A PLS Path Model for Predicting Impact of Job Characteristics on Work-Related Stress

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Introduction

Work-related stress has become an increasingly major public health issue as it has negative effects on both physical and psychological health [1]. Although stress is an inevitable part of organizational life, effort can be made to reduce its negative effect on health. To reduce effectively work-related stress, job characteristics (stressors) impacting a high level of perceived stress should be well-documented and the impact of each stressor should necessarily be measured in a multidimensional way. However, if theoretical frameworks have been particularly successful in generating and collecting data on work-related stressors, there is a limited attention in the literature on quantitative assessment of stressors impact on work-related stress considering the multidimensional aspect of this type of data. In France, the most important system in evaluating and monitoring professional stress in companies (Stimulus) uses the Cooper index that is based on a bivariate statistical approach to identify stressors with a high level of stress [2].

The aim of this research is to investigate the impact of individual, organizational and environmental factors on a high level of perceived work-related stress. We propose to use PLS path modeling [3] to predict stressors requiring priority action from managers to reduce work-related stress of their company employees.

1 Study data : items, dimensions and scales

This study is carried out on a sample of 10 000 anonymous employees randomly drawn from the Stimulus database. Work-related stress is measured using a 25 items questionnaire (MSP25), and job stressors are measured using a 58 items questionnaire [4]. The 58 stressors are grouped into 5 dimensions as illustrated on Table 1.

Table 1. The Stimulus five dimensions

Dimensions of job stressors	No. of Items
Work context	14
Job control	14
Relationship	12
Tasks	12
Recognition	6

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2   PLS modeling: usefulness and expected results for stress data

To predict job stressors impacting individual work-related stress, the use of PLS modeling is more appropriate than an estimating approach as it allows developing a system of weights through several indexes measuring each one a dimension of stressors (see Figure 1 for conceptual model). The PLS approach has been used recently for modeling work-related stress and employee health and wellbeing in a Chinese higher education institution [5].

This approach could be a useful tool for the policy of psychosocial risks management at workplace, as it allows simultaneously:
1. to build a stress scale using the 25 items from the MSP25 questionnaire,
2. to integrate this scale into a multidimensional model in which the five dimensions of job stressors are predictors of a high level of stress, and
3. to hierarchise the stressors (system of levers) following their impact on individual stress level.
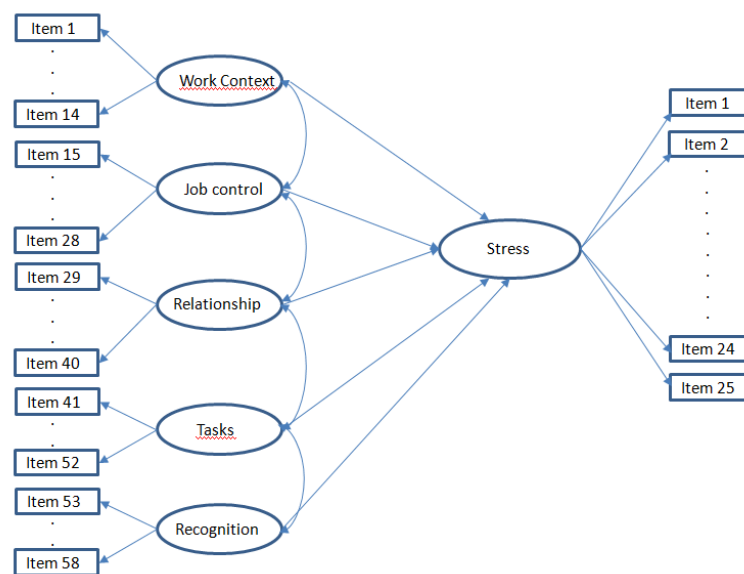

Figure 1. Conceptual model for work-related stress

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