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Perceived occupational stress, affective, and physical well-being among telecommunication employees in Greece

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ABSTRACT

The present study examined four potential roles of work-related negative affectivity on the associations between self-reported occupational stress and physical well-being among telecommunication employees in Greece. Participants (764, predominantly male) completed a battery of self-report measures on perceived occupational stress, negative affectivity, and illness symptoms. In line with previous research, negative affectivity exerted a nuisance effect, by inflating the association between reported stressors and illness symptoms, and significantly predicted illness symptoms, over and above the effects of stressors. In addition, negative affectivity influenced reported illness symptom indirectly, through the effects of stressors, and moderated the relationship between interpersonal conflict at work and illness symptoms. The findings suggest that negative affectivity can largely explain and influence in different ways the associations between self-reported stress and physical strain. It is recommended that future studies of occupational stress should control for the effects of negative affectivity, and that health professionals should be cautious of its effects when interpreting relationships between self-reported occupational stress and physical well-being.

Introduction

Occupational stress is a major health hazard and a serious challenge to the effective operation of any company. On an individual level, higher levels of stress at work can have a direct impact on the immune system, exacerbating various medical conditions, including low bowel syndrome, headaches, and musculoskeletal pain (Chen, Yu, & Wong, 2005; Kemeny, 2003; Piko, 1999; Whitehead, 1994). Consequently, employees exposed to higher job stress tend to report more frequent illness symptoms, require more time off work for medical visits, and draw heavily on the company's health care and treatment resources (Manning, Jackson, & Fusilier, 1996; Michie & Williams, 2003; Sharpley, Reynolds, Acosta, & Dua, 1996; Spector & Jex, 1998). The overall cost of stress at work has been estimated to be in the range of 20 billion Euros in the European Union, and more than 150 billion dollars in the US, mainly for health care and treatment costs, absenteeism, and turnover (Cartwright & Cooper, 1997; Daniels, 2004; Michael, 2002). In view of these effects, occupational health professionals have strived to identify the potential sources of work stress, as well as the variables that may influence the relationship between occupational stress and health outcomes. The sources of work stress may vary extensively, and relationships among co-workers, organizational constraints, and workload are listed among the most prominent sources of stress in various professions (Male & May, 1997; Michie, 2002; Moyle, 1995; Spector & Jex, 1998; Van Katwyk, Fox, Spector, & Kelloway, 2000).

With reference to interpersonal relationships, studies have shown that frequent conflicts with supervisors and colleagues, as well as bullying at work significantly increase the levels of perceived stress, negative affect, and somatic symptoms among employees (Frone, 2000; Hoel, Faragher, & Cooper, 2004; Mikkelsen & Einarsen, 2002). Organizational constraints reflect situational constraints, such as lack of resources, interruptions by other colleagues or supervisors, role conflict, and incorrect instructions on how to perform certain job tasks (Chen & Spector, 1991; Spector, Dwyer, & Jex, 1988). Chen and Spector found organizational constraints to be significantly related with physical (e.g., illness symptoms), affective strains (e.g., anger and frustration), and turnover intentions (see also Spector & Jex, 1998; Van Katwyk et al., 2000). On theoretical grounds, organizational constraints, such as task and role ambiguity, poor support by senior-level employees,

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and lack of necessary materials and resources, are believed to affect team effectiveness and overall organizational outcomes (e.g., productivity, and fulfilling organizational goals; McShane & Von Glinow, 2008).

Workload refers to the work demands placed upon employees, and is described in both quantitative and qualitative terms. Quantitative workload is the amount of work that has to be dealt with, while qualitative workload reflects the perceived difficulty of the work, and is highly related to the person's potential and capabilities (Jex, 1998; Spector & Jex, 1998). Employees may experience either type of workload concurrently, and research has linked workload with various strains (Grebner, Semmer, & Elfering, 2005; Spector et al., 1988). High workload is prominent in turbulent organizational environments, such as companies during downsizing. Under such conditions, employees are usually faced with enormous amounts of work that often exceed their personal capabilities, thus triggering negative perceptions of the workplace, negative reactions and adverse consequences, including illness (Spector & Jex, 1998; Vahtera & Kivimaki, 1997).

Nonetheless, past literature (e.g., Burke, Brief, & George, 1993) has shown that the observed correlations between features of the working environment (e.g., perceived stressors) and physical or affective strains may be confounded by negative affectivity, "a mood-dispositional dimension reflecting pervasive individual differences in the experience of negative emotion and self-concept" (Moyle, 1995, p. 647). According to Watson and Clark (1984), individuals with high scores on measures of negative affectivity are more likely to experience distress, dissatisfaction, focus on failures and shortcomings, and generally see the negative side of the world. Consequently, individuals with high as compared to low negative affectivity tend to hold a negative view of the self and to feel dissatisfied with their lives overall (Burke et al., 1993).

