attempt to physically alter the stressful situation. One could argue that these four cognitive categories do not exactly reflect the original definition of cognitive responses (given above), i.e., the use of purely cognitive maneuvers to mentally contain the threat. However, all four categories probably involve some mental reappraisal; for example, in the course of #3 ("discussed situation with co-worker"), the subject might re-assess her problem, especially if she pursues it no further.

The action-oriented responses were categorized as "5. asked co-worker(s) to help me take action on situation; 6. asked supervisor/boss to take action on situation; 7. took action on situation myself; and 8. transferred to new position or quit my job." The common feature of these responses is the presence of some type of overt action initiated directly or indirectly by the subject. The

major goal of the coping inventory is to determine whether the subject used an action-oriented or a cognitive-oriented coping style. The eight categories (four cognitive-oriented and four action-oriented) were employed only to facilitate subjects' responses to the incidents, and were recoded as cognitive or action-oriented for data analysis.

After rating each Behavioral Stress Scale Incident on the seven-point stress scale, respondents were instructed to tell what they did in response to each situation. They were asked to determine their choice on the basis of the eight alternate coping behaviors listed in the instructions. However, subjects were told that they could choose a ninth alternative labeled "other" if none of the previous eight categories seemed to fit their response to the incident, or if they handled the situation by employing a variety of responses. If nine were chosen because none of the alternatives seemed appropriate, participants were instructed to write out their response on the blank line labeled "other."

All the pencilled-in responses could be categorized in one of the eight alternatives. For example, in response to item 26, "My co-workers and/or the boss and I had very different ideas of what was a comfortable room temperature," one respondent replied "brought my own heater for under my desk." This response could be re-coded as 7, "took action on situation myself."

Subjects who attempted a variety of behaviors in coping with an incident were instructed to list all of their responses in temporal order. For purposes of data analysis, only the last response given, the one that ultimately determined how the situation was handled, was considered. If any subject utilized a variety of coping responses on more than 20% of her total number of responses, she was separately coded as such (i.e., a varied coper). The 20% cut-off point was chosen because most subjects reported multiple behaviors on 10-15% of their responses. However, subjects who reported 20% or higher rates of multiple behaviors seemed to manifest a definite style of responding. This aspect of coping was investigated because the literature has indicated that people who utilize a varied coping style may be more resistant to emotional stress than those who employ few modes of behavior (McGrath, 1970; Pearlin & Schooler, 1978; Roskies & Lazarus, 1979).

The instructions, the nine alternative response scale, and two examples were provided. No further instructions beyond those included on the questionnaire were given to any subject. Again, total confidentiality was promised. The Coping Behaviors Inventory is shown in Appendix B.

Instrument Validation

Job Related Tension Index (JRT). The Job Related Tension Index (Kahn et al., 1964) was selected as an indicant of job stress because of its desirable psychometric properties and evidence of construct validity.

The JRT was originally developed to measure some of the sources of role stress a worker might encounter on the job. Murphy, McIntyre and Hendricks (1975) showed that the scale measures two orthogonal components, lack of power and control and work overload. MacKinnon (1978) illustrated that the factor structure of the JRT Index is highly stable across different subject populations.

The Index is a continuous measure which assesses the degree to which one's job environment is stressful over time. This point is particularly vital since the present study focuses on a person's total job history. Also, the JRT Index has proven to be highly reliable (Murphy et al., 1975). In addition, Kahn et al. (1964), demonstrated that JRT scores are highly correlated with open-ended questions dealing specifically with job-related stress. Therefore, evidence of construct validity for the Index can be assumed; that is, the JRT really does seem to measure occupational stress.

In the current study, the scale was reproduced totally from the original JRT Index. The Job Related Tension

Index is presented in Appendix C.

Psychosomatic Ailments Checklist. A great deal of research has been conducted over recent years on the relationship between occupational stress and the occurrence of mental and physical illnesses (Cooper & Marshall, 1976; Cooper, 1979; Haynes et al., 1979; Kasl, 1978; Kobasa, 1979). A growing body of evidence from laboratory research (Kahn & Quinn, 1970) and in the work place (Margolis, Kroes & Quinn, 1974) suggest that job-related stress is a causal factor in the occurrence of many mental and physical illnesses.

Therefore, since the existence of stress-related illnesses should provide an alternate estimate of construct validity, a checklist containing the most prevalent psychosomatically-induced and/or related illnesses reported in the current medical literature (Backus & Dudley, 1977) was included. A checklist of relatively serious illnesses was employed instead of the more job-related items often used to gauge somatic complaints (e.g., "I feel fidgety or nervous because of my job," House & Rizzo, 1972, p. 481) to counteract what Mechanic (1976) has termed "illness behavior." Illness behavior is the desire to act and be treated as sick in order to withdraw from stressful situations. This type of behavior seems to be more applicable to the self-report of mild, vague symptoms than to any serious illnesses. It is unlikely that definite

illnesses requiring medical diagnoses would be falsely reported (Kobasa, 1979).

Subjects were instructed to check only those disorders that had occurred since age 18. This stipulation was included in order to exclude any illnesses that were congenital or childhood-based. The Checklist is given in Appendix D.

Demographic data. Age, sex, number of years employed[3], number of different jobs, and whether presently employed were requested. Sex was omitted from data analysis since only one respondent is male.

The questionnaires were also coded as urban (Houston, Dallas) or rural (Bryan, College Station). This variable was included because previous research has suggested that some urban workers exhibit a higher incidence of occupational stress and coronary heart disease than their suburban counterparts, with activity level and job duties held constant (Rosenman & Friedman, 1958). The demographic questionnaire is given in Appendix E.

The last page of the questionnaire included a space reserved for comments from the participants. Any type of comment was invited. See Appendix B (last page) for the comment section.

Data Collection

Questionnaires composed of the demographic questions, the JRT Index, the Psychosomatic Ailments Checklist, the Behavioral Stress Scale and Coping Behaviors Inventory, and the comment section were distributed to approximately 1,500 subjects in various women's professional organizations. Local urban and rural chapters of four different organizations participated: one clerical/accounting; one business, and two secretarial groups. The questionnaires were distributed to interested members at group meetings.

Two hundred and eighty-two completed questionnaires were returned via the attached, postage-paid, self-addressed envelopes.[4]

CHAPTER II

RESULTS

Total Sample

Demographic data. A total of 282 females responded to the final questionnaire. The average respondent is 34 years old (ranging from 17 to 64 years), has been employed 11.4 years in clerical or secretarial work (ranging from 0.3 to 40 years), has had four or five different clerical or secretarial jobs (ranging from one to 40), is presently employed in clerical or secretarial work (88.1%), and probably lives in a large city (60.1%).

