

# An Investigation of Gender Differences in Occupational Stress And General Well Being

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## Abstract

*This paper examines the relationship between gender, occupational stress, well-being and coping among a gender-balanced group of 302 untenured assistant professors. The group perceived high levels of life stress and medium high levels of work stress. As hypothesized, women expressed more life stress but, contrary to expectations, the work stress among women was only slightly higher than among men. There were no gender differences in coping. Thus, in this occupational setting, women handled work stress just as well as their male counterparts.*

## Introduction

Since the dramatic influx of women into the workplace began in the early sixties, questions have arisen concerning women's ability to handle the added work stress. To date, the literature exploring this issue has been inconclusive. The current study adds to our knowledge about gender and stress by examining stress differences in a setting where the men and women perform similar duties and receive similar rewards. Specifically, the work setting involves untenured assistant professors in a large state university system. Untenured professors can be expected to experience relatively high stress levels. Also, although women are relative newcomers to some academic areas, gender is irrelevant in terms of work load and reward system, at least on the formal level. As a result, this work situation can be considered equally stressful to either gender. Finally, this population includes about the same number of women and men. This study also provides new insights by examining gender differences in coping by means of a fairly recent coping construct, the Sense of Coherence (Antonovsky, 1987). The main research question in this study, then, is whether gender differences in stress persist, given a similar work setting.

## Gender and Stress

Stress can be viewed as a relational concept which deals with 1) INPUTS, which are potential stressors arising from a given external situation, 2) COPING, and 3) STRESS OUTCOMES, which include behavioral, psychological, and physiological responses (Lazarus, DeLongis, Folkman, and Gruen, 1985; Lazarus and

Folkman, 1984) (see Fig. 1). The inputs in the present case arise from the life and work situations of the participants. The work situations of untenured assistant professors can be assumed to be reasonably similar although some variance exists due to differences in academic discipline, departmental policies and so forth. Consequently, the study focuses on gender differences in coping and stress outcomes (stages 2 and 3 of the model). This paper first discusses gender differences related to three outcome variables: perceptions of life stress, perceptions of work stress, and general well-being. They form the basis for the first two hypotheses. Next, the coping construct will be discussed. It forms the basis for Hypotheses 3 and 4.

A plethora of studies report that women perceive more LIFE STRESS than men, typically expressed in higher levels of minor illnesses and illness behaviors such as anxiety and depression (Kessler and McRae, 1981; Kessler, Price, and Wortman, 1985; Miller and Kirsch, 1987; Radloff and Mournon, 1979; Rosenfield, 1980). Research also indicates that women frequently express higher rates of stress symptoms such as mild physical illness and lowered well-being (Gove and Hughes, 1979; Sowa and Lustman, 1984). However, there are other studies which report no gender differences with respect to life stress (Newman, 1987).

A similar picture emerges in the literature on WORK STRESS, where women often perceive and express higher stress levels with consequent higher incidences of anxiety, depression, and other psychological disorders

(see, for instance, Cleary and Mechanic, 1983; Cohen, 1976; Golembiewski, Munzenrider, and Stevenson, 1986; Gore and Mangione, 1983; Haynes and Feinleib, 1980; Matheny and Cupp, 1983; Ryland and Levy, 1989; Sevelius, 1986; Zappert and Weinstein, 1985). One possible explanation for this higher rate of minor illness involves women's increasing labor force participation over the last decades where they have taken on the additional burden of work stressors besides their non-work stressors. This presumably may endanger their general well-being. To illustrate, the conclusions of Steffy and Jones (1988) are fairly representative of many studies dealing with work stress and gender. They studied 71 clerical workers and sales assistants from a financial service organization and found clear gender differences in stress outcomes. The women in the study indicated higher psychosomatic distress whereas the men were more prone to having high cholesterol levels and high uric acid (see also Jick and Mitz, 1985). Yet, just as in the studies of life stress, other research has found no gender differences in perceived stress at work (Lemkau, Rafferty, Purdy, and Rudisill, 1987; Martocchio and O'Leary, 1989; Osipow and Davis, 1988; Russell, Altmaier, and Van Velzen 1987). In terms of both life and work stress, the evidence is mixed.

