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Type D personality and job burnout: The moderating role of physical activity

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ABSTRACT

Type D or "distressed" personality (TDP) is the tendency to experience a high amount of negative affectivity (NA) and social inhibition (SI) together. This study was designed to test whether TDP is associated with job burnout and the degree to which physical activity attenuates the TDP-burnout association. Participants (n = 455, 63% men) completed questionnaires during periodic health examinations. Burnout was assessed by the Shirom-Melamed burnout measure. TPD was assessed by the DS14. Regression analyses treated TDP as a dimensional construct, using the subscales NA and SI as continuous variables and defining TDP by their interactive term. Age, gender, education, and chronic medical disease were controlled. NA, SI and their interactive term were positively associated with burnout. Additionally, a significant interactive effect was found for NA/SI and physical activity. Respondents who scored high on NA or SI and who were highly engaged in physical activity had less burnout compared to those with low engagement in physical activity. The results suggest TDP is positively associated with job burnout, and that physical activity might be a protective mechanism in this association.

1. Introduction

Current theory and accumulated evidence support the association of personality with physical health (Chapman, Roberts, & Duberstein, 2011). In the current study, we focused on Type D or "distressed" personality (TDP), defined as the tendency to experience high amounts of negative affectivity (NA) and social inhibition (SI) together (Denollet, 2005). Individuals that score high on NA tend to experience negative emotions, while those who score high on SI tend not to express these emotions, because of fear of rejection or disapproval by others. In general, strong evidence associates TDP with poor health outcomes, especially risk of cardiovascular disease (CVD) (Chapman et al., 2011; Denollet, 2012). However, the mechanisms responsible for these effects remain to be uncovered. Recent research suggests that a possible pathway linking negative affective states with risk to poor physical health includes job burnout (Melamed, Shirom, Toker, Berliner, & Shapira, 2006). Job burnout, conceptualised as individuals' affective responses to the depletion of their energetic resources following exposure to chronic job stress (Shirom, 2003), is implicated in workers' physical health impairment, including increased risk of CVD (see Melamed et al., 2006, for a review). The current study was designed to examine the possibility of a positive association between TDP and job burnout.

During the last two decades, accumulated evidence has indicated that personality might play an important role in the development of job burnout (Alarcon, Eschleman, & Bowling, 2009). However, to date only two studies focused on the association between TDP and burnout (Oginska-Bulik, 2006; Polman, Borkoles, & Nicholls, 2010). The first study found that TDP was associated with higher levels of burnout (Oginska-Bulik, 2006). The second study, found that TDP moderated the relationship between perceived stress and levels of burnout, such that those with TDP experienced higher levels of burnout at low and average stress levels (Polman et al., 2010). The two studies suffer from significant shortcomings. Polman et al. (2010) conducted their study on a student sample focusing on academic burnout. Oginska-Bulik (2006) evaluated a limited occupational category (healthcare professionals) within the same employer, using a small sample. Thus, the generalisability of the findings from both studies is questionable. Finally, both studies used a categorical measure to define TDP by scores in the high NA/high SI quadrant, whereas some authors have recently demonstrated that a categorical classification of TDP may not be adequate and suggested that TDP is better represented as a dimensional construct (i.e., using the subscales NA and SI as continuous variables, and defining TDP as an interaction) (Coyne & de Voogd, 2012; Ferguson et al., 2009).

The present study improves upon the earlier reports by using a large, representative sample of participants and by controlling for age, gender, education and chronic medical disease as potential covariates. Additionally, the prediction of job burnout was

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analysed from the dimensional construct of TDP. This study also extends prior research by investigating whether or not physical activity (PA) moderates the personality-burnout relationship. While a few studies have recently provided empirical support for a main effect of PA on job burnout (e.g., Bernaards et al., 2006), nothing is known about the potentially positive contribution of PA as a protective mechanism in the relationship between TDP and job burnout.

1.1. The putative association between TDP and job burnout

TDP could be associated with burnout for several reasons. First, TDP is inextricably linked with the experience of negative emotions, such as symptoms of depression and anxiety (e.g., Pedersen, Van Domburg, Theuns, Jordaens, & Erdman, 2004), and similarly is more likely to experience burnout. Second, individuals with TDP have the disposition to interpret events negatively (Williams, O'Carroll, & O'Connor, 2009), thereby perceiving their workplace as more stressful (Oginska-Bulik, 2006; Polman et al., 2010). Plausibly, this predisposition could increase levels of burnout. Third, in addition to its influence on the experience and appraisal of stress, TPD might negatively influence the ability to cope with stressors (Connor-Smith & Flechsbart, 2007; Mols & Denollet, 2010), thereby contributing to the etiology of burnout.