Job-Related Tension Index. The mean total Job Related Tension (JRT) score is 2.9 on a scale that ranges from 1 ("never bothers me") to 7 "(always bothers me"). Total individual scores range from 1.0 to 6.2. The most frequent response on 16 of the 18 individual items is 1; of the individual items, 17 have mean scores under 4.0.

Behavioral Stress Scale. The mean total Behavioral Stress Scale score is 4.1 on a scale that ranges from 1 ("not at all stressful") to 7 ("extremely stressful"). Total individual scores range from 1.0 to 6.8. The most frequent response is 7 on nine of the 29 individual items; individual item scores are 4.0 or higher on 16 of the items.

Item #3 ("A co-worker and I couldn't get along. Our personalities clashed.") received the highest mean item rating (5.2) on the stress scale; this item indicates interpersonal problems. Item #27 ("For the position I held, I was underpaid given my skills and experience.") also received a high mean rating (5.1) on the scale; this item denotes financial problems. Item #25 ("I was asked to do work not included in my job description--definitely not clerical or secretarial.") received the lowest mean item rating (2.9) on the stress scale; this item is taken to indicate role conflict.

Mean Behavioral Stress Scale scores were calculated for each of the seven categories of stressors (incidents), and are presented in Table 1. The category with the highest average stress rating is financial problems; the lowest are role conflict and physical environment. These category means are composed of overall means of the individual item means. Since subjects responded to items on the scale only if they had experienced them, most subjects did not answer some items. Consequently, the missing data on the individual items created too much missing data in the categories to perform any type of significance test.

Since the subjects answered the items on the Behavioral Stress Scale only if they had personally experienced the incidents, frequency of response on the individual items was also calculated. The most frequently occurring

Table 1

Means and Standard Deviations for the Behavioral Stress Scale and Frequencies of Behaviors on the Coping Behaviors Inventory according to Type of Stressor (Incident)

	Behavioral Stress Scale *		Coping Behaviors Inventory	
	Mean	S.D.	Cognitive	action-oriented
Role Conflict	3.63	0.48	65.8%	34.2%
Physical Environment	3.63	0.13	73.6%	26.4%
Work Overload	4.17	0.23	55.5%	44.5%
Work Underload	4.34	0.69	37.8%	62.2%
Role Ambiguity	4.46	0.18	59.2%	40.8%
Interpersonal Problems	4.48	0.43	68.1%	31.9%
Financial Problems	4.94	0.17	45.1%	54.9%

* higher score indicates higher stress rating

incident, with a response rate of 74% of the total sample, is item #1 ("A co-worker rarely did his/her share of the work."), an item indicating interpersonal problems. The least frequently occurring incident, with a response rate of 21% of the total sample, is item #16 ("My supervisor/ boss made overt sexual advances toward me."), an item also implying interpersonal problems.

Coping Behavior Inventory. Frequency of occurrence of action or cognitive-oriented behaviors was calculated for the total mean Coping Behaviors Inventory scores; the distributions are 54.2% cognitive-oriented responses and 45.8% action-oriented responses. Cognitive-oriented responses predominate on 22 of the 29 individual items.

Since the coping inventory is directly tied to the stressful incidents on the Behavioral Stress Scale, it is possible to determine what type of coping behavior was employed in specific situations. Frequency of action or cognitive-oriented behaviors on the coping inventory was calculated for each of the seven categories of stressors (incidents) and are shown in Table 1. The items for which cognitive-oriented responses were reported most frequently include interpersonal problems, work underload, role conflict, role ambiguity, and physical environment. The items for which action-oriented responses were reported most frequently include work underload and financial problems. Since missing data occurred concurrently for

incidents and behaviors, too much missing data existed to perform significance tests on the behaviors within categories.

Psychosomatic Ailments Checklist. The most common psychosomatic ailment listed is tension headache (37.9%), followed by lower back pain (26.2%) and hay fever (16.7%). Of the total sample, 62.4% listed one or more illnesses, with 15.4% reporting three or more. The mean number of illnesses reported is 1.3.

Correlational analyses. Examination of the total sample intercorrelation matrix[5] given in Table 2 reveals very low (-0.00) to moderate (0.51) zero order correlations between the major variables. The only high correlation (0.83) occurs between age and number of years employed. Moderate correlations are found between age and number of different jobs (0.41) and between years employed and number of different jobs (0.51). These correlations are neither surprising nor particularly enlightening. The only moderate zero order correlation of any interest is that between the Job Related Tension Index and the Behavioral Stress Scale (0.43).

As discussed previously, the coping behaviors are tied to their corresponding stressful incidents on the Behavioral Stress Scale. An examination of the zero-order correlations between stress ratings of the incidents and their respective behaviors show low to moderate correlations;

Table 2

Intercorrelation Matrix of Major Variables

	Age	Years	Diff	Pres	U/R	JRT	PAC	BSS	CBI	V/NVC
Age	1.00									
Years	0.83	1.00								
Diff	0.41	0.51	1.00							
Pres	-0.18	-0.11	-0.16	1.00						
U/R	0.29	0.32	0.23	-0.28	1.00					
JRT	-0.04	0.02	0.08	-0.02	0.16	1.00				
PAC	0.15	0.21	0.22	-0.01	0.12	0.23	1.00			
BSS	-0.16	-0.14	-0.07	0.03	0.04	0.43	0.04	1.00		
CBI	0.07	0.03	0.06	-0.02	0.12	-0.01	-0.04	0.26	1.00	
V/NVC	-0.11	-0.09	-0.08	-0.02	-0.00	0.12	-0.09	0.13	0.07	1.00

Years - number of years employed in clerical/secretarial work
Diff - number of different clerical/secretarial jobs
Pres - whether presently employed in clerical/secretarial job
U/R - urban or rural
JRT - Job Related Tension Index

(Continued)

Table 2
(Cont'd.)

PAC - Psychosomatic Ailments Checklist
BSS - Behavioral Stress Scale
CBI - Coping Behavior Inventory
V/NVC - varied or non-varied coping style

these correlations range from 0.02 to 0.41, the average being 0.26. In general, this indicates that the more stressful the incident, the more action-oriented its correspondent behavior.

Since the Job Related Tension Index and the number of ailments reported on the Psychosomatic Ailments Checklist are accepted stress indicants, their relationship with the Behavioral Stress Scale was examined to assess the possible construct validity of the stress scale. The squared zero-order correlations between the Behavioral Stress Scale and the JRT Index, and between the Behavioral Stress Scale and number of ailments are 0.19 and 0.00, respectively.

