

Academic Work Engagement, Resources and Productivity: Implications for Intervention Policies (0184)

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The aim of this study was to investigate the association between job resources and work engagement, and objective academic productivity measured by scientific publication and credit points produced from the study programs.

Academic work is of a rather complex character with conflicting and competing roles and responsibilities (Fairweather, 2002; 2005; Mamiseishvili & Rosser, 2011), and the last decades academics have experienced growing job demands (Marginson & Considine, 2000). These growing demands and conflicting roles make it important to investigate how the psychosocial work environment and well-being affect the academics' productivity. Motivated academics are a crucial resource for any university in meeting the goals of high quality teaching and research (Gappa *et al.*, 2007). Knowledge of these aspects of the academic life within universities may have important implications for interventions to improve academic productivity.

Focus on the relationship between *job resources*, *work engagement* and *academic productivity* is one important channel of knowledge and response to the above mentioned challenges. In order to achieve at work when the job demands are high and organisational changes are constant, building on factors related to intrinsic motivation and with a focus on development of resources could increase the employees' ability to cope with demands (Christensen, Aronsson, Clausen, Hakanen, & Vivoll Straume, 2012). Work engagement has become a recognized concept that has been connected to increased work performance and productivity (Christian, Garza, & Slaughter, 2011; Rich, LePine & Crawford, 2010; Halbesleben & Wheeler, 2008; Demerouti & Cropanzano, 2010; Harter, Schmidt, & Hayes, 2002; Salanova,

Agut, & Peiró, 2005; Torrente, Salanova, Llorens, & Schaufeli, 2012; Xanthopoulou, Bakker, Heuven, Demerouti, & Schaufeli, 2008). There are numerous studies examining academics' research productivity (Bland, Center, Finstad, Risbey, & Staples, 2002), however, there are not many studies investigating the relationship between well-being and productivity in the higher education literature (Mamiseishvili & Rosser, 2011), and the existing findings are diverse (McNeese, 1981; Blackburn & Lawrence, 1995; Bland et al., 2005). More studies are needed to determine the strength of the relationship between work engagement, and objective measures of individual performance in academia as suggested by Demerouti and Cropanzano (2010).

The theoretical underpinning of this study is based on the Job Demand-Resources (JD-R) Model which proposes that job demands and resources are drivers of two different processes; the motivation process and the health impairment process. Job demands have been recognized as predictors of burnout and in turn impaired health and well-being health and negative organisational outcomes, whereas job resources are the main drivers of work engagement and in turn health, well-being and positive organizational outcomes (Bakker & Demerouti, 2007; Bakker & Demerouti, 2014). We have chosen three central job resources for academia; job autonomy, social cohesion and perceived resources related to teaching and research.

Our hypothesized research model includes the relationships between job resources, work engagement and academic productivity measured as publication points and credit points.

Methods

The data in this study was collected by the ARK Intervention Programme from one large university in Norway (N=5637) during the autumn of 2012. ARK is a Norwegian acronym for

“Working Environment and Working Climate Surveys” and is a broad intervention program specially developed for the academic sector (Undebakke et al., 2015).

The KIWEST-questionnaire (Knowledge Intensive Work Environment Survey Target) was administrated to all the employees in the current university and includes 30 different scales related to a knowledge intensive psychosocial work environment, validated and tested on large university in Norway (see Innstrand, Christensen, Undebakke & Svarva, 2015). In total, 3066 responded, giving a response rate of 54 percent, 51 percent were male ($n=1569$) and 49 percent were female ($n=1497$). In total we have data from 54 units.

The variables *Vigor* and *Dedication (work engagement)* are assessed by the Oldenburg Burnout Inventory, and capture respectively two different dimensions: *exhaustion-vigor* and *disengagement-dedication* (Demerouti & Bakker, 2008). Furthermore, *Job autonomy*, based on Näswall et al. (2010). *Cohesion in work teams* is modified from Carless and De Paola (2000) by Christensen et al. (2012). *Resources for research and teaching* is constructed from a formative measurement model, based on the four items. Number of *publication points* per full time academic position is our measure of research productivity, and the sum of students’ *credit points* per full time academic position measures teaching productivity. *Publication points* are obtained from the Norwegian Social Science Data Services (NSD). *Credit points* measure the number of exams or courses students *pass* every year and are equivalent to the European Credit Transfer System (ECTS).

Results

The empirical analysis gave partly support to our proposed hypotheses. More specifically, the dimension resources for teaching and research was positively associated with publication and negatively related to credit points. Autonomy and social cohesion did not have any significant correlation with publication points, whereas social cohesion was negatively related to credit points. Work engagement was positively associated with publication points and had a negative

association with credit points. The results support the motivational process of the JD-R-model. There is an association between job resources and work engagement, and objective productivity in academia.

Discussion and conclusions

The empirical results show that engagement and resources for research and teaching are important factors stimulating research. However, the study reveals that high levels of engagement and resources seem to have an adverse effect on teaching. Moreover, there may also be adverse effects within a given organizational unit, depending on what types of interventions are implemented. The intervention implication of this for policy-makers and leaderships is that they must be aware of the trade-offs between research and teaching, and the trade-offs within different types of organizational units.

The Job Demand-Resource (JD-R) Model and the accompanying literature is a very useful theoretical framework for the type of analyses we have presented. When the feasibility set, *i.e.*, the resource restrictions, of a given organization is added, the JD-R Model functions very well for interpretation. The results support the importance of building on a well-functioning psychosocial environment and well-being among the employees in order to improve productivity.

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