### Situational Differences?

When gender differences in work stress outcomes do occur, there is significant evidence that differences in the work situation (INPUT) play a significant role. For example, early studies of gender and work stress found major gender differences in stress perceptions, but many of these differences occurred in situations where women and men were employed in different jobs (see for instance Cohen, 1976). Since women are often relegated to lower-paid, dead-end jobs with many responsibilities and few rewards, the different work situations may account for some level of variance in reported work stress. Additional support for this view is provided by Gove and Hughes (1979) who studied gender and physical health. They reported that the gender differences disappeared when marital status, living arrangements, psychiatric symptoms, and nurturant role obligations were controlled. Gore and Mangione (1983), studying levels of depression in men and women, concluded that differential membership in marriage and employment roles accounted for the major variance in the levels of depression between men and women (see also D'Arcy, Syroniuk, and Siddique, 1984; Handy, 1988; Kessler, 1979; Kessler and McRae, 1981; Lennon,

1987; Rosenfield, 1980; Verbrugge, 1983).

Hence, there is increasing evidence that situational factors may contribute to more stress exposure for women than for men, even in seemingly similar work settings. Subtle inequalities in pay and promotional opportunities combined with competing demands from family obligations may create conditions where the work situation is not as easy for women as for men. These inequalities may play a confounding role in studies reporting significant gender-related stress differences between men and women working in very comparable situations (Cooper and Davidson, 1982; Davidson and Cooper, 1983; Greenhaus, Bedeian, and Mossholder, 1987; Lowe and Northcott, 1988). It is, then, of importance to study work situations in which at least on the formal, overt level, gender is irrelevant and where presumed equality exists in areas such as workload and criteria for rewards. Accordingly, the first hypothesis tested is whether women perceive higher levels of life stress and work stress than men, given the fact that they are working under very similar conditions (Hypothesis 1). General well-being (Lennon, 1987) is the third stress outcome investigated. Well-being should be inversely linked to stress, because a person under stress often will not feel well. Thus, the second hypothesis tests whether women express lower levels of well being in a comparable work setting.

### Gender and Coping

This study also investigates coping, which mediates the relationship between potential stressors and stress outcomes (Figure 1). If women actually do suffer disproportionately from life and work stress, one reason may be gender differences in their personal coping orientation or their efforts to master stressor conditions (see Folkman, Lazarus, Gruen and Delongis, 1986; Latack, 1986; Lazarus, 1981; Lazarus and Folkman, 1984). There is evidence that coping mechanisms may be gender specific (Billings and Moos, 1981; Billings and Moos, 1984; Defares, Brandjes, Nass, and van der Ploeg, 1985; Fleischman, 1984; Folkman and Lazarus, 1980; Kessler, Price and Wortman, 1985; Pearlin and Schooler, 1978; Stone and Neale, 1984; Sowa and Lustman, 1984). Other studies suggest no gender-related coping differences (Miller and Kirsch, 1987; Osipow and Davis, 1988; Richard and Krieschok, 1989).

The current study investigates one coping construct: the Sense of Coherence (SOC) (Antonovsky, 1987). It refers to a personal way of looking at life and its

problems which makes coping easier by moderating the impact of potentially stressful stimuli from the work environment. A person with a high Sense of Coherence is able to select the most appropriate coping style in a given situation. He or she shows a flexible approach to stress and to life in general and has a stable, enduring, and generalized orientation to the world that facilitates coping. This view accepts stress as a given, and it emphasizes coping in the face of stress rather than investigating which stressors make people sick.

A high Sense of Coherence includes the ability to perceive three major components in a situation: MEANINGFULNESS, COMPREHENSIBILITY and MANAGEABILITY (Antonovsky, 1987). MEANINGFULNESS is a feeling that stimuli from the outside world make sense and that life is a challenge and worthy of commitment and goal-oriented behavior. In an academic setting, meaningfulness might mean a feeling that one's teaching and research is important to other people. The second component is COMPREHENSIBILITY. This is the extent to which the stimuli make cognitive sense as ordered and consistent rather than random. In an academic setting, comprehensibility might be provided by a clear understanding of the promotion and tenure process. The third component of the Sense of Coherence is MANAGEABILITY, which describes the extent to which one perceives that resources are available to meet the demands of the environment. In the current setting, high perceptions of manageability might mean confidence of one's ability to muster support from department chairs or to acquire grant money. Thus, a person with a strong SOC is able to play down the problems and to accentuate the positive aspects of life, whatever the situation may be (see also Ryland and Greenfeld, 1989).