The Behavioral Stress Scale does not account for individual differences in the number of psychosomatic ailments reported ($r = 0.00$). Either the Behavioral Stress Scale itself is a poor indicant of stress-related disease, or disease is a poor gauge of occupational stress in this population. To clarify this issue, the correlation between the JRT and number of ailments was also examined; the squared correlation (0.05) reveals that the two measures share a very small amount of common variance. Therefore, reported incidence of stress-related disease seems to have little in common with either measure of occupational stress, and contributes little toward determination of the construct validity of the stress scale.

Factor analyses. The responses of 282 subjects to the

Behavioral Stress Scale were factor analyzed (principal factors with varimax rotation). This initial factor analysis produced 10 factors.[6] In an effort to achieve greater data reduction, the variables that loaded the highest (above 0.50) on each factor were identified. These 20 variables[7] were then factor analyzed (principal factors with varimax rotation). Results of this factor analysis are presented in Table 3. Seven factors, which account for 72% of the total variance, were obtained. The first factor, which accounts for 30.8% of the variance, could definitely be labeled Role Conflict I. Four variables (items 5, 8, 9, & 19) which load highly (over 0.50) on this factor are clearly instances of what is traditionally defined as role conflict, or the conflicting demands of different aspects of one's job. The remaining factors account for much less variance and are therefore of less significance. One of these lesser factors can be labeled Role Conflict II (items 6 & 11), accounting for 5.3% of the variance. This second role conflict factor reflects the conflict between one's job and the needs of a person (e.g., a fellow employee, onself). Two factors represent Interpersonal Problems (item 15; items 1 & 2); they account for 9.2% and 6.4% of the total variance, respectively. This first factor, Interpersonal Problems I, indicates difficulties with one's supervisor or boss; Interpersonal Problems II depicts difficulties with co-workers. Another factor reflects

Table 3

Eigenvalues and Percentage of Variance Explained in Factor Analysis of Reduced Scale

Factor	Eigenvalue	% of Variance Explained	Cumulative %
1. Role Conflict I	6.16	30.8	30.8
2. Interpersonal Problems I	1.84	9.2	40.0
3. (mixed)	1.58	7.9	47.9
4. (mixed)	1.39	6.9	54.8
5. Interpersonal Problems II	1.29	6.4	61.2
6. Work Underload	1.11	5.5	66.8
7. Role Conflict II	1.05	5.3	72.0

Work Underload (items 10 & 20), both qualitative and quantitative; this factor accounts for 5.5% of the total variance.

The 29 items from the Behavioral Stress Scale were drawn from incidents reported by subjects in which they were instructed to list as many and varied incidents as possible. Therefore, the incidents, by design, tap many facets of job-related stress, and the existence of seven factors across 20 items reflects this multidimensionality. Although the factor analytic work reveals general groupings in the data (i.e., role conflict, interpersonal problems and underload), little data reduction is accomplished by this procedure.

Reliability coefficients. Cronbach's coefficient alpha was calculated for the full scale responses and the reduced 20 item scale responses (as described in the previous section) of the Behavioral Stress Scale to assess the internal consistency reliability of the scales. Nunnally 1978, p. 230) states that "coefficient alpha provides a good estimate of reliability in most situations, since the major source of measurement error is because of the sampling of content." Alphas for the full scale and reduced scale are 0.91 and 0.88, respectively.

Urban/Rural Subsample

The total sample was divided into an urban sample (60.1%), composed of subjects from Houston and Dallas, and a rural sample (39.9%), composed of subjects from Bryan

and College Station.

The urban worker is older (37 vs. 30 years), has been employed longer (14 vs. 7.6 years), and has held a greater number of different jobs (5.1 vs. 3.4) than her rural counterpart.

The urban subject also has significantly higher mean tension scores on the Job Related Tension Index (3.0 vs. 2.7), t (279) = -2.76, $p < .01$, and has slightly higher, but non-significant, mean scores on the Behavioral Stress Scale (4.1 vs. 4.0), t (272) = -0.60, n.s.. The coping styles are also different, with the urban group, on the average, employing more action-oriented behaviors than the rural group (50.6% vs. 38.9%), t (272) = -1.91, $p < .06$, although the difference is marginally significant. The urban dwellers also reported a significantly greater number of psychosomatic ailments than the rural subjects (1.4 vs. 1.1), t (279) = -2.03, $p < .05$.

Since the urban group is considerably older than the rural group, one might argue that the urban/rural differences are due primarily to age differences. However, when the under 35 and over 35 respondents were compared, the same pattern of results did not emerge; specifically, the significant differences in coping styles and in JRT scores disappeared.

Varied/Non-Varied Coping Subsample

Those individuals who reported instances of multiple coping behaviors on more than 20% of their total number of responses on the Behavioral Stress Scale were coded as "varied copers."[8] This group comprises 22.1% of the total sample. Subjects coded as "non-varied copers," on the other hand, reported the use of fewer different types of behaviors.

Overall, the varied copers are younger (32 vs. 35 years), have worked less (9.8 vs. 12.0 years), and have had fewer jobs (4.0 vs. 4.6) than their non-varied counterparts.

The varied copers reported significantly higher mean tension scores on the Job Related Tension Index (3.1 vs. 2.8), t (274) = -1.94, $p < .05$, and significantly higher scores on the Behavioral Stress Scale (4.4 vs. 4.0), t (273) = -2.11, $p < .05$. The coping styles of the two groups are also different, although not significantly, with the varied copers exhibiting a more action-oriented coping style than the non-varied copers (52.5% vs. 43.9%), t (273) = -1.18, n.s. The subjects possessing a varied coping style, however, reported an average of fewer psychosomatic illnesses on the Checklist than did those with a non-varied style, although this difference was also not significant (1.0 vs. 1.3), t (274) = 1.57, n.s..

In this study, varied coping style is defined as the reported use of multiple behaviors within incidents. Another way to define this concept would be the total number of different behaviors reported across incidents. This latter definition was not employed because the large amount of missing data would have produced very misleading results. For example, a subject reporting the use of only two different types of behaviors may have only responded to two or three incidents on the questionnaire.

CHAPTER III

DISCUSSION AND CONCLUSIONS

In the Introduction, three questions were stated as goals of this study. The conclusions can best be discussed by answering these questions.

(1) What specific job-related stressors do clerical and secretarial workers identify? In the initial Critical Incidents Questionnaire, subjects were instructed to cite a wide range of stressful incidents relevant to their clerical or secretarial jobs. The final list of 29 items on the Behavioral Stress Scale includes eight instances of role conflict, eight interpersonal problems, four items concerning the physical environment, three instances of role ambiguity, two instances of work underload (qualitative and quantitative), two items concerning work overload (quantitative) and two financial problems.

