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# SWP 19/93 REVERSING THE OCCUPATIONAL STRESS PROCESS: SOME CONSEQUENCES OF EMPLOYEE PSYCHOLOGICAL WELL-BEING

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## ABSTRACT

Extant theories of stress indicate that stressors attenuate psychological well-being, which in turn alters perceptions of the environment, of the self and of stressors themselves. Empirical studies of the stress process have often concentrated upon the effect of stressors upon well-being, rather than *vice versa*. In contrast, this study examined the effects of psychological well-being upon stressors, locus of control and social support, in a one month follow-up study of 244 accountants. Controlling for initial measures, the results indicated that aspects of well-being had effects: on themselves and other forms of well-being; upon work locus of control; upon both intensity and frequency of experienced stressors. No significant effects of well-being upon social support were found. The results are discussed with reference their implications for the study of occupational stress, the study of work related psychological well-being and possible mechanisms through which stress management interventions may work.

# INTRODUCTION

Many empirical studies of occupational stress have concentrated upon the causative relationship between stressors and well-being, usually in static cross-sectional designs. Although some researchers are beginning to argue for more sophisticated studies of occupational stress (eg. Dewe, 1991); the dynamic mechanisms by which psychological well-being affects the occupational stress process has received relatively little attention. This paper seeks to redress this balance by examining some of the effects of psychological well-being on variables that are thought to influence the stress process.

Modern theories of stress are usually transactional in nature (eg. Cox, 1978, Edwards, 1992). Transactional models see the stress process as a continual transaction between external demands and constraints, external supplies and supports, personal resources and internal needs and values, in which the individual strives to maintain balance (Cox & MacKay, 1981). Moreover, transactional models usually emphasise the dynamic nature of the stress process, such that stress accentuates well-being, which in turn alters the individual's perceptions of the environment and him/herself (Kyriacou and Sutcliffe, 1978, Edwards, 1992). Therefore, it is the purpose of this paper to examine the effects of psychological well-being upon: a) stressors; b) a commonly researched aspect of the social environment, social support; c) a commonly researched aspect of the self, locus of control; and d) the possibility that psychological well-being may affect itself.

## The effects of psychological well-being on stressors.

A great deal of the research of the effects of well-being upon stressors has examined the extent to which dispositional affect influences the relationship between stressors and well-being. Dispositional affect has often been operationalized as negative

affectivity; a dispositional trait to differentially perceive the negative aspects of the environment and the self (Watson and Clark, 1984). Researchers have found that including negative affectivity in equations significantly attenuates the effects of stressors upon psychological well-being (Brief *et al*, 1988, Schaubroeck *et al*, 1992). This has led some researchers to conclude that negative affectivity may be a causative factor of stressful work events (Brief *et al*, 1988).

Statistically removing the effects of dispositional affect from the stressor well-being relationship does not provide a direct test of the effect of well-being upon stressors, rather this evidence is suggestive. Other evidence does indicate some causative effects of well-being upon stressors (eg. Wolpin *et al*, 1991). Firth-Cozens and Hardy (1992) indicated that reductions in psychological symptoms bought about by psychotherapy produced more positive evaluations of aspects of work often considered to be stressors. Firth-Cozens (1992) suggests that increasing psychological well-being decreases negative attributions and increases motivation to change the environment, suggesting both a) stressors are less likely to be perceived and b) proactive behaviour to reduce objective stressors is more likely.

**The effects of psychological well-being upon locus of control**

Perceived control has been recognized as one of the key moderators/mediators of the effects of stressors upon well-being (Fisher, 1984, Ganster, 1988, Ganster and Fusilier, 1989). Locus of control may be thought of as a generalized perception of control. Those with an internal locus of control see themselves as the primary determinants of what happens to them and those with an external locus of control see external factors such as chance and powerful others as the primary determinants of what happens to them (Rotter, 1966).