Antonovsky and Sagy (1986) studied 418 Israeli adolescents and found that individuals with a high Sense of Coherence reported less anxiety than did individuals with a low Sense of Coherence in an ego-threatening stress situation. Coe, Romeis, Tang, and Wolinsky (1989) studied the Sense of Coherence as it relates to measures of physical and mental health among 240 older veterans and found the Sense of Coherence to be a significant predictor of six-month follow-up measures of morale, perceived health status and objective health status (see also Antonovsky and Sourani, 1988). To date, the Sense of Coherence construct has been used mainly in the fields of sociology and medicine. The Sense of Coherence has been operationalized by the "Orientation To Life" scale and looks very promising for

applications in business-related fields.

Antonovsky (1987) views the Sense of Coherence as a general coping theory which operates without regard to gender. Little research has been conducted on whether a gender difference exists in the Sense of Coherence. Hypothesis 3 tests whether women have a lower Sense of Coherence than men in a comparable work setting. If they do, then a higher stress level could indicate that women have lower ability to handle a given situation than their male counterparts. Finally, Hypothesis 4 tests the relationship between the Sense of Coherence, life stress, work stress, and general well-being. In brief, the following hypotheses were tested:

- H1: In a comparable occupational setting, women perceive higher levels of life stress and work stress than men.
- H2: In a comparable occupational setting, women have lower levels of general well-being than men.
- H3: In a comparable occupational setting, women have lower coping skills than men as measured by the Orientation to Life scale.
- H4: The Sense of Coherence, as measured by the Orientation to Life scale, is positively related to general well-being and negatively related to life and work stress for both genders.

## Method

### *Subjects and Data Collection*

Eight hundred eighty-two (882) individuals from a major university system were contacted, representing all untenured assistant professors in full-time, tenure-track positions who had been in the system one year prior to the survey. All participants received an eight-page questionnaire and a cover letter, and 437 individuals responded from the 19 campuses within the system, representing a response rate of 49.5%. One hundred thirty-five (135) of these responses were either incomplete, or the respondents did not match the study criteria of being untenured assistant professors. Some had already achieved promotion and/or tenure by the time of the survey, and the survey therefore yielded 302 usable questionnaires (157 from females and 145 from males, matching the gender distribution of the population). Among other things, the participants were asked about family income, time spent on duties related to the home, workload, tenure chances, and about satisfaction and stress related to various job facets, all on seven-point

Likert-type scales.

The outcome variables (life stress, work stress and general well-being) were all measured on seven-point Likert scales. General well-being was measured with a six-item index adapted from Lennon (1987). This index includes questions about levels of energy, feelings of being rested, of depression, of happiness with one's personal life, worrying about one's health, and a direct question about general well-being indicating how well a person has been feeling, both physically and mentally, over the past month. This measure is often considered to be an indicator of stress, and one can argue that such a measure has a strong relationship with physical health (Antonovsky, 1987, pp. 179-181; Lennon, 1987). Diener (1984) reports that a substantial number of studies shows a sizable relationship between self-rated health and subjective well-being.

The Sense of Coherence was measured on a semantic differential scale called the "Orientation to Life" scale, which measures a person's overall Sense of Coherence, but which does not measure its three components separately. Antonovsky (1987) and Coe et al. (1989) report levels of internal consistencies for this scale ranging from .84 to .95 as measured by Cronbach's alpha. The version used here was the short, 13-item version of the "Orientation to Life" scale. Coe et al. report a reliability of appropriate psychometric properties of the scale to encourage its continued use.

## Results

The average life stress score was 5.45 (on the seven-point scale) with a standard deviation of 1.35 while the average work stress score was 4.48 (s.d. 1.62). This shows a fairly high amount of life stress in general, as compared to work stress, which was almost a whole point lower. Both types of stress were higher than the expected midpoint of 4. On the other hand, the general well-being scale indicates a fairly healthy group with the mean of 29.68 comparing favorably to the mathematical midpoint of 25. The standard deviation was 6.64. In terms of the participants' Sense of Coherence score, the mean of 66.56 (s.d. 10.2) corresponds to the mean score of a sample reported by Antonovsky (1987, p. 81). The alpha obtained also corresponds to the normative data reported by Antonovsky. Finally, Cronbach's alpha, measuring internal reliabilities, was .81 for the general well-being scale and .83 for the Orientation to Life scale.

Table 1 shows t-tests of gender differences in life stress, work stress, general well-being, and the Sense of Coherence and reports the results of the tests of hypotheses 1, 2, and 3. Overall, for the first hypothesis, the support is mixed. Women report significantly higher amounts of life stress than men ( $p < .01$ ), which supports the first part of Hypothesis 1. However, the t-test for gender differences in work stress does not show the same strength as the t-test for life stress, providing only marginal support for Hypothesis 1. The predicted direction is as hypothesized with women expressing higher work stress, but the test fails to reach significance at the .05 level. Thus, Hypothesis 1 received partial support.