Factor analysis was performed on the 29 items in an attempt to isolate the most important dimensions of the scale. Two factors of Role Conflict (accounting for 36.1% of the total variance), two factors of Interpersonal Problems and a small factor of Work Underload (qualitative and quantitative) were identified. Role conflict and interpersonal problems are also the two largest a priori categories (eight items each) composed of items from the

Behavioral Stress Scale. This convergence offers support for the suitability of these categories in organizing the data.

The emergence of role conflict as the most significant stressor in this study is not surprising since role conflict has been frequently identified as a source of job-related tension and dissatisfaction (French & Caplan, 1970; Hall, 1972; House & Rizzo, 1972; Kahn et al., 1964; Shirom, Eden, Silberwasser & Kellerman, 1973).

In contrast, little research has been conducted on the potential stressfulness of interpersonal relationships with co-workers, subordinates, and superiors, although behavioral scientists (Cooper & Marshall, 1976; 1978) have suggested that good interpersonal relationships in the work setting are essential for individual and organizational well-being. The few studies that examined this issue (French & Caplan, 1973; Kahn et al., 1964) found that poor relationships at work led to inadequate communication between people and to feelings of psychological strain and threat.

The existence of qualitative and quantitative underload as a possible source of occupational stress also has stimulated little interest compared to its much-researched complement, overload (Cooper & Marshall, 1976; 1978). One study (Margolis et al., 1974) discovered that job-related underload, both qualitative and quantitative, was

significantly related to ten strain indicators (e.g., job satisfaction, physical health) in a large national sample. In summary, the areas of interpersonal problems and work underload have been largely ignored in the occupational stress literature, but the little research conducted suggests they are both potential sources of stress.

(2) How stressful do they perceive these identified stressors to be? The majority of the individual items on the Behavioral Stress Scale (55%) were judged by respondents to be moderately to extremely stressful (between 4 and 7 on the scale). Examination of the average Behavioral Stress Scale scores calculated for the seven different categories of stressors (see Table 1) suggests that financial problems received the highest average stress rating (4.94); role conflict and physical environment received the lowest average stress ratings (3.63). However, the mean rating extremes of 4.94 and 3.63 could hardly be called high or low, respectively, but rather represent variations within the moderate range. The categories of work underload and overload, role ambiguity and interpersonal problems received mean ratings between these two extremes. These mean scores clustered around the middle of the scale (4.0), deviating at most 0.48 from the center of the scale. The tendency of subjects to rate incidents as moderately stressful is also indicated by the mean total stress scale score of 4.1.

The appearance of financial problems as the category with the highest mean stress rating is not unexpected. Although job-related financial difficulties were infrequently mentioned in the Critical Incidents Questionnaires, all instances cited were rated as being highly stressful. Interestingly, financial difficulties is the only stressor category not previously cited in the stress literature. This situation may reflect the fact that the clerical/ secretarial profession is virtually all female, and women have historically been placed in low status, and consequently, low paying jobs (Terborg, 1977). The majority of stress studies to date have examined the primarily male-dominated occupations, and the problems of low status and pay may not normally exist as sources of stress for men.

The stressor category having the lowest average stress rating is role conflict. It is indeed surprising that role conflict, a purported occupational stressor of considerable magnitude (Kahn et al., 1964), received such low stress ratings. However, House and Rizzo (1972) found that role ambiguity was a better predictor of stressful situations within organizations than role conflict. Their results may be reproduced somewhat in the present study, where role ambiguity was judged to be more stressful than role conflict.

The fact that the physical environment category also received a low average stress score is also not unexpected.

Although job-related environmental stressors were reported frequently in the Critical Incidents Questionnaires, they were not rated as being very stressful overall. Extensive research has been conducted on the effects of environmental stressors, especially for blue collar workers (Poulton, 1979). Such stressors are, however, not usually salient sources of job-related stress for white collar workers, and this is reflected in the results of the present study.

(3) What specific coping mechanisms or behaviors do clerical and secretarial workers employ in handling these stressors? The reported frequency of action and cognitive-oriented behaviors indicate that subjects generally employed slightly more cognitive than action-oriented behaviors. Examination of the frequency of behaviors calculated for the seven categories of stressors suggests that interpersonal problems, work overload, role ambiguity, role conflict and physical environment were predominantly handled through the use of cognitive-oriented behaviors, whereas action-oriented behaviors were most prevalent in the cases of work underload and financial problems.

Inspection of Table 1 also indicates that the stressors handled primarily in an action-oriented manner were perceived as being moderately or most stressful, whereas those handled primarily in a cognitive-oriented manner were perceived as being least or moderately stressful. Therefore, although considerable overlap exists, the action-oriented

behaviors are concentrated in the upper bounds of the ratings and the cognitive-oriented behaviors are concentrated in the lower bounds of the ratings. This relationship is also reflected in the correlations between the stressful incidents and their respective coping behaviors; the correlations range from 0.02 to 0.41, the average being 0.26. This relationship suggests that, in general, the higher the stress score, the more action-oriented the coping behavior, and the lower the stress score, the more cognitive-oriented the behavior. However, the size of the correlations implies a weak relationship between stressors and coping behaviors at best.

The relationship between the perceived stressfulness of an incident and the resulting coping behavior is significant because the choice of behavior is largely contingent upon the perceiver's initial perception of the incident (Lazarus, 1966). Prior clinical research has indicated that, at high levels of perceived stress, individuals experience impaired cognitive functioning and, as a consequence, employ the more primitive, least efficacious strategies (Lazarus, 1966). This relationship has also been observed in occupational settings (Anderson, 1976; Anderson et al., 1977; Kahn et al., 1964). However, the present study suggests the opposite relationship; at the highest reported level of perceived stress, subjects mostly utilized action-oriented behaviors. This probably occurred

because even the most stressfully rated incident falls within the moderate range of the stress scale. As a result, subjects were not sufficiently stressed to experience restricted mental functioning, which could lead to the selection of cognitive-oriented strategies. Consequently, since behaviors are most interpretable when examined in relation to the stressful situations which precipitated them, coping behaviors will be discussed below in relation to their correspondent stressor categories.

Instances of role conflict and the physical environment stressors were perceived by respondents as being least stressful, and therefore, active change behaviors were probably deemed unnecessary. Cognitive reassessment stategies presumably handled what little stress that occurred in these situations.

Work overload, role ambiguity and interpersonal problems encompass the categories which were rated as moderately stressful but were mostly handled through the use of cognitive-oriented behaviors. Overload (quantitative) is an extremely common occupational stressor (Ivancevich & Matteson, 1980), and subjects may view its occurrence as an inevitable and unalterable part of their jobs.

The use of cognitive-oriented coping strategies in controlling the effects of job-related role ambiguity has been previously documented in the literature. Kahn et al.