Locus of control has been shown to have beneficial effects on well-being, perhaps by encouraging either effective coping (Parkes, 1984) or feelings of competence (Fisher, 1989). However, the reverse effect of psychological well-being upon locus of control has also been noted (eg. Parkes, 1989). In particular, depression has been linked to perceptions of an uncontrollable environment (eg. Seligman, 1975). In contrast, it may be common for those who are not depressed to readily perceive control (McKenna, 1993).

### The effects of psychological well-being upon social support

Social support has also been indentified as a key determinant of psychological well-being (eg. Cassell, 1976). Much of the research with social support has concentrated either on its direct effect upon well-being or its role in buffering the effects of stressors on well-being (Cohen and Wills, 1985). However, a review by Parry (1988) indicates that psychological well-being could be a causative factor in the amount and quality of social support an individual receives; such that those who are able to reciprocate supportive behaviours and who are not in great need of aid are more likely to receive social support. Similarly, Firth-Cozens (1992) has suggested that a reduction in psychological symptoms is associated with closer social ties and contacts, leading to more support.

### The effects of psychological well-being upon itself

Depue and Monroe (1986) indicate that previous levels of well-being are generally the most powerful predictors of current levels of well-being. Frese and Zapf (1988) have presented two models by which psychological well-being may influence itself. These are known as the accumulation and the dynamic accumulation models respectively. The accumulation model suggests that well-being is linearly related to itself, such that a shift in well-being, *ceteris paribus*, remains constant rather than

spontaneously reverting to previous levels of well-being. The dynamic accumulation model suggests that there is a positive feedback loop of well-being upon well-being, such that decreases in well-being cause further decreases in well-being. Although this relationship has received little quantitative attention, both Peacock (1991) and Firth-Cozens (1992) present qualitative evidence to suggest decreases in well-being can attenuate themselves.

Although aspects of well-being are thought to influence themselves, it is entirely possible that some aspects of well-being causally determine other aspects of well-being. In particular, it has been argued that sustained anxiety is a precursor to feelings of depression (Seligman, 1975, Henry, 1990). Seligman proposed anxiety to be the first response to a stressor: if this continues, the individual may learn that the source of stress is uncontrollable, thus leading to depression.

## Objectives

Given the literature cited above, the objectives of this paper are to examine the effects of psychological well-being upon stressors, locus of control, social support and itself. In particular, it is expected that decreased psychological well-being is causally prior to; a) increased perceptions of stressors; b) increases in external locus of control (particularly in relation to depression); c) increases in social support. In addition, the literature cited above suggests that; a) psychological well-being has a direct effect upon itself; b) anxiety may be causally prior to depression.

# METHODS

## *Procedure and participants.*

One thousand five hundred names were selected at random from the List of Members of the Institute of Chartered Accountants of England and Wales. Two anonymous self-completion questionnaires were mailed to the sample at a period of one month apart (questionnaires were matched by serial numbers). Thus measurements were taken at two points in time across a wide range of values for psychological well-being in a 'slice of life' design (Kasl, 1983).

Ninety seven of the individuals targeted had their questionnaires returned uncompleted (due to retirement, unemployment, etc). Three hundred and ninety nine usable questionnaires were returned from the first administration (28.4% response rate). Of these 399, 244 returned the second questionnaire (follow-up response rate of 61.2%). Although these response rates may be considered to be low, it should be remembered that both questionnaires were very long.

Members of the sample were predominantly male (86.1%), with a mean age of 39.4 years (std dev = 9.4). On average, members of the sample had been a chartered accountant for 14.5 years (std dev = 9.6), had been working for their present organisation for 7.8 years (std dev = 7.1 years) and had been working in their current position for 5.1 years (std dev = 6.1).

## *Instrumentation.*

The two questionnaires used in this study consisted of the same scales, measuring work related locus of control, work related social support, occupational stressors and psychological well-being. Each of these scales will be described in turn below.

