

Dual-Response Approach to Work Stress: An Investigation of Stressors and Wellbeing Outcomes

J. R. C. Kuntz, Katharina Näswall, and Frances Walls

Abstract—This study sought to uncover the complex role of stress in the workplace by investigating both positive (eustress) and negative (distress) stress responses. In particular, the study tested a mediation model in which organisational stressors (person-job fit and role overload) influence employee affective wellbeing, both directly and indirectly through stress responses. Participants were recruited from retail and finance organisations in Australia and New Zealand, and asked to complete an anonymous online questionnaire. A total of 140 individuals returned completed questionnaires. The results show that person-job fit influenced eustress, which in turn had a positive effect on employee affective wellbeing; and role overload impacted distress, which in turn held a negative influence on affective wellbeing. These findings indicate that different organisational stressors have unique relationships with eustress and distress responses. Limitations and implications of the study are discussed.

Keywords—Distress, Eustress, Role Overload, Wellbeing.

I. INTRODUCTION

ORIGINALLY coined by Hans Selye in 1936, the term stress was used to describe the response of the body, which can occur in all dimensions of human health, in reaction to a demand. From an occupational standpoint, recent decades have witnessed a growing interest in work stress research, largely due to the awareness of rising levels of stress in organisational settings [1], [2], and of the substantial costs incurred through performance decline, and increased absenteeism and turnover [3]. Moreover, the health costs associated with workplace stress are considerable, calculated at over \$300 billion/year in the United States of America [4], and \$14.81 billion/year for the Australian economy [5].

Whereas workplace stress research has predominately focused on the causes and consequences of employee distress, recent studies have highlighted the importance of investigating a positive approach to stress, aimed at identifying factors that promote worker wellbeing [6], [7]. Eustress is a positive form of stress which arouses employees and creates drive and positive feelings of fulfilment [8]. Distress and eustress have been advanced as distinct constructs that can be experienced

simultaneously [9]. For this reason, effective stress management in the workplace is contingent on sound understanding of the factors accounting for eustress and distress, along with the outcomes elicited by each of the stress experiences. Due to the scarcity of empirical research investigating antecedents and consequences of distress, and especially of eustress, the current study aimed to identify some of the major sources and outcomes of stress using a dual-response model that included both eustress and distress responses. In particular, this study investigates: a) the unique impact of organisational stressors, namely person-job fit and role overload, on stress responses, distress and eustress, and b) the relationships between stress responses (distress and eustress) and job-related wellbeing.

A. Dual Response Model of Stress

Hans Selye has called for the study of stress rooted on a two-part model including distress and eustress, and this dual-response approach to stress has been echoed in recent research [10]. While earlier views of distress describe it as the inability to respond to demands or adapt to stressors, resulting in physical and psychological symptoms such as burnout and depression, extant research has highlighted that distress is the upshot of negative perceptions or framing of particular stressors [10]. In essence, this suggests that the same stressor may be interpreted in a negative manner, causing distress, but it can also be perceived as a pleasant stimulus, eliciting a positive response also known as eustress.

B. Distress and Eustress in Work Settings

The positive psychology field thrived after WWII, upon empirical observation that certain individuals were able to remain positive through times of extreme adversity [11]. This positive psychological approach quickly gained momentum in workplace research, and in recent years has focused on promoting individual strengths for the betterment of the organisation as a whole [12], [13].

Eustress is a term first defined by Hans Selye (1975), and it captures a healthy, motivating facet of stress, involving positive feelings or fulfillment [7]. The prefix 'eu' means good in Greek so eustress can simply be thought of as good stress [14]. Conversely, distress occurs when a demand causes negative emotional or psychological reactions [15]. Just as individuals differ with respect to the nature and magnitude of the demands that cause distress, they are also expected to experience unique factors as elicitors of eustress responses