(1964) found that the mechanism of defensive withdrawal was commonly employed in high levels of role ambiguity. A similar finding was suggested by Kahn, et al. (1964) in the area of interpersonal relations; their research revealed that individuals who reported a weakening of affective interpersonal bonds with role senders frequently employed avoidance coping strategies (e.g., withdrawal, rejection). They also discovered that interpersonal difficulties were positively related to high role ambiguity; mistrust of co-workers was related to high role ambiguity, which led to reduced communications between people and to feelings of psychological strain. Therefore, in the present study, the facts that both role ambiguity and interpersonal difficulties were perceived as being moderately stressful and were handled primarily by cognitive-oriented mechanisms seem to correspond with prior research.

Work underload and financial problems were rated as moderately or most stressful, respectively, and both were controlled through the use of action-oriented behaviors. It is not difficult to guess why subjects employed action-oriented behaviors in dealing with these stressors. Not having sufficient work to do and not being paid enough for one's services are both unambiguous situations. In the

case of underload, seeking out additional work is not only the simplest solution, but it is also the most socially desirable solution. In the case of insufficient remuneration, requesting more money or locating other employment are common and socially acceptable methods of managing the situation.

An interesting finding is that subjects rated qualitative underload as being significantly more stressful than quantitative underload (4.1 vs. 5.0), t (123) = -4.86, $p < .01$ and reported the use of more action-oriented behaviors in cases of qualitative underload (66.1% vs. 58.3%), t (123) = -0.33, n.s., although the difference was not significant. A previous study which examined underload (Margolis, et al., 1974) did not separately investigate the qualitative and quantitative dimensions, but lumped them together under the heading of 'under-utilization'. Qualitative underload may be more applicable to women than men since women are concentrated in the low status, dead-end jobs (Terborg, 1977) which often require the execution of boring, repetitive tasks. Further research on qualitative underload is obviously necessary to define its impact as an occupational stressor.

At this point, demographic information can be combined with data on the stress and coping behaviors scales to present a composite of the average subject drawn from the toal sample. This individual is a female in her mid-30's, who has been employed for over 10 years, has had several

different jobs and lives in a large city. This woman also suffers from tension headache and/or lower back pain to such a degree that she has been treated by a physician for these conditions. She feels moderately stressed by her job(s) and employs a slightly greater number of cognitive- rather than action-oriented behaviors in dealing with job-related stressful incidents. She identifies role conflict and interpersonal problems as the most important occupational stressors; but she indicates that financial problems are the most stressful and instances of role conflict and physical environmental stressors the least stressful. In situations where she feels fairly stressed, this individual employs a number of action-oriented behaviors, but in less stressful situations, she uses primarily cognitive-oriented behaviors.

Urban/Rural and Varied/Non-Varied Coping Subsamples

The total sample was divided into two sets of subsamples, urban/rural and varied/non-varied coping. The urban woman is older, has worked longer, and has held a greater number of different jobs. The urban worker also is more occupationally stressed, utilizes a greater number of action-oriented coping behaviors on the job and experiences more psychosomatic ailments than the rural worker. This composite picture is almost stereotypic of the modern psychological syndrome popularly labeled "urban

stress" (Bell, Fisher & Loomis, 1978). This urban woman does indeed exhibit all the negative effects commonly associated with the life of the harried city dweller: she is less healthy, more stressed, and more action-oriented than her rural counterpart.

Although few studies have been conducted on the effects of urban stress, the existing research generally supports the present findings. Franck, Unseld and Wentworth, 1974, (cited in Bell, Fisher & Loomis, 1978) found that urban newcomers reported experiencing more tension when living in the city than in the country; the reverse was reported by rural newcomers. The same study also discovered that urban newcomers appeared to adopt more active coping strategies than rural newcomers: these strategies included increased vigilance, safety precautions and repression of fear. The research involving urban/rural differences in the incidence of mental and physical illnesses is equivocal, however. Although no consistent differences have been found, the health-related problems of alcoholism and drug addiction are much more prevalent in urban areas (Trice, 1966; Department of Health, Education and Welfare, 1969; cited in Bell, Fisher & Loomis, 1978).

At this point, possible confounds with the urban/rural sample should be mentioned. Bryan/College Station is not really a rural community but a college town of approximately 100,000 population. Many of the residents are former

natives of Houston (the urban sample) or other large cities and were not born and reared in the community. The Bryan/College Station sample is also a relatively homogeneous sample composed almost entirely of university employees; this situation stands in marked contrast to the very heterogeneous Houston/Dallas sample. Therefore, differences other than urban/rural (or large metropolis/small city) may exist in this subsample.

The varied coper is defined as an individual who draws upon a varied coping repertoire in handling stressful situations, whereas the non-varied coper employs fewer different strategies. In general, the varied coper is younger, has worked less and has held fewer jobs than the non-varied coper. The varied coper also reported higher levels of job-related stress and a greater reliance on action-oriented coping strategies than her non-varied counterpart. One interesting, although non-significant, finding is that, although the varied coper is more highly stressed, she reported fewer psychosomatic disorders than the non-varied coper.

The results of this study seem to agree with Pearlin and Schooler's (1978) conclusion that, although a varied coping style is advantageous in other areas of life, "the variety of one's repertoire in dealing with occupational problems has no clear or consistent part in preventing stress from arising" (p. 14). However, the present research

takes this conclusion a step further: in handling job-related situations, those individuals who draw upon a variety of different behaviors are more stressed than people who use a limited number of behaviors!

The literature has indicated that women, as a consequence of their low status in society, are unable to wield influence in their jobs (Terborg, 1977). Therefore, one may conjecture that these varied copers perceive a stressful situation in their jobs, attempt to alter it, and repeatedly fail regardless of their coping strategies. The stress these women report thus may result from the little power and control they exert in their jobs.

An alternate explanation may be that varied coping is a surrogate for neurotic anxiety. These women may, in reality, be neurotics who impulsively employ a number of inadequate coping strategies in attempting to handle their stress. It is not uncommon for individuals prone to anxiety neuroses also to experience autonomic manifestations of anxiety (e.g., diarrhea, headache) which can lead to poor health; however, the varied copers in the present study reported a lower incidence of stress-related disease (although non-significant) than the non-varied copers. Further research is essential to clarify exactly how coping style affects one's perception and reaction to stressful events in the work environment.

Validation of the Behavioral Stress Scale

The Job Related Tension Index was included in this study primarily to assess the construct validity of the Behavioral Stress Scale. The correlational analyses seem to indicate that the two scales tap some common dimension, but the relatively small amount of variance common to the two measures (.19) implies that the existence of this common dimension is somewhat tenuous.