*Work Locus of Control Scale.* Locus of control is thought to be a domain specific construct (Mischel & Mischel, 1979). Therefore, in order to measure the locus of control construct as it relates to the work context, Spector (1988) presented the Work Locus of Control Scale (WLCS), which has been demonstrated by Spector to be both reliable and valid. This sixteen item scale consists of a number of statements relating to agents of control (self, powerful others, luck), to which the respondent indicates his/her agreement on a six point Likert type scale. Eight of the items are reversed scored. High scores on the scale indicate an external locus of control.

*Measurement of stressors and social support.* Stressors and social support were measured by instruments designed especially for a population of British accountants. Items were derived from twenty semi-structured interviews conducted with British accountants in a variety of organisational settings (details available from the authors). The support and stressor scales were derived in this way since stress in homogeneous employment populations is best measured by specialized questionnaire (Dewe, 1989).

Stressors were measured by two eighteen item scales measuring the frequency of occurrence and the intensity of experienced stressfulness of each particular event over the preceding two weeks. Respondents were asked to rate frequency of occurrence of each stressor on a six point fully anchored Likert type scale. Intensity of each stressor was rated on a five point fully anchored Likert type scale. Social support was measured by a fifteen item scale relating to support as received in the work place over the preceding two weeks. Responses were measured on a six point fully anchored scale. Items from the interviews were supplemented with other items, such that House's (1981) four aspects of support were represented (emotional support, appraisal support, informational support, instrumental support). In

addition, two reverse scored items were included that represented negative support, or being 'let down' (Brown *et al*, 1986).

*Measurement of psychological well-being.* Psychological well-being was measured by Warr's (1990) measures of job related pleasure, job related anxiety-contentment and job related depression-enthusiasm. The validity and reliability of these scales has been demonstrated (Warr, 1990). The measure of job pleasure requires the respondent to rate his/her feelings on three fully anchored five point items. The measures of anxiety-contentment and depression-enthusiasm each require the respondent to rate his/her feelings on six fully anchored six point items. High scores on all of scales indicate good well-being.

## RESULTS

*Descriptive statistics.*

The means, standard deviations and reliabilities for the variables are shown in table 1. As can be seen, the internal reliabilities for all the scales are good. Table 2. shows the Pearson product-moment correlations between the variables. The interview derived scales measuring work related social support (7,8) and stressors (9,10,11,12) are generally significantly correlated with measures of well-being (1-6), in directions suggested by prior research (ie. social support is associated with good well-being, stressors with poor well-being). Thus, these new scales have some evidence supporting their validity.

INSERT TABLES 1 AND 2 HERE

***The effects of psychological well-being upon stressors, work locus of control and social support.***

Second administration levels of well-being were split at the 33rd and 66th percentile, to form three groups for each measure of well-being; high, medium and low. The effects of well-being upon stressors, work locus of control and social support were examined in one omnibus multivariate analysis of covariance (MANCOVA), controlling for initial levels of well-being, stressor intensity, stressor frequency, work locus of control and social support. Since no interactive effects were expected, only main effects were examined in this analysis; interaction effects were suppressed.

The analysis revealed a significant multivariate effect of job anxiety-contentment ($F=3.42$, $df=8/352$, $p<.005$) and a marginally significant multivariate effect of job depression-enthusiasm ($F=1.87$, $df=8/352$, $p<.07$). The effect of job pleasure was non-significant ($F<1$). The means, standard deviations and covariate adjusted means for the analysis involving the effect job anxiety-contentment are shown in table 3 and for the analysis involving job depression-enthusiasm in table 4. Also shown in tables 3 and 4 are the univariate F-ratios for each dependent variable (adjusted for covariates), their significance, and the percentage of variance accounted for in the dependent variable by the dependent variable.

INSERT TABLES 3 AND 4 HERE

Table 3 shows that significant univariate effects were demonstrated by job anxiety-contentment upon stressor intensity and stressor frequency. Helmert contrasts, adjusted for covariates, indicated that high levels of job anxiety-contentment were significantly lower than medium levels of job anxiety-contentment ($t=3.10$, $p<.005$) on stressor intensity. A similar pattern emerged for the Helmert contrasts

with stressor frequency as the dependent variable ($t=3.60$, $p<.001$). No significant difference was found between low scores on anxiety-contentment and the combined scores of medium and high anxiety-contentment on either stressor intensity or stressor frequency. Taken together, these results indicate that job anxiety-contentment has a significant effect upon subsequent levels of stressor intensity and stressor frequency. Specifically, high levels of contentment are associated with low reporting of stressor intensity and stressor frequency.