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[16]. In a work setting, a tight deadline may be perceived by some as a stimulating challenge that motivates high performance on a task, whereas others will experience this demand as an unwelcome pressure that produces negative feelings toward the task, including avoidance. Moreover, the same individual may perceive a tight deadline as a welcome challenge that sustains engagement with a task, and at the same time experience some distress, manifested through psychological symptoms (e.g., self-doubt) and physical symptoms (e.g., high blood pressure). In this sense, stress responses do not lie on a continuum from negative to positive, and although distress and eustress are distinct constructs, they are not mutually exclusive [9]. Furthermore, it is the manner in which an individual interprets a given stimulus – as a threat, challenge or both – that determines distress and eustress responses [17], [18], [19]. When an individual reacts to a stressor with positive appraisals, this is likely to elicit eustress, and conversely negative emotional reactions will draw out distress responses [20].

The consideration of eustress, in addition to distress, in work stress research offers a more comprehensive view of employee health and motivation. Organisations no longer limit their focus to reducing negative stressors in the workplace, but they are also exploring ways of generating eustress to increase workforce fulfillment and motivation [21], [7]. Recent research has produced some evidence of factors that may promote eustress in organisational settings. Job and work environment features believed to trigger employee eustress include clear and reasonable role demands, achievable task demands, employee-friendly policies and working conditions, and support from the organisation and supervisors [9], [21], [7]. In addition to job and organisational characteristics, individual differences are also thought to play a part in employee levels of eustress, particularly optimism, internal locus of control, hardiness, self-reliance, and self-efficacy [9], [7], [22]. With respect to the effect of eustress, both job and life satisfaction [22], along with employee wellbeing [23], [21], have been advanced as positive individual-level outcomes. In essence, it is believed that positively framing work situations has positive effects on job satisfaction, wellbeing, and performance.

C. The Present Study

Even though the call for a comprehensive analysis of stress in the workplace has been echoed in recent years [7], little empirical research to date has investigated the complex aetiology of stress. Taking organisational stressors as antecedents and wellbeing as the principal outcome, the current study examines the unique linkages between these variables and stress responses (eustress and distress). In particular, the study will test a mediation model in which stress responses mediate the relationships between organisational stressors (person-job fit and role overload) and wellbeing (job specific affective wellbeing).

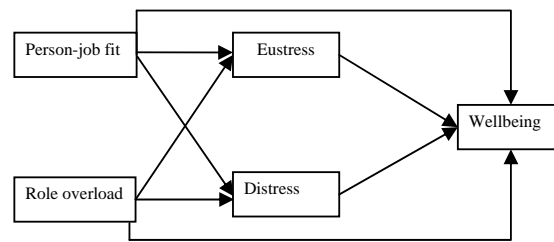


Fig. 1 Antecedents and Outcomes of Stress Responses in Organisations

D. Organisational Stressors: Person-Job Fit

The word “fit” in organisational psychology infers compatibility between person and work environment [24]. Person-job fit theory emphasizes the importance of this compatibility within the organisational setting [25]. In practice, individuals assess working conditions in terms of the level of supply value the environment provides that fits with their preferences and needs [26]. Just as jobs and organisations hold different rewards, demands and required skills, individuals have different needs, preferences and competencies. Recent research suggests that it is important to match job/task characteristics with employee preferences and competencies, as lack of fit at these levels may lead to distress [27], [24]. In specific circumstances, lack of fit can lead to extreme manifestations of stress, such as burnout [28]. Conversely, good fit in the workplace has been linked to positive health benefits in employees [29], [30]. LeFevre and colleagues [31] suggested a possible link between good fit with the job and eustress, and this relationship has been supported in a recent study, where perceived fit between an individual’s personal, social, economic and environmental resources and the demands of the job, was positively associated to eustress and individual wellbeing [23].

The current study aims to uncover unique relationships between person-job fit and stress responses. Here, good fit is expected to fulfill and arouse employees whereas poor fit should be associated to distress. The following is hypothesized:

H1 (a): Person-job fit will be positively associated with eustress.

H1 (b): Person-job fit will be negatively associated with distress.