On the other hand, the measurement problem may lie with the JRT Index, not the Behavioral Stress Scale. In the total sample and both subsamples, the JRT received scores that were consistently and considerably lower than corresponding scores on the stress scale. This discrepancy could reflect three different situations:

(a) The JRT uses the word "bother" as anchors in its scale; the Behavioral Stress Scale uses the word "stress" as anchors on its scale. To the extent that "bother" and "stress" have different connotations, the two measurement scales differ.

(b) The subject population is really not occupationally stressed, as indicated by the low scores on the JRT, and, therefore, scores on the stress scale are not really indicative of job-related stress. This situation is highly unlikely since the subject population actually constructed the Behavioral Stress Scale.

(c) The JRT Index does not really adequately measure occupational stress in this specific group, and is, therefore, a poor criterion variable. A fourth possible problem exists with the use of the JRT in this study and will be discussed in the next section.

The question of whether the Behavioral Stress Scale has been validated is equivocal at this point. Although the correlation between the two scales is suggestive, further research with alternate criteria is necessary before a definitive answer can be given.

Limitations of this Study

Field studies, by their very nature, invite deficiencies in design, data collection, and data analysis. This research is no exception. Too few critical incidents (79) were collected on the initial questionnaires. To effectively sample the domain, Flanagan (1954) suggests collecting 50-100 incidents for simple jobs and 1,000 plus for more complex jobs. It is also possible that the group supplying the critical incidents from which the Behavioral Stress Scale was constructed is a very different population of workers than the final sample that responded to the stress scale. This initial group is composed wholly of university and government employees; the second sample group spans a broad range of clerical and secretarial personnel.

The possibility of response bias is an ever-present problem when relying solely upon self-report measures. The mean total scores for the Behavioral Stress Scale and frequencies of behaviors on the Coping Behaviors Inventory are extremely close to the middle of both scales. This fact could indicate that respondents really judged most incidents to be moderately stressful and employed a mixture of behaviors in handling them, or it could simply indicate a response style (Nunnally, 1978). Because of the sensitive nature of the information requested, subjects may have responded in a socially desirable manner, avoiding extremes in stress and behavior ratings. However, the incidents were compiled from the Critical Incidents Questionnaires where subjects were instructed to list a range of stressful incidents, from "slightly stressful" to "highly stressful." These instructions elicited a wide distribution of incidents, with many falling within the moderately stressful range.[9] Therefore, the reported scores are probably valid and not the result of a response style.

Perhaps the most irksome problem is the one of missing data, both its lack and its occurrence. The "Doesn't Apply" option was mistakenly omitted from the instructions on the JRT Index. Therefore, it is very possible that respondents chose option 1 ("Never Bothers Me") when in fact the incident had never happened to them. This situation could produce spuriously low scores. As a consequence, the

problems encountered with the Index may really reflect an error in answering the items.

On the other hand, the "Never Happened" option was included on the Behavioral Stress Scale. Response rates span the range from 74% to 21% on the individual items. This high rate of omission may indeed imply, as discussed earlier, that the items suffer from restriction of range. It may also imply that the scale was difficult to interpret and answer. Whatever the reason, the large amount of missing data on the stress scale made data analysis difficult and often impossible.

Directions for Future Research

The first major deficiency I observed in occupational stress research is the pervasive use of general anxiety scales (e.g., Taylor's Manifest Anxiety Scale) or anxiety scales only slightly altered to become "job-related." Although one's work and non-work lives are intertwined and interdependent, the use of non-specific stress or anxiety scales does not separate the effects of extra-organizational stressors from intra-organizational stressors (Ivancevich & Matteson, 1980). Even the JRT Index, which was specifically developed to measure only intra-organizational stress in a wide range of supervisory employees, may fall short when applied to a somewhat different type of worker. The present study indeed suggests that the Job Related Tension Index

may not be very valid for secretarial and clerical workers. Another related problem with the JRT is its total reliance on role-based stress. The present research indicates that job-related stress may be multidimensional for some populations. For all of these reasons, occupational stress should be measured using only job-specific items tailored to the particular group being studied.

The second serious deficiency I observed in stress research is the common attempt to relate occupational stress to outcome or performance measures, while patently ignoring the possible effects of coping behaviors or individual and situational moderators. Modern stress theory postulates the existence of numerous cognitive, behavioral and physiological variables that may influence both the perception and outcomes of stress. Occupational stress researchers need to realize that stress, regardless of its context, is a multifaceted concept.

The third serious deficiency I observed in stress research (including the present study) is the overly simplistic "good/bad" dichotomy employed in describing coping behaviors. Psychologists (Lazarus, 1979; Roskies & Lazarus, 1980) are beginning to re-evaluate the validity of categorizing behaviors as either direct action ("good") or palliative-cognitive ("bad") coping. Lazarus (1979, 1980) stated, "it is tempting to speculate, however, about the value of accepting temporary helplessness and seeking

instead to reduce affective distress by all available means, including denial. Such a period of purely palliative coping may provide a necessary moratorium in which strength can be gained, or the situation allowed to change, until the person is once more able to attempt instrumental action." Lazarus and associates (Lazarus & Launier, in press) are also presently attempting to develop a comprehensive taxonomy of coping processes; in this system, strategies are categorized both according to the mode used (direct action, action inhibition, information search and intrapsychic) and the function they serve (action/problem-oriented vs. palliative/cognitive-oriented). This more complex system hopefully will provide a more systematic way to measure the intricate coping patterns commonly utilized by normal (non-clinical) populations.

Some specific results from this study also bear further scrutiny. Role conflict emerged, by a wide margin, as the most important occupational stressor for clerks and secretaries; however, it was also rated as the least stressful type of stressor by this group. Previous research has shown that role conflict is both prevalent and quite stressful for individuals in many different occupations (Kahn et al., 1964).

Of particular interest to me are coping behaviors resulting from attempts to handle job-related stress. Few studies have addressed this issue directly, and only one

study has examined the occupational coping behaviors of women; Pearlin and Schooler (1978) found that women primarily employ the least efficacious behaviors (i.e., cognitive-oriented) in their jobs. However, the present study suggests that women use the more preferred action-oriented behaviors in a number of different work situations. The changing social consciousness of women may be influencing their behavior in the occupational sphere. Only additional research can answer these questions.

FOOTNOTES

[1]Sponsored by the National Heart, Lung and Blood Institute.

[2]The low response rate was probably due to the Psychology Department's dubious reputation on a campus heavily populated with scientists and engineers. A reminder was distributed approximately two weeks after subjects initially received the questionnaires; however, no additional questionnaires were returned.

[3]All references to employment concern only clerical or secretarial positions.