The t-test of gender differences in general well-being shows women expressing somewhat lower levels of well-being than men (a mean score of 28.95, s.d. 6.88 for women versus 30.35 for men, s.d. 6.37). This gender difference is in the predicted direction, but like the test for work stress, it fails to reach significance at the .05 level. Therefore, Hypothesis 2 also received only marginal support. The data show no support for Hypothesis 3, which states that women have lower coping abilities than men as measured by the Orientation to Life scale. Men and women have almost exactly the same mean score on this scale. The fact that no difference can be found in coping skills (internal factors) suggests that the gender differences in perceived stress are caused by external or situational factors.

Table 2 focuses on Hypothesis 4. It shows correlations among the Sense of Coherence and life stress, work stress, and general well-being. The Sense of Coherence is negatively correlated with perceived work stress ( $r = -.40$ ,  $p < .001$ ) and with life stress ( $r = .24$ ,  $p < .001$ ), and it is positively correlated with general well-being ( $r = .62$ ,  $p < .001$ ). All the correlations are very strong and in the predicted direction, lending validation to the theory of the Sense of Coherence as a personal coping dimension. Consequently, Hypothesis 4 was supported by the data in this study.

Additional analyses were done to detect reasons for the stress gaps. The women were somewhat older than the men (almost 39 years in age versus 36.5 years for the men) and in general terms, these women seemed to be more favorably situated than the men. For instance, the women reported significantly higher family incomes (an average of \$61,067 a year versus \$47,691) together with significantly fewer financial dependents (1 dependent for women versus 1.5 dependents for men). As

expected, the women spent considerably more time on home responsibilities than the men (an average of 2 hours and 45 minutes a day versus 2 hours and 12 minutes a day for men, with a t-test showing  $p < .01$ ). Surprisingly though, further analyses revealed no correlation between these added responsibilities and either life or work stress.

In terms of work life, no significant differences were found. Both men and women had five years' average teaching experience, and both sexes spent approximately 50 hours on their work duties each week. There were no differences in tenure expectations, job control, or control over scheduling their weekly activities. Other questions about job facets likewise revealed no significant or relevant information.

One additional finding deserves to be mentioned. The Sense of Coherence score was found to be positively correlated with age ( $r = .16$ ,  $p < .05$ ), but for the women only. This means that the older women in the sample appeared to be better copers than the younger women (a mean score of 68 versus 65) while there was no similar correlation between the Sense of Coherence and age for the men. As a parallel to this, the data show a significant drop in work stress for older women ( $r = -.18$ ,  $p < .05$ ) with corresponding higher levels of job satisfaction ( $r = .17$ ,  $p < .001$ ).

## Discussion

This paper adds new insights by examining stress and coping in a homogeneous, gender-balanced population. Some of the results were expected, others were rather surprising. The present group of professionals expresses unexpectedly high life stress scores (5.45 on a seven-point scale), and this score is furthermore one whole point higher than the average work stress score (4.47). In other words, the present group derives less stress from their work than from their personal lives.

The coping responses were less unexpected, as the respondents report the same healthy Sense of Coherence found in other professionals (Antonovsky, 1987). This may also explain why they report a higher amount of well-being than one would expect from such a relatively highly stressed group. The Sense of Coherence was validated as being a strong coping construct with strong predicted relationships to the appropriate factors (see Figure 1), including life stress, work stress, and well-being. The Sense of Coherence emerges as a promising

construct which merits further use.

It is surprising that the women experience more life stress than men, given the fact that no gender differences were found either in coping or in personal backgrounds. Several relevant life factors were investigated, but none explained the gender differences in life stress. These professional women are in a favored socioeconomic situation compared to their male counterparts, having both significantly higher family incomes and fewer dependents. One possible clue led nowhere. The women reported spending more time than men on home responsibilities or what has been called "the second shift" (33 more minutes a day or almost four hours more each week than men), but analyses revealed no correlation between home responsibilities and reported life stress. Thus, there appears to be a "hidden factor" which contributes to life stress for women, but which was not brought out in the study.

The work stress was lower for all participants than was the life stress, and the gender differences in this area were in the predicted direction but not quite strong enough to reach significance. As hypothesized, women experienced slightly higher work stress than men, but again, further investigation of the data do not explain why this should be so. The women did not indicate any specific areas where they experienced more stress than the men. The same weak relationship was true of well-being. The hypothesized trend was there, but it was not strong. Therefore, the gender differences experienced by the present group of women seems to be related to their outside life situations, rather than to either work stress or coping ability.