1.2. The moderating role of PA

PA is any body movement that works the muscles that increase heart rate and causes sweating (U.S. Department of Health & Human Services, 2008). Although the positive influence of PA on mental health has been extensively explored (Brown, Ford, Burton, Marshall, & Dobson, 2005; Sanchez-Villegas et al., 2008), studies on the role of PA in reducing job burnout are scarce (Bernaards et al., 2006; Toker & Biron, 2012). In the current study, PA is expected to act as a buffer against job burnout in individuals with TDP for the following reasons: first, engaging in PA has received empirical support for enhancing coping self-efficacy (Craft, 2005). Thus, for employees with TDP, engaging in an exercise program may provide the mastery experiences needed to promote their perceived ability to cope with negative thoughts, and thereby, decrease their likelihood of feeling burned out. Second, exercise might also serve to modify emotional action tendencies — one of the "fundamental" therapeutic strategies according to Barlow, Allen, and Choate (2004). More specifically, exercise involves an action (i.e., activation approach) that is inconsistent with the natural action tendencies associated with the personality characteristics of NA and SI (passivity and avoidance) (Connor-Smith & Flechsbart, 2007) that isolate individuals from opportunities for positive affect and thus, propagate burnout. Third, PA may act as a means of recovery by allowing employees with TDP to be temporarily relieved of stress. The relief may enable them to replenish the personal resources needed to once again face job demands and might reduce additional resource loss (van Hooff, Geurts, Beckers, & Kompier, 2011). From a physiological perspective, PA may reduce an individual's physical vulnerability to stress, as manifested by increased heart rate or blood pressure (see Salmon, 2011, for a review), and may increase the availability of central neurotransmitters (e.g., serotonin, endogenous opioids) that are responsible for antidepressant effects (Salmon, 2011). This antidepressant effect will be stronger in employees with TDP who tend to be more vulnerable to stress, allowing individuals to confidently and effectively handle job stress without feeling overwhelmed or letting it evolve into burnout. Additionally, PA is associated with improvements in the sleep cycle. Sleep disturbance has been found to increase the likelihood of burn-out (Melamed et al., 2006) and commonly observed in those who are high on NA and SI (see Van de Laar, Verbeek, Pevernagie, Aldenkamp, & Overeem, 2010, for a review).

2. Method

2.1. Participants

Study participants ($N = 495$) were employees attending the Center for Periodic Health Examinations of the Tel Aviv-Sourasky medical center inflammation survey (TAMCIS) for routine health examinations and gave written informed consent for participation in the study, according to the instructions of the local ethics committee. These examinations were provided by employers as a subsidised fringe benefit.

A total of 455 (92%) agreed to participate (63% men). Their mean age was 42.47 years (S.D. = 10.82). They had completed a mean of 15 years of education and worked an average of 9.6 h/day. The 40 (8%) examinees who refused to participate in the study did not differ from participants on any of the socio-demographic variables evaluated.

2.2. Measures

Job burnout was assessed by the Shirom-Melamed burnout measure (SMBM), whose reliability and validity have been demonstrated in several studies (Melamed et al., 2006; Shirom & Melamed, 2006). The SMBM consists of 14 items scored on a 7-point frequency scale, ranging from 1 (almost never) to 7 (almost always). The alpha coefficient in the present study was 0.92. Example of the item is "I feel fed up". The SMBM was translated into several languages and is currently used in several countries, yielding findings that cross-validate the results obtained in Israel (Soares, Grossi, & Sundin, 2007). Burnout was used as a continuous measure.

TDP The DS14 (Denollet, 2005) assesses the two global traits NA (7 items; e.g., I am often irritated) and SI (7 items; e.g., I find it hard to start a conversation). It uses a five-point Likert-type scale anchored at 0 = false and 4 = true. The questionnaire allows the scoring of NA and SI as continuous variables (range 0–28). The DS14 is generally construed as measuring two temporally stable personality traits, as indicated by good test–retest reliability and to be independent of changes in mood (Denollet, 2005). The alpha coefficient in the present study was .87 for NA and .88 for SI.

PA was assessed based on participants' self-reports. Consistent with the 2008 NIH guidelines, respondents were asked how many days per week, and how many minutes each session, they engaged over the past month in strenuous PA (activity that increases the heart rate and causes sweating) during their leisure time. The number of minutes was multiplied by the number of days to create a measure of weekly PA intensity. Such single-item instruments (e.g., minutes per week of vigorous PA) allow rapid assessment of general patterns of PA and have been used extensively (Andersen et al., 2006; Toker & Biron, 2012).

In order to reduce over-reporting of PA that may occur due to social desirability effects (Adams et al., 2005), participants completed the survey outside the physician's office. Additionally, it was clearly stated that responses would not be seen by the medical staff or the participant's employer. Moreover, self-report measures of PA have been validated against objectively measured PA (e.g., Pate, Ross, Dowda, Trost, & Sirard, 2003).

2.3. Covariates

Age, which has been consistently found to be associated with burnout (Schaufeli & Enzmann, 1998), was used as a control