Table 4 shows that the only significant effect of job depression-enthusiasm was upon work locus of control. Helmert contrasts, adjusted for covariates, indicated that low levels of depression-enthusiasm were significantly different from the combined scores of medium and high levels ($t=2.93$, $p<.005$). No significant difference was found between high levels of depression-enthusiasm and medium levels of depression enthusiasm. These results indicate that high levels of depression are associated with increases in external work locus of control.

***The effects of psychological well-being upon subsequent levels of well-being.***

Similarly to the analyses reported above, initial levels of well-being were split at the 33rd and 66th percentile, to form three groups for each measure of well-being; high, medium and low. The effects of well-being upon subsequent levels of well-being were also examined by MANCOVA, controlling for initial levels and subsequent levels of stressor intensity, stressor frequency, work locus of control and social support. Again, no interactive effects were expected, so interaction effects were suppressed. Significant multivariate main effects were found for job anxiety-contentment ($F=10.79$, $df=6/350$, $p<.001$), job depression-enthusiasm ($F=5.56$, $df=6/350$, $p<.001$) and job pleasure ($F=12.17$, $df=6/350$, $p<.001$). The means, standard deviations, covariate adjusted means and univariate F-ratios (adjusted for covariates) for each analysis are shown in tables 5, 6 and 7 respectively.

INSERT TABLES 5, 6 AND 7 HERE

Table 5 shows that initial levels of anxiety-contentment had a significant univariate effect upon subsequent levels of job anxiety-contentment, job depression-enthusiasm and job pleasure. Helmert contrasts, adjusted for covariates, revealed that initially low levels of anxiety-contentment were significantly lower on subsequent levels of anxiety-contentment ($t=5.23$, $p<.001$). The contrasts also revealed that initially high levels of anxiety-contentment were significantly higher on levels of subsequent anxiety-contentment than the combined scores of low and medium levels of anxiety-contentment ($t=7.69$, $p<.001$). A similar pattern of results emerged for the effects of initial levels of job anxiety-contentment upon subsequent levels of job depression-enthusiasm; low levels of anxiety-contentment were significantly lower on subsequent measures of depression-enthusiasm than medium levels of anxiety-contentment ($t=4.33$, $p<.001$) and high levels of anxiety-contentment were significantly higher on subsequent measures of depression-enthusiasm than the combined scores of medium and low levels ($t=4.15$, $p<.001$). Helmert contrasts, adjusted for covariates, also revealed that low levels of anxiety-contentment scored lower on subsequent levels of job pleasure ($t=2.67$, $p<.01$), but the combined scores of low and medium levels of job anxiety-contentment did not differ significantly from high levels of anxiety-contentment on subsequent measures of job pleasure ($t=1.45$, $p>.10$).

These results indicate that not only are increases in job anxiety-contentment associated with subsequent increases in job anxiety-contentment, but also with subsequent increases in job depression-enthusiasm. Moreover, low levels of job anxiety-contentment are associated with subsequently lower levels of job pleasure.

Table 6. indicates that significant univariate effects were observed for initial levels of job depression-enthusiasm upon subsequent levels of job depression-enthusiasm only. Helmert contrasts, adjusted for covariates, revealed that low levels of depression-enthusiasm were significantly lower on subsequent levels of depression-enthusiasm than medium levels of job depression-enthusiasm ($t=4.56$, $p<.001$). Also, the contrasts revealed that high levels of depression enthusiasm were significantly higher than the combined scores of low and medium levels of depression-enthusiasm on subsequent scores of depression enthusiasm ($t=4.86$, $p<.001$). The results involving initial levels of job depression-enthusiasm indicate that increases in job depression-enthusiasm are associated with subsequent increases in job depression-enthusiasm.