Additional analysis suggested that age was a possible coping factor for the women in the study since the older women perceived less work stress and had a higher Sense of Coherence than the younger women. Age can probably be translated into more work experience. While a work situation may be unfamiliar and stressful to younger women, older women may have developed a better Sense of Coherence through experience. This is in keeping with the Sense of Coherence model which indicates the Sense of Coherence can develop and become stronger over a lifetime given the appropriate life experiences (see Antonovsky, 1987). However, one must exercise caution in interpreting this finding. Since the present analyses are all cross-sectional, the results can only suggest avenues for further research into the development of the Sense of Coherence among men and women.

Figure 1  
A Model of the Stress Process

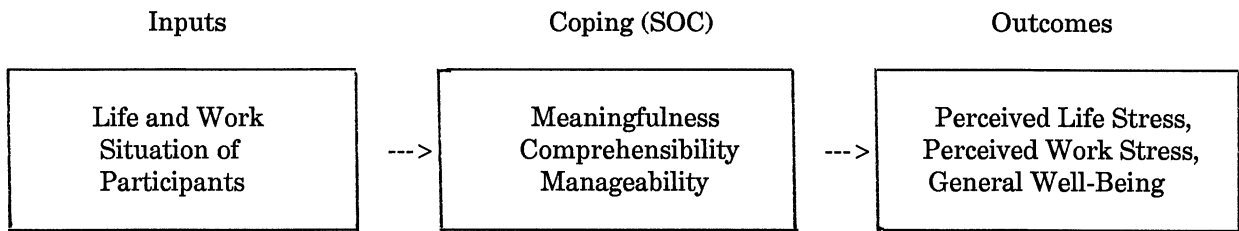


Table 1  
T-Tests between Genders for Outcome Variables

Variable	n	Means (s.d.)		p <
		Men	Women	
Life Stress	301	5.21 (1.38)	5.70 (1.29)	.002 **
Work Stress	299	4.31 (4.30)	4.66 (4.66)	.062
General Well-Being	299	30.35 (6.37)	28.95 (6.88)	.071
Sense of Coherence	292	66.72 (9.84)	66.41 (10.63)	n.s.

Table 2  
Correlations between Life Stress, Work Stress,  
General Well-Being and the Sense of Coherence

	LIFSTR	WORSTR	GWB	LIFSTR
WORSTR	.42**			
GWB	-.39***	-.43***		
SOC	-.24***	-.40***	.62***	

p < .01 \*\* p < .001 \*\*\*

N of cases: 284

## Self-Reports

One limitation of the current study is the use of self-reported psychological stress perceptions, which could be questioned as valid indicators of stress. However, in light of the difficulty associated with observing stress behaviors, self-reports can be one of the most useful and practical techniques for gathering information available in the non-medical sector. The validity of the present procedure is supported by findings by Spector, Dwyer, and Jex (1988) who examined stress-inducing job conditions by comparing self reports from job incumbents with data from the supervisors, and who found both convergent and discriminant validities for several stressors, including workload. Pennebaker and Watson (1988) reviewed the literature on self-reports and physiological measures in the work place. They make the point that "self-ratings, in and of themselves, represent an important source of information. If people report that they have headaches, are depressed, and under stress, we can assume that there will be some behavioral implications - whether or not blood chemistry corroborates their perceptions." (p. 193)

## Conclusion

Occupational stress is a topic of continuing interest with many unanswered questions. This study examined gender differences in stress, general well-being and coping in a gender-balanced sample of assistant college professors. The work setting provided similar conditions for the participants, and the men and women were exposed to levels of work stress which are more comparable than in most other work settings.

The first question asked whether women experienced more stress than men. The findings indicate that they did, but mainly in terms of life stress and only slightly in terms of in work stress and well-being. The second question dealt with gender differences in coping, and the results firmly indicate that these differences were non-existent. On the whole, therefore, the present group of women handled the work stress quite as well as their male counterparts. One tentative finding suggests that age may be a coping factor for the women, and further research should examine age as well as other "hidden factors" which may be contributing to the gender differences in life stress.

How applicable are the present findings to a more general business setting? This is a question of external validity which should be addressed through further research, but some general observations are appropriate. The present setting shares many aspects of other knowledge-work in the large and growing service sector of the economy since academic work involves numerous hours of office work, report writing, meetings, and "customer contact." The results from this study should therefore be generalizable to other sets of subjects in general business environments where men and women hold comparable positions.

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