E. Organisational Stressors: Role Overload

Role overload has been described as the extent to which individuals perceive that available resources are inadequate to cope with role demands, resulting in distraction and stress [32]. Perceptions of role overload are not uncommon in modern organisations that continually undergo change and stretch their resources to increase productivity and remain competitive [33]. Role demands, including role overload, have been identified as sources of distress in organisational settings [14], [7]. Role overload leads to distress by way of both unmanageable volumes of work and the associated failure to

deliver quality outputs in a timely fashion. Role overload has also been linked to tension levels and emotional exhaustion [34]. While no studies to date have specifically investigated the relationship between role overload and eustress, previous research has suggested a positive association between reasonable role demands and eustress [7]. We expect that as employee perceptions of role overload increase, a distress response will occur, but individuals will also feel positively challenged. Hence, the following is hypothesized:

H2 (a): Role overload will be positively related to eustress.

H2 (b): Role overload will be positively related to distress.

F. Job-Related Affective Wellbeing

Multiple studies have found links between stress and both physiological and psychological wellbeing outcomes [35], [36]. Emotional exhaustion – a major precursor in occupational burnout – job dissatisfaction and reduced general wellbeing have been identified as common psychological outcomes which are directly and strongly related to distress. These relationships between stress and wellbeing have been identified across a range of industries, job types, and managerial levels [37], [36], [38].

Past research has focused on different dimensions of wellbeing such as mental health, physical symptoms, general health and job satisfaction [39]. Affective wellbeing is another dimension of wellbeing which can be utilised in the study of stress [40]. While negative relationships between distress and wellbeing have been identified in previous research, scarce empirical evidence connects eustress and wellbeing. However, a positive response of fulfilment will expectedly lead to job-related positive emotions. The following is hypothesized:

H3 (a): Eustress will be positively associated with job-related affective wellbeing.

H3 (b): Distress will be negatively associated with job-related affective wellbeing.

H3 (c): There will be a direct negative association between role overload and job-related affective wellbeing. However, this effect will be partially mediated through stress responses.

H3 (d): There will be a direct positive association between person-job fit and job-related affective wellbeing. However, this effect will be partially mediated through stress responses.

II. METHOD

A. Participants and Procedure

An international sample of participants working in managerial and non-managerial positions was sought from 8 organisations in Australia and 11 in New Zealand. The organisations targeted represented primarily retail and finance industries, as these sectors employ individuals in different managerial positions and holding a variety of job responsibilities. To this end, participant recruitment was primarily conducted through research advertisements emailed to the selected organisations, inviting them to distribute the questionnaire through their staff. Over half of the organisations contacted expressed interest in participating and agreed to advertise the study among their staff. As the survey

was anonymous and no organisational affiliations were recorded, there was no way of tracking how many individuals from each organisation agreed to participate. A total of 140 individuals completed the questionnaire in its entirety. The majority of participants worked full time (54%), and the remaining participants were part-time workers. With respect to managerial responsibilities, 42% of the respondents reported holding a managerial role. Finally, 33% of participants were male.

B. Measures

It should be noted that the order in which the measures were presented to participants was randomized to mitigate order effects.

Person-job fit. The Subjective Person-Job Fit Scale (Demands-Abilities and Needs-Supplies) was used to assess person-job fit [41]. Responses to the four items were assessed on a five-point scale, ranging from 1=not at all to 5=completely. A sample item is “*To what extent do your knowledge, skills, and abilities match the requirements of the job?*”. The internal consistency of the scale was originally found to be .68 [41], but the current study found a higher coefficient of .88.

Role overload. Four items originally developed by House [42] were used to assess role overload. The items are consistent with the conceptual definition of role overload as specified by Kahn *et al.* [32], i.e., the extent to which role demands create the perception that available resources are inadequate to deal with them, resulting in distraction and stress. Items were measured on a five-point scale ranging from 1=never to 5=always. The coefficient alpha for this measure is .85 [33], and the current study found a similar coefficient of .84. An example of the statement items is “*The amount of work you do interferes with how well the work gets done*”.