[4]The return rate, 19%, was again rather low, but it was probably higher than the figures indicate. A specified number of questionnaires was usually given to an individual who distributed them at meetings. According to these individuals, all of the questionnaires were rarely distributed. However, unused questionnaires were never returned.

[5]The individual item correlations are not reported for the Job Related Tension Index, Psychosomatic Ailments Checklist, Behavioral Stress Scale and Coping Behaviors Inventory. Only the mean total scores for these scales were used in Table 2.

[6]The computer program stopped extracting factors when the eigenvalues fell below 1.00.

[7]Variables omitted from the final factor analysis are items 3, 7, 13, 14, 17, 18, 23, 27, 29.

[8]The varied/non-varied coping sample exhibits approximately the same distribution of urban/rural subjects as found in the total sample; conversely, the urban/rural sample exhibits about the same distribution of varied/non-varied copers as in the total sample.

[9]Approximately 40% of the incidents on the Critical Incidents Questionnaires were rated by subjects as moderately stressful.

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APPENDIX A

The Critical Incidents Questionnaire

PLEASE READ CAREFULLY

This is part of a study being conducted by psychologists at Rice University in which we are examining job stress and how people handle it.

Please try to think of as many stressful incidents connected with your clerical/secretarial job(s) as possible. List only specific incidents that have happened to you personally. And list only those incidents that have caused you to feel anxious, nervous or upset. Try to include minor problems along with the major difficulties, and upsets that occur every day along with things that happen only once or twice a year. After each incident you list, describe how you handled or coped with the situation. In describing these incidents, you may use any past or present job(s) that are clerical or secretarial.

Try to organize your list according to the following pattern. Think of a stressful incident that happened to you on the job. Try to judge how stressful (slightly, moderately or highly) you consider it to be. Then report how often it happened to you and how you coped with it. An example is given below.

Stressful Incident	How stressful I rate it	How often it happened	How I handled or coped with it
1. Co-worker at next desk smokes heavily.	moderately	every day	I requested that my desk be moved to another area

(This example is for illustration only. If the above incident happened to you, don't feel that you have to agree with how it is classified or even that it is stressful.)

Please list only what you consider to be stressful. What may be very stressful to one person may not even bother another person. Also, don't hesitate to list an incident that stressed you but that you have not done or could not do anything about.

This list will be confidential. But, please do not give anyone's name or company, including your own name or company. Since all answers are completely anonymous, try to be as open and honest as possible.

Please start on the next page. If you need more space, use the back of the page. Please write or print clearly. Of course, the list may be typed if you wish.

THANK YOU FOR YOUR TIME, EFFORT AND COOPERATION.

Stressful Incident	How stressful I rate it	How often it happened	How I handled or coped with it
1.			
2.			
3.			
4.			
5.			

APPENDIX B

Behavioral Stress Scale

Part III

Listed on the following pages are 29 incidents that may have happened to you in a past or present clerical or secretarial job. Please rate how stressful you judged these incidents to be using the 7 point scale provided on the next page (part "a" of each question). Please answer each statement with only one number between 1 and 7 in the space preceding each statement. Answer "1" to an incident that didn't stress you at all and "7" to an incident that you considered to be extremely stressful. The closer your answer is to "7" the more stressful you judged the incident to be and the closer your answer is to "1" the less stressful you considered the incident to be. If the incident has never happened to you, circle NH (Never Happened to me) listed directly after the incident and skip to the next question. Please do not attempt to answer if you have never experienced the situation.

The "b" part of each question asks for your response to each situation. In answering this part, please refer to the 9 choices listed on the next page and choose the one that most closely matched your own behavior in that particular situation. Choose the 9th alternative if none

of the other choices seem to apply and explain very briefly what you did in the space provided. Also, use the 9th alternative if you tried a combination of things to handle the situation (for example, numbers 3 and 6). Again, explain briefly in the space provided. If you mark "9" for either reason, you must explain further in the space provided.

If any of these incidents have happened to you more than once, you may have considered them to be more or less stressful over time and responded to them differently. Therefore, please consider only the most recent occurrence of each incident in your clerical or secretarial job(s) when answering all parts of each question.

To clear up any possible confusion, two examples are given on the next page under the scale and response choices.

(You may want to separate this page from the others for easy reference while answering the questions.)

For the "a" part of each question, please refer to the following scale when rating each incident:

1	2	3	4	5	6	7
not at all stressful						extremely stressful

Remember, NH stands for Never Happened (to me). If you circle NH, skip to the next question.

For the "b" part of each question, when asked "In response to this situation, I....", please refer to the following choices:

1. did nothing or ignored situation
2. talked to friend or relative (not boss or co-worker) about situation
3. discussed situation with co-worker(s)
4. discussed situation with supervisor/boss
5. asked co-worker(s) to help me take action on situation
6. asked supervisor/boss to take action on situation
7. took action on situation myself
8. transferred to new position or quit my job
9. other

Remember, if any incidents have happened to you more than once, consider only the most recent one.

EXAMPLES:

(4=moderately stressful)

1. a. __4__ A co-worker was always complaining and criticizing everyone. NH

   b. In response to this situation, I __1__ (1=did nothing)

   other_____

(2=slightly stressful)

2. a. 2 I had a lot of trouble deciphering my boss' handwriting. NH

b. In response to this situation, I 9 (9=other)

other tried 4, then 1
(4=discussed situation with boss, 1=ignored situation)

1. a._____ A co-worker rarely did his/her share of the work. NH

   b. In response to this situation, I _____

   other_____

2. a._____ A co-worker consistently did poor work which had to be corrected or re-done. NH

   b. In response to this situation, I _____

   other_____

3. a._____ A co-worker and I couldn't get along. Our personalities clashed. NH

   b. In response to this situation, I _____

   other_____

4. a._____ I had to hassle with my supervisor/boss for any raises in pay I received. NH

   b. In response to this situation, I _____

   other_____

5. a._____ My supervisor/boss often gave me a number of new work assignments to complete just shortly before quitting time. NH

   b. In response to this situation, I _____

   other_____

6. a._____ I had difficulty doing my own work when I had to train new personnel. NH

   b. In response to this situation, I _____

   other_____

7. a._____ In general, my own work load was much too heavy. NH

   b. In response to this situation, I _____

   other_____

8. a._____ I was required to handle a lot of what seemed to be unnecessary, repetitive paperwork. NH

   b. In response to this situation, I _____

   other_____

9. a._____ My supervisor/boss often gave me trivial, unimportant tasks to complete when I was busy with my regular work. NH