Empirical evidence suggests that reports (especially self-reports) of work-related stress and strains are influenced by negative affectivity in different ways (Watson & Pennebaker, 1989). For instance, using partial correlation analysis Brief, Burke, George, Robinson, and Webster (1988) found that it accounted for much of the variance in the relation between acute job stressors and strains, suggesting a nuisance effect. While certain attempts to replicate those findings were unsuccessful[1] (e.g., Chen & Spector, 1991), Burke et al. (1993) reanalysed the data from several studies – including the study by Chen and Spector – and found that correlations between self-reported work stress and strains (e.g., illness symptoms) were inflated by negative affectivity. Parkes (1990) extended previous research by showing that it significantly moderated the relationship between self-reported workload and well-being (i.e., workload was more strongly related to well-being among individuals with high negative affectivity). Still, the evidence on the moderating role of negative affectivity was unequivocal, as some studies (e.g., Mak & Mueller, 2001) found that it did not moderate the effects of work stressors on well-being.

Moyle (1995), partially supported the results by Brief et al. (1988) on the confounding role of negative affectivity, and further tested the assumption that its effects on well-being will be significantly mediated by perceived work stressors. This latter assumption is theoretically important, as it suggests that negative affectivity may act to influence perceptions of the working environment, which, in turn, will predict well-being scores (see Costa & McCrae, 1987; Watson & Clark, 1984). However, neither Moyle (1995), nor other researchers (e.g., Levin & Stokes, 1989; Terry, Nielsen, & Perchard, 1993) found a significant indirect effect of negative affectivity, thus suggesting that it only has direct effects on self-reports of physical well-being. Still, the statistical methods used to estimate indirect effects in the aforementioned studies were less sensitive to multiple mediation issues (i.e., concurrently estimating the effects of more than one mediator variables), which can be more accurately grasped by contemporary state of the art data analytic approaches, such as Preacher and Hayes' (2008) method for estimating and comparing the effects of multiple mediators.

On the whole, past literature suggests that negative affectivity may have a nuisance effect, yielding spurious correlations between self-reported stressors and strains. Also, it may act as a vulnerability factor, by significantly moderating the effects of perceived work-related stressors on physical strains, such as symptom report (Brief et al., 1988; Burke et al., 1993; Moyle, 1995; Parkes, 1990). Finally, while it is theoretically plausible to suggest an indirect effect of negative affectivity on self-reported physical well-being, past research has shown that such indirect effects are statistically non-significant (e.g., Levin & Stokes, 1989; Moyle, 1995). The aforementioned findings are particularly important for occupational health professionals aiming to understand the factors, as well as the processes relating occupational stress to health outcomes, so as to provide the evidence-base for subsequent policy interventions to minimize work-related health problems (Coggon, 2005; Santana, 2005).

While the relationship between perceived occupational stress and physical well-being has attracted considerable attention, research in South-East European countries, such as Greece – an OECD and EU member, ranked among the economically developed countries of the world – is scarce. In particular, the few existing studies in Greece have mainly focused on the antecedents and consequences of burnout (e.g., Iacovides, Fountoulakis, Kaprinis, & Kaprinis, 2003), job demands and control (Pomaki & Anagnostopoulou, 2003), and work/family conflict (e.g., Montgomery, Panagopoulou, & Benos, 2005). Antoniou, Davidson, and Cooper (2003) explored the importance of certain employee dispositions and found that Type-A behaviour significantly predicted job dissatisfaction and health outcomes among Greek hospital doctors. More recently, Lazuras (2006) examined the effects of negative affectivity on the relationship between self-reported occupational stress and illness symptoms in special education teachers. Findings indicated that negative affectivity did not make a unique statistical contribution to the prediction of illness symptoms when job stressors were controlled for. Nonetheless, Lazuras did not test for potential interaction or indirect effects of negative affectivity on the relationship between stressors and illness symptoms.

Given the relative paucity of research on the effects of negative affectivity on stress–strain associations in non-English speaking countries like the Balkans, the purpose of the present study was to examine four potential effects of negative affectivity on the relationship between self-reported occupational stress and illness symptoms (i.e., physical well-being) among Greek telecommunication employees. Firstly, based on previous findings (e.g., Burke et al., 1993) negative affectivity was expected to have a nuisance effect, by inflating the relationship between self-reported occupational stress and illness symptoms (Hypothesis 1). Secondly, the direct effects of negative affectivity on illness symptoms, after controlling for occupational stress, were examined using a hierarchical regression analysis. It was expected that negative affectivity will have significant direct effects on illness symptoms, even after

[1] Chen and Spector (1991) failed to replicate the findings by Brief et al. (1988), and argued that the reported nuisance effect of negative affectivity on stress–strain relationships might be produced by content overlap between scales of symptom report and negative affect. Burke et al. (1993) replied to this assertion by demonstrating a nuisance effect for negative affectivity even after removing items that produced content overlap between measures of stressors, negative affect, and strains. To avoid any issues of content overlap in the present study, a measure of work-related negative affectivity was used that has no item overlap with measures of stressors and well-being whatsoever.