Table 7. indicates that the only significant univariate effect initial levels of job pleasure was on subsequent levels of job pleasure. Helmert contrasts, adjusted for covariates, indicated that low levels of job pleasure were significantly lower on subsequent measures of pleasure than medium levels of pleasure ($t=4.45$, $p<.001$). Also, the contrasts revealed that high levels of job pleasure were significantly higher on subsequent measures of pleasure than the combined scores of medium and low levels ($t=9.10$, $p<.001$). These results indicate that initial increases in job pleasure are associated with subsequent increases in job pleasure.

*Summary of results*

Controlling for initial levels of stressors, social support and work locus of control, the results suggest that a) low levels of job related anxiety lead to perceptions of fewer and less intense occupational stressors and b) high levels of job related depression lead to a more external work locus of control. Also, the analyses suggest that increases in job related anxiety lead to subsequent increases in job related anxiety and job related depression. High levels of job related anxiety were

also found to be associated with subsequently low levels of job pleasure. The results also indicate that a) increases in job related depression are associated with subsequent increases in job related depression and b) increases in job pleasure are associated with subsequent increases in job pleasure.

## DISCUSSION

The aim of the study was to examine the effects of changes in well-being upon the occupational stress process. The results indicate that work related well-being not only impacts upon itself, but also upon work locus of control, perceived frequency and intensity of occupational stressors. Well-being was found to have no significant effects upon social support. These results have a number of implications for; a) the study of occupational stress; b) the study of psychological well-being in the work place; and c) possible mechanisms through which stress management interventions may work. Each of these implications will be discussed in turn below.

Relatively little research has examined the effects of well-being upon the occupational stress process, although extant models of stress (eg. Cox, 1978, Edwards, 1992) indicate that well-being should alter perceptions of stressors, the self and the environment. Instead, studies of occupational stress have, in the majority, been of a cross-sectional nature. Such studies therefore implicitly assume that well-being has no affect upon the stress process, beyond that of a dependent variable. The results presented here question that implicit assumption and indicate that work related well-being is a causal factor influencing perceptions of stressors and perceptions of the self (in this case work related control attributions).

This discussion suggests that longitudinal studies of the occupational process are to be preferred. This is not just because such studies can more effectively demonstrate causality (Contrada and Krantz, 1978, Leventhal and Tomarken, 1987), but also

longitudinal studies are capable of more correctly specifying the dynamic aspects of the occupational stress (Lazarus and Folkman, 1984), such as reciprocal relationships between stressors and well-being.

Two stage least squares regression models are also capable of representing reciprocal causation, but with cross-sectional data (Asher, 1983). However, two stage least squares modelling places restrictions upon the relationships that can be tested with a given set of data (Asher, 1984) and assumes that there is no time lag between cause and effect (Schaubroeck, 1990). Therefore, this modelling technique may be of limited application. Another alternative for cross-sectional designs is to use dispositional affect as a surrogate for previous levels of well-being when estimating subsequent well-being from stressors and related variables (cf. Brief *et al,* 1988). However, this strategy necessarily ignores the dynamic aspects of the occupational stress process. Therefore, both alternatives for cross-sectional designs are inferior to longitudinal designs.

Regarding the study of work related psychological well-being, the results support models which indicate that well-being not only affects itself (Frese and Zapf, 1988), but also other aspects of well-being (Seligman, 1975). Importantly, the effects of anxiety-contentment upon subsequent levels of depression-enthusiasm and pleasure supports the conceptual distinctions that have been made between these three different aspects of work related affect (Warr, 1990, Sevastos *et al,* 1992), and also suggest a causal ordering of these aspects of work related well-being. The association between anxiety-contentment and subsequent levels of depression-enthusiasm suggests these two dimensions of well-being should be treated as oblique (Sevastos *et al,* 1992) rather than orthogonal to each other (Warr, 1990).