Distress/Eustress. Stress responses were assessed with the Professional Stress Positive and Negative Questionnaire (SPPN) [43]. In this questionnaire, 11 items measure distress and eight items assess eustress. An example of a distress item is “*I find my work mentally exhausting*”, and a sample of a eustress item is “*My work allows for self-fulfilment*”. Principal axis factor analysis with oblique rotation showed some overlap between distress and role overload. Following this, the distress item “*I feel I can’t cope with everything I have to do at work*” was removed. After the removal of this item, a simple factors structure between eustress and distress was achieved, with no double loadings, which supports that the measures tapped into distinct constructs. The adapted measures used in this study included 10 distress items with a coefficient alpha of .86 (compared to .69 in the original study), and 8 eustress items with a coefficient alpha of .87 (compared to .78 in the original study).

Affective wellbeing. Twenty items from the Job-related Affective Well-being Scale (JAWS) were used to assess affective wellbeing [40]. The measure instructed participants as follows: “*Below are a number of statements that describe different emotions that a job can make a person feel. Please indicate the amount to which any part of your job (e.g., the*

work, coworkers, supervisor, clients, pay) has made you feel that emotion in the past 30 days.” Emotions stated were rated on a five-point scale from 1=very rarely to 5=very often/always. The coefficient alpha for this scale in the original study was .95. Three items were removed from the wellbeing measure upon examination of principal factor analysis results. The analysis demonstrated that these items statistically intersected with person-job fit and eustress, rather than affective wellbeing, and appeared conceptually similar to the other constructs on review. The items removed were “My job made me feel enthusiastic”, “My job made me feel excited” and “My job made me feel inspired”. This removal left the affective wellbeing measure with 17 items and a coefficient alpha of .94.

III. RESULTS

A. Data Analysis

The model proposed included several mediators and required their simultaneous testing in a single model. A mediation analysis was performed using Hayes and Preacher’s [44] MEDIANTE Macro for SPSS (http://www.afhayes.com/spss-sas-and-mplus-macros-and-code.html), which allowed for the inclusion of multiple predictors and mediators. These analyses tested the direct and indirect effects of person-job fit and role overload on wellbeing through stress responses, and allowed for the estimation of confidence intervals for the indirect effects through bootstrapping (bootstrap samples=10000).

Preliminary analysis. Table I demonstrates means, standard deviations and correlations of variables in the model. An important result to acknowledge is that eustress and distress are not significantly associated ($r=.07, ns$) which supports current theory that these stress responses do not represent opposite ends along a continuum. In addition, eustress and distress were differently related to the remaining variables of interest. Eustress was positively and significantly related to person-job fit ($r= .62, p<.01$), and distress was related to role overload ($r=.47, p<.01$).

TABLE I
MEANS, STANDARD DEVIATIONS AND INTERCORRELATIONS

| Variable | M | SD | 1 | 2 | 3 | 4 | 5 |
|--------------|------|------|------|-------|--------|-------|--------|
| 1. Gender | - | - | - | | | | |
| 2. P-J fit | 3.38 | 0.89 | .01 | - | | | |
| 3. ROverload | 2.70 | 0.82 | .06 | .10 | - | | |
| 4. Eustress | 3.13 | 0.78 | .18* | .62** | .08 | - | |
| 5. Distress | 2.24 | 0.65 | .07 | -.12 | .47** | .07 | - |
| 6. Wellbeing | 3.47 | 0.59 | .05 | .56** | -.33** | .54** | -.64** |

Note: N=140; Gender was coded with 1 = male and 2 = female. * $p<.05$, ** $p<.01$.

B. Test of Hypotheses

A mediational analysis was performed to test the effect of organisational stressors on wellbeing, both directly and

indirectly through stress responses. The findings from this analytical procedure are illustrated in Fig. 2. Results suggest that role overload and person-job fit have a significant direct effect on wellbeing ($B = -.07, p <.01$ and $B = .14, p = <.01$, respectively). High role overload was associated with a low wellbeing score whereas person-job fit was positively associated with wellbeing. These antecedents also had some significant indirect effects on wellbeing through stress responses. These effects were in the same direction as the direct effect. Person-job fit influenced wellbeing through the eustress mediator ($B = .19, 95\% CI .14-.24$) whereas role overload impacted wellbeing indirectly through distress ($B = .21, 95\% CI .09-.18$).

