INSIDE THE COMPETENCES EVALUATION, THE STRESS TOLERANCE OF STUDENTS. AN EMPIRICAL STUDY BASED ON CONSERVATION OF RESOURCES THEORY

Nuria Mancebo
Universitat de Girona
nuria.mancebo@udg.edu

Abstract

Competence development is considered a preventive strategy of burnout. At an organizational context some competences could be linked as precursors or consequences. In self-assessment of competence development, students perceive stress tolerance as a priority competence to ameliorate. Moreover employers and recruitment consultants agree that this is a new authentic challenge for organizations.

The main reasons of this result are debated, this study should consider the importance of competence development from a holistic point of view. In addition it considers the exploration of the relationship between stress tolerance and competence development, according to Conservation Resources (COR) theory (Hobfoll 1988, 1989, 1998, 2004) where the resource loss is considered the principal component in the stress process.

Text of paper

The purpose of the present study was two-fold. Firstly to analyze the linkage of dimensions of the competences evaluated in the Evolute architecture (Kantola et al., 2005). At an organizational context some competences could play roles as precursors or consequences. Second, to explore the relationship between stress tolerance and competence development. according to Conservation Resources (COR) theory (Hobfoll 1988, 1989, 1998, 2004) where the resource loss is considered the principal component in the stress process. Besides this, competence development is considered a preventive strategy of burnout.

Competences are defined as behavior models (Roberts, 1997) or as hidden characteristics of personality with an effect on the performance at work (Spencer and Spencer, 1993). Based on this definition Cycloid is an application that focuses on the assessment of the most essential and critical professional competencies of project managers. Cycloid evaluates the project managers' generic and specific competencies through the process of self-evaluation. The system was built based on the Evolute architecture (Kantola et al., 2005). It aims to illustrate the gap between project managers' current state and personal vision, i.e. the creative tension (Senge, 1994), within the context of a specific competence. This gap helps both the project manager and the management to evaluate the needs for targeted training and development. The results can be used to direct personnel development and training efforts to areas where they are most needed. The content of Cycloid was developed by the Department of Industrial Management at Tampere University of Technology in Pori, Finland, under the supervision of Prof. H. Vanharanta.

Burnout is referred as a combination of physical fatigue, emotional exhaustion and cognitive weariness (Shirom 1989). Firstly the Person-Environment (PE) fit theory, assumes