The results also have implications for mechanisms through which stress management interventions may work and more generally how well-being may affect

the occupational stress process. The description of these mechanisms is similar in both essence and content to a model put forward by Firth-Cozens (1992) on the basis of a case study of a single individual undergoing psychotherapy. The following description complements the Firth-Cozens model, since it is based upon large scale quantitative data gathered from a population of normals.

Organisational level stress management interventions (eg. socio-technical systems interventions) may lead to slight increases in well-being through a reduction on work stressors in the work environment. Interventions aimed at symptom control (eg. muscle relaxation) or counselling may increase levels of well-being directly. Given the results presented here, initial improvements in well-being would be expected not only to propagate themselves, but also to reduce perceptions of stressors (cf. Firth-Cozens and Hardy, 1992) and increase control attributions. A decrease in the number of stressors perceived should therefore lead to further increases in well-being. Moreover, increases in an internal locus of control may also lead to direct improvements in well-being (Fisher, 1989), or more indirectly through the employment of more effective problem focused coping techniques (Parkes, 1984) or the attainment of more social support (Revicki and May, 1985). These increases in work related well-being should lead to further increases in well-being through the processes specified above, thus leading to a virtuous circle of improvements in well-being.

Time delays between the initiation of stress management interventions and noticeable effects are implicit in the description of these processes. Also implicit is the reverse process of a vicious circle, by which increases in stressors lead to decreases in well-being, leading to further decreases in well-being, increases in external locus of control and increases in perceptions of stressors, thus leading to further decreases in well-being, and so on.

## Summary and conclusions

This study has demonstrated, in a one month follow-up, that initial levels of well-being are associated with subsequent levels of well-being, stressors and work locus of control. These results indicate that longitudinal studies of occupational stress are necessary, not only to increase confidence in directions of causality, but also to correctly specify the dynamic nature of the occupational stress process. The results also suggest that anxiety-contentment, depression-enthusiasm and pleasure are conceptually distinct aspects of work related psychological well-being, but that anxiety-contentment is causally prior to both depression-enthusiasm and pleasure. The results lend support for a virtuous circle mechanism through which stress management interventions can help improve work related psychological well-being.

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**TABLE 1.** Means, standard deviations and alpha coefficients of reliability.

| Variable | Mean | Std dev | Alpha |
|---|---|---|---|
| Pleasure [1] | 3.02 | 0.90 | 0.91 |
| Pleasure [2] | 2.97 | 0.87 | 0.93 |
| Depression-enthusiasm [1] | 4.46 | 0.84 | 0.86 |
| Depression-enthusiasm [2] | 4.42 | 0.88 | 0.86 |
| Anxiety-contentment [1] | 3.79 | 0.94 | 0.88 |
| Anxiety-contentment [2] | 3.80 | 0.96 | 0.89 |
| Social support [1] | 27.22 | 8.40 | 0.75 |
| Social support [2] | 27.90 | 8.38 | 0.73 |
| Stressor intensity [1] | 18.45 | 9.64 | 0.86 |
| Stressor intensity [2] | 18.83 | 9.49 | 0.86 |
| Stressor frequency [1] | 43.41 | 12.23 | 0.79 |
| Stressor frequency [2] | 43.03 | 12.02 | 0.80 |
| WLCS [1] | 39.27 | 9.48 | 0.82 |
| WLCS [2] | 41.20 | 9.41 | 0.83 |

(Variables suffixed with [1] indicate measurement at first administration, variables suffixed [2] indicate variables measured at second administration.)