   b. In response to this situation, I _____

   other_____

10. a._____ I often did not have enough work to keep me busy during the day. NH

    b. In response to this situation, I _____

    other_____

11. a._____ It was a real hassle to ask my supervisor/boss for time off for personal reason (child's illness, dental appointment, etc.). NH

    b. In response to this situation, I _____

    other_____

12. a._____ A friend or relative called or visited me a lot during office hours. NH

b. In response to this situation, I _____

other_____

13. a._____ My supervisor/boss was often in a bad mood (yelling, cursing, etc.) due to problems at home or at the office. NH

b. In response to this situation, I _____

other_____

14. a._____ My supervisor/boss rarely, if ever, complimented my work. NH

b. In response to this situation, I _____

other_____

15. a._____ My supervisor/boss sometimes treated me in a demeaning manner. ("I'm <u>just</u> a secretary, clerk....."). NH

b. In response to this situation, I _____

other_____

16. a._____ My supervisor/boss made overt sexual advances toward me. NH

b. In response to this situation, I _____

other_____

17. a._____ My supervisor/boss was very disorganized and often made constant changes in my work assignments. NH

b. In response to this situation, I _____

other _____

18. a._____ My supervisor/boss was a poor administrator and couldn't deal effectively with situations outside the daily office routine. NH

    b. In response to this situation, I _____

    other_____

19. a._____ I worked for 2 or more supervisors/bosses and each one expected me to give his/her work first priority. NH

    b. In response to this situation, I _____

    other_____

20. a._____ I didn't have enough responsibility and challenge in my job. NH

    b. In response to this situation, I _____

    other_____

21. a._____ Clients/customers sometimes treated me in a demeaning manner. (I'm <u>just</u> a secretary, clerk .....). NH

    b. In response to this situation, I _____

    other _____

22. a._____ The general noise level in the office interfered with my performance on the job. NH

    b. In response to this situation, I _____

    other_____

23. a._____Some of my co-workers and/or the boss smoked heavily in the office. NH

    b. In response to this situation, I _____

    other_____

24. a._____The families of some of my co-workers and/or the boss phoned a lot and disrupted the office routine. NH

    b. In response to this situation, I _____

    other_____

25. a._____I was asked to do work not included in my job description (definitely <u>not</u> clerical or secretarial). NH

    b. In response to this situation, I _____

    other_____

26. a._____My co-workers and/or the boss and I had very different ideas of what was a comfortable room temperature. NH

    b. In response to this situation, I _____

    other_____

27. a._____For the position I held, I was underpaid given my skills and experience. NH

    b. In response to this situation, I _____

    other_____

28. a._____Office policies seemed to change all the time. Correct procedure one day was incorrect the next day. NH

    b. In response to this situation, I _____

    other_____

29. a._____A co-worker interfered with my work by discussing his/her personal problems with me during office hours. NH

    b. In response to this situation, I _____

    other_____

IF YOU HAVE ANY COMMENTS, PLEASE WRITE THEM IN THE SPACE BELOW. THANK YOU.

APPENDIX C

JOB RELATED TENSION INDEX

PART I

All of us occasionally feel bothered by certain kinds of things in our work. Presented below is a list of things that sometimes bothers people. You are asked to respond to the statements below in terms of how frequently you have felt bothered by each of them in your past or present clerical or secretarial job(s). Please answer each statement with a number between 1 and 7 in the space preceding each statement. Answer "1" to those statements about which you were "NEVER BOTHERED" and "7" to those statements about which you were "ALWAYS BOTHERED". Answer with any number between "1" and "7" those statements about which you have been less frequently or more frequently bothered. The closer your answer is to "7" the more frequently you were bothered by the statement and the closer your answer is to "1" the less frequently you were bothered by the statement.

When responding to the statements below, please use the following scale:

1	2	3	4	5	6	7
Never bothered me						Always bothered me

__1. Feeling that you have too little authority to carry out the responsibilities assigned to you.

__2. Being unclear on just what the scope and responsibilities of your job are.

__3. Not knowing what opportunities for advancement or promotion exist for you.

__4. Feeling that you have too heavy a work load, one that you can't possibly finish during an ordinary work day.

__5. Thinking that you'll not be able to satisfy the conflicting demands of various people over you.

__6. Feeling that you're not fully qualified to handle your job.

__7. Having to decide things that affect the lives of individual people that you know.

__8. Feeling that you may not be liked and accepted by the people you work with.

__9. Feeling unable to influence your immediate supervisor's decisions and actions that affect you.

__10. Not knowing just what the people you work with expect of you.

__11. Thinking that the amount of work you have to do may interfere with how well it gets done.

__12. Feeling that you have to do things on the job that are against your better judgment.

__13. Feeling that your job tends to interfere with your family life.

__14. Feeling that your progress on the job is not what it should be or could be.

__15. Thinking that someone else may get the job above you, the one you are directly in line for.

__16. Feeling that you have too much responsibility and authority delegated to you by your supervisor.

__17. Not knowing what your supervisor thinks of you, how he evaluates your performance.

__18. The fact that you can't get information needed to carry out your job.

APPENDIX D

PSYCHOSOMATIC AILMENTS CHECKLIST

PART II

Please place a check in front of any of the following disorders if you have ever experienced them in your adult life. (Please check only those disorders that have occurred since the age of 18 and have been diagnosed by a physician.)

_____ Hay Fever

_____ Asthma

_____ Emphysema

_____ Cardiovascular (heart and circulatory) disorders

_____ Migraine Headache

_____ Hypertension (high blood pressure)

_____ Lower Back Pain

_____ Tension Headache

_____ Rheumatoid Arthritis

_____ Duodenal Ulcer (ulcer in the small intestine)

_____ Ulcerative Colitis (disorder of the large intestine)

APPENDIX E

DEMOGRAPHIC DATA QUESTIONNAIRE

PLEASE READ CAREFULLY

This is part of a study being conducted by psychologists at Rice University in which we are examining job stress and how people handle it.

This questionnaire should be completed only by people who are presently employed or have been previously employed in clerical or secretarial jobs.

All information given will be confidential. Please do not give anyone's name or company, including your own name or company. Since all answers are completely anonymous, try to be as honest as possible.

Please give the following information:

Age:_____ Sex: male female (circle one)

Total number of years employed in clerical or secretarial work:_____

Total number of different clerical or secretarial positions held:_____

Are you presently employed in a clerical or secretarial job? yes no (circle one)

If you have any problems answering this questionnaire or if you desire further information about this research, contact Carlla Stramler, Psychology Department, phone 527-8101, ext. 3417 any Tuesday through Thursday afternoon.

Please return all parts of the questionnaire to us in the attached, postage-paid envelope as soon as possible.

Please start on the next page.

THANK YOU FOR YOUR TIME, EFFORT AND COOPERATION.