Significant effects were found for the path between the mediators and the outcome, with eustress and distress being significantly associated with wellbeing ($B = .35, p <.01$ and $B = -.54, p <.01$, respectively). The model appears to explain a large amount of the variation in affective wellbeing through these indirect and direct effects ($R^2 = .78, p <.01$). The analyses thus far support H1 (a), as there is a positive association between person-job fit and eustress, and H2 (b), demonstrated by the positive association between role overload and distress. However H1(b) and H2(a) are not supported as there were no significant effects on eustress from role overload and no significant effects from person-job fit on distress. H3 (a, b, c, & d) are also confirmed as there is a partial mediation of organisational stressors on wellbeing through stress responses, with eustress positively related to wellbeing and distress negatively related to wellbeing.

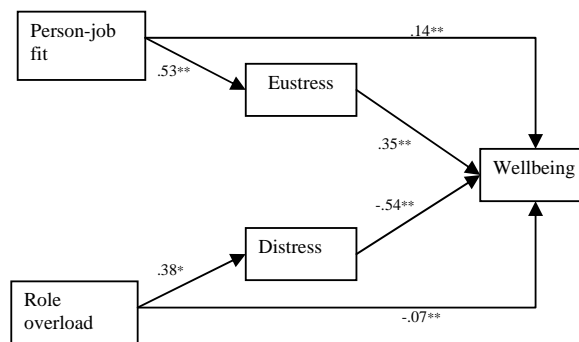


Fig. 2 Mediation model, including unstandardized coefficients. Note: * $p <.05$ and ** $p <.01$

IV. DISCUSSION

A. Summary of Findings

This study aimed to investigate a comprehensive model of workplace stress by focusing on both positive (eustress) and negative (distress) stress responses, which were expected to mediate the relationships between organisational stressors and wellbeing outcomes. Consistent with previous research, eustress and distress emerged as distinct constructs [9]. This multidimensional approach implies that individuals can experience both distress and eustress simultaneously, and that

organisational variables have a unique impact on positive and negative stress responses. Moreover, wellbeing outcomes can be differently and simultaneously impacted by eustress and distress, highlighting that stress management interventions must focus on both types to maximize positive effects of eustress, while mitigating the detrimental effects of distress on employee wellbeing.

Both direct and some indirect effects of organisational stressors on wellbeing were identified. In addition to the negative direct effect of role overload and positive direct effect of person-job fit on wellbeing directly, there were significant indirect effects of these organisational stressors on wellbeing through the mediators (eustress and distress). Overall this analysis revealed a partial mediation in which person-job fit influenced wellbeing both directly and indirectly through the positive stress pathway and role overload influenced wellbeing both directly and indirectly through the negative stress pathway. Therefore individuals who have good fit with their job are likely to experience eustress, and in turn be more motivated and satisfied at work [22]. On the other hand, in jobs where there is a high role overload, employees are more likely to become distressed, which has the potential to trigger multiple negative states such as emotional exhaustion, job dissatisfaction [35], [36] and, as identified in the present study, low affective wellbeing. The mediation model displayed high explanatory power which suggests that the organisational stressors and moderators assessed are contributing a large proportion of the stress experienced in the workplace.

Role overload was the only organisational stressor predicted to be positively related to both eustress and distress, considering past research [9], [7]. The current study, despite the fact that reasonable work demands have been related to eustress in previous studies [7], conceptualised that increasing task demands had the potential to arouse and motivate individuals. The results of the present study do not support this hypothesis, and even though the relationship between role overload and eustress was positive, it was not significant. It is quite possible that these constructs are not related linearly but in an inverted U-shape relationship. This would mean that there is an optimal level of role demands that motivates and promotes eustress, and levels below and above where role demands may not be eustressful. This was beyond the scope of the present paper, but further investigation is required into this relationship to uncover the nature of this association.