**TABLE 2.** Correlation matrix.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.Pleasure [1] | 1.00 | | | | | | | | | | | | | |
| 2.Pleasure [2] | .79** | 1.00 | | | | | | | | | | | | |
| 3.Depression-enthusiasm [1] | .67** | .64** | 1.00 | | | | | | | | | | | |
| 4.Depression-enthusiasm [2] | .63** | .70** | .80** | 1.00 | | | | | | | | | | |
| 5.Anxiety-contentment [1] | .62** | .60** | .73** | .69** | 1.00 | | | | | | | | | |
| 6.Anxiety-contentment [2] | .50** | .59** | .61** | .72** | .77** | 1.00 | | | | | | | | |
| 7.Social support [1] | .28** | .32** | .26** | .24** | .20* | .12 | 1.00 | | | | | | | |
| 8.Social support [2] | .34** | .38** | .31** | .33** | .28** | .21** | .70** | 1.00 | | | | | | |
| 9.Stressor intensity [1] | -.29** | -.33** | -.36** | -.33** | -.55** | -.52** | -.06 | -.08 | 1.00 | | | | | |
| 10.Stressor intensity [2] | -.25** | -.31** | -.31** | -.34** | -.48** | -.57** | -.03 | -.03 | .81** | 1.00 | | | | |
| 11.Stressor frequency [1] | -.03 | -.06 | -.07 | -.04 | -.22** | -.16* | .10 | .08 | .53** | .47** | 1.00 | | | |
| 12.Stressor frequency [2] | -.01 | -.06 | -.05 | -.08 | -.18* | -.22** | .15* | .16* | .46** | .56** | .81 | 1.00 | | |
| 13.WLCS [1] | -.34** | -.40** | -.42** | -.37** | -.28** | -.28** | -.18* | -.18* | .20* | .22** | -.11 | -.08 | 1.00 | |
| 14.WLCS [2] | -.29** | -.35** | -.38** | -.41** | -.24** | -.29** | -.18* | -.18* | .16* | .17* | -.15 | -.14 | .76** | 1.00 |

* $p < 0.01$ ** $p < 0.001$ n=244

**TABLE 3.** Means, standard deviations and covariate adjusted means for stressor intensity, stressor frequency, social support and WLCS for different levels of job anxiety-contentment.

| | | Dependent variable | | | |
|---|---|---|---|---|---|
| Levels of job anxiety-contentment | | Stressor intensity | Stressor frequency | WLCS | Social support |
| Low | Mean | 23.52 | 45.79 | 43.60 | 25.38 |
| | Standard deviation | 9.98 | 11.96 | 9.54 | 7.80 |
| | Adjusted mean | 21.19 | 46.28 | 41.46 | 26.24 |
| Medium | Mean | 18.48 | 43.33 | 40.12 | 27.67 |
| | Standard deviation | 6.76 | 11.08 | 8.10 | 7.40 |
| | Adjusted mean | 19.84 | 42.57 | 41.62 | 27.32 |
| High | Mean | 11.43 | 38.99 | 44.02 | 25.84 |
| | Standard deviation | 7.16 | 12.02 | 9.48 | 7.46 |
| | Adjusted mean | 15.63 | 39.92 | 41.45 | 26.67 |
| F-ratio, distributed on df 2/195 | | $F = 10.49$ ($p < .001$) | $F = 6.84$ ($p < .005$) | $F < 1$ | $F < 1$ |
| %ge variance | | 3.2% | 2.3% | 0.1% | 0.2% |

**TABLE 4.** Means, standard deviations and covariate adjusted means for stressor intensity, stressor frequency, social support and WLCS for different levels of job depression-enthusiasm.

| | | Dependent variable | | | |
|---|---|---|---|---|---|
| Levels of job depression-enthusiasm | | Stressor intensity | Stressor frequency | WLCS | Social support |
| Low | Mean | 17.70 | 45.32 | 45.09 | 24.51 |
| | Standard deviation | 9.83 | 12.37 | 9.43 | 7.61 |
| | Adjusted mean | 18.72 | 44.39 | 43.17 | 26.51 |
| Medium | Mean | 17.97 | 39.44 | 42.73 | 25.66 |
| | Standard deviation | 8.70 | 11.12 | 7.85 | 7.23 |
| | Adjusted mean | 18.40 | 41.85 | 42.50 | 26.14 |
| High | Mean | 16.25 | 39.36 | 39.98 | 28.77 |
| | Standard deviation | 8.39 | 12.01 | 8.65 | 7.53 |
| | Adjusted mean | 18.87 | 41.71 | 38.91 | 27.63 |
| F-ratio, distributed on df 2/195 | | $F < 1$ | $F = 1.70$ (ns) | $F = 3.63$ ($p < .05$) | $F < 1$ |
| %ge variance | | 0.1% | 0.6% | 1.5% | 0.3% |