B. Limitations

Although this study has yielded some interesting findings, there are limitations that must be acknowledged. Regarding sample size, while the number of completed questionnaires achieved was sufficient to reveal significant effects, a larger sample drawn from identifiable industries would have produced more robust results and increased the generalizability of the study. Another aspect of the sample to consider is the sampling procedure. As participants were simply responding to an advertisement sent out by their organisation, individuals passionate about their job (positively

or negatively), or those who had strong stress experiences may have been more inclined to partake. In the present study this type of sampling was deemed appropriate, as it was determined that a range of different individuals in different types of jobs and occupations was the most desirable sample, but future studies should utilize strategic or random sampling to investigate these relationships more rigorously.

An inevitable issue with survey research is the type of measurement employed. The exclusive use of self-report scales is often considered susceptible to common-method bias [45]. As all variables in the current research were assessed through self-report scales, this bias may be inflating the relationship between the study variables. Recent studies however have stated that the use of a sole method is not as problematic as previously claimed [46], and that self-report measures often are the most appropriate way of assessing individuals' internal perceptions and affective states, and this applies to the variables in the present study as well [47]. The confidential nature of the study aimed to encourage honest responses in individuals as there was no risk of their being identified. Future work should employ a multi-method approach to gain a range of perspectives on a workplace situation, for example by assessing physiological health or take organisational structure and tasks into account.

Another methodological limitation was the cross-sectional nature of the study. The directionality of relationships can be called into question in cross-sectional research and therefore causality cannot be concluded. The conclusions drawn follow conceptual logic and predominately match theory in the area. While future studies should utilize longitudinal designs to confirm this directionality, the novelty inherent in the specific model proposed legitimized the preliminary cross-sectional testing, as this constitutes a sound approach to determine whether more resources and longitudinal studies should be allocated to this framework [45].

A final limitation with this study concerns the high explanatory power of the model. In review, it seems most likely this result is due to strong associations between the constructs, suggesting some conceptual overlap among the measures. While overlap is common in these complex workplace situations, it becomes problematic when trying to gauge the true effect size of the organisational stressors and moderators on stress responses and wellbeing outcomes. Removal of conceptually similar items from the distress and wellbeing measures helped to clear up the factor structure and resulted in the measures representing separate factors, which aided in the analysis, but future research would benefit from different assessment methods (e.g., using alternative scales to measure the constructs of interest) to further reduce the overlap.

C. Implications for Research and Practice

Despite the noted limitations, this study has produced some significant and meaningful findings. First, consistent with past research, strong associations were found between distress and wellbeing [35]. This finding is important for organisations to consider in terms of employees performance and health.

With respect to negative stress responses, organisations would benefit from identifying demands that lead to distress in employees and then manage these demands through interventions, namely reducing job factors that cause distress and increasing factors which lead to wellbeing (e.g., through job redesign or policy changes); ensuring that employees have all the resources they require to cope with job demands (e.g., through training); and aiding employees exhibiting high levels of distress (e.g., through stress management sessions or by providing referral information) [6], [48].

Regarding positive stress responses, these results highlight the impact of job factors (e.g., person-job fit) in promoting eustress, and its positive effects on employee affective wellbeing. Managers can have a large influence on generating eustress [9]. Eustress interventions must begin with investigating and identifying work components that motivate and fulfil employees [6]. Managers can then capitalise on the existing components or delegate employees to roles that are dominated by their individual eustress-promoting aspects. Organisations can also utilise training interventions to encourage employees to see demands as positively challenging rather than threatening [10].

V. CONCLUSIONS

This study has provided some evidence for the complex role stress responses have in a workplace context. The study aimed to advance knowledge in the field of workplace stress by investigating both positive (eustress) and negative (distress) stress responses. These findings have implications for organisations highlighting the importance of stress management on employee wellbeing, which in the long run may affect organisational performance. Further research is needed to expand our understanding of the unique antecedents of eustress and distress, along with the complex interactions between stress responses, organisational variables and individual contexts.

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