**TABLE 5.** Means, standard deviations and covariate adjusted means for subsequent levels of job anxiety-contentment, job depression-enthusiasm and job pleasure for different levels of job anxiety-contentment.

| | | Dependent variable | | |
|---|---|---|---|---|
| Levels of initial job anxiety-contentment | | Anxiety-contentment | Depression-enthusiasm | Job pleasure |
| Low | Mean | 3.35 | 4.17 | 2.67 |
| | Standard deviation | 0.74 | 0.86 | 0.82 |
| | Adjusted mean | 3.17 | 4.07 | 2.70 |
| Medium | Mean | 3.67 | 4.40 | 2.90 |
| | Standard deviation | 0.70 | 0.60 | 0.71 |
| | Adjusted mean | 3.76 | 4.47 | 3.00 |
| High | Mean | 4.50 | 4.86 | 3.17 |
| | Standard deviation | 0.55 | 0.49 | 0.60 |
| | Adjusted mean | 4.41 | 4.79 | 3.06 |
| F-ratio, distributed on df 2/194 | | $F=31.79$ ($p<.001$) | $F=12.87$ ($p<.001$) | $F=3.08$ ($p<.05$) |
| %ge variance | | 11.9% | 4.9% | 1.1% |

**TABLE 6.** Means, standard deviations and covariate adjusted means for subsequent levels of job anxiety-contentment, job depression-enthusiasm and job pleasure for different levels of job depression-enthusiasm.

| | | Dependent variable | | |
|---|---|---|---|---|
| Levels of initial job depression-enthusiasm | | Anxiety-contentment | Depression-enthusiasm | Job pleasure |
| Low | Mean | 3.56 | 4.05 | 2.66 |
| | Standard deviation | 0.85 | 0.78 | 0.64 |
| | Adjusted mean | 3.61 | 4.00 | 2.75 |
| Medium | Mean | 3.77 | 4.50 | 2.95 |
| | Standard deviation | 0.80 | 0.50 | 0.72 |
| | Adjusted mean | 3.80 | 4.49 | 2.88 |
| High | Mean | 4.13 | 4.84 | 3.09 |
| | Standard deviation | 0.72 | 0.50 | 0.67 |
| | Adjusted mean | 3.85 | 4.78 | 3.09 |
| F-ratio, distributed on df 2/194 | | $F < 1$ | $F = 15.17$ ($p < .001$) | $F = 2.51$ (ns) |
| %ge variance | | 0.2% | 5.8% | 0.9% |

**TABLE 7.** Means, standard deviations and covariate adjusted means for subsequent levels of job anxiety-contentment, job depression-enthusiasm and job pleasure for different levels of job pleasure.

| | | Dependent variable | | |
|---|---|---|---|---|
| Levels of initial job pleasure | | Anxiety-contentment | Depression-enthusiasm | Job pleasure |
| Low | Mean | 3.75 | 4.20 | 2.14 |
| | Standard deviation | 0.90 | 0.86 | 0.67 |
| | Adjusted mean | 3.64 | 4.24 | 2.35 |
| Medium | Mean | 3.65 | 4.44 | 2.85 |
| | Standard deviation | 0.84 | 0.62 | 0.41 |
| | Adjusted mean | 3.72 | 4.44 | 2.84 |
| High | Mean | 4.05 | 4.69 | 3.55 |
| | Standard deviation | 0.78 | 0.66 | 0.62 |
| | Adjusted mean | 3.87 | 4.55 | 3.41 |
| F-ratio, distributed on df 2/194 | | $F=1.06$ (ns) | $F=2.38$ (ns) | $F=38.88$ ($p<.001$) |
| %ge variance | | 0.4% | 0.9% | 14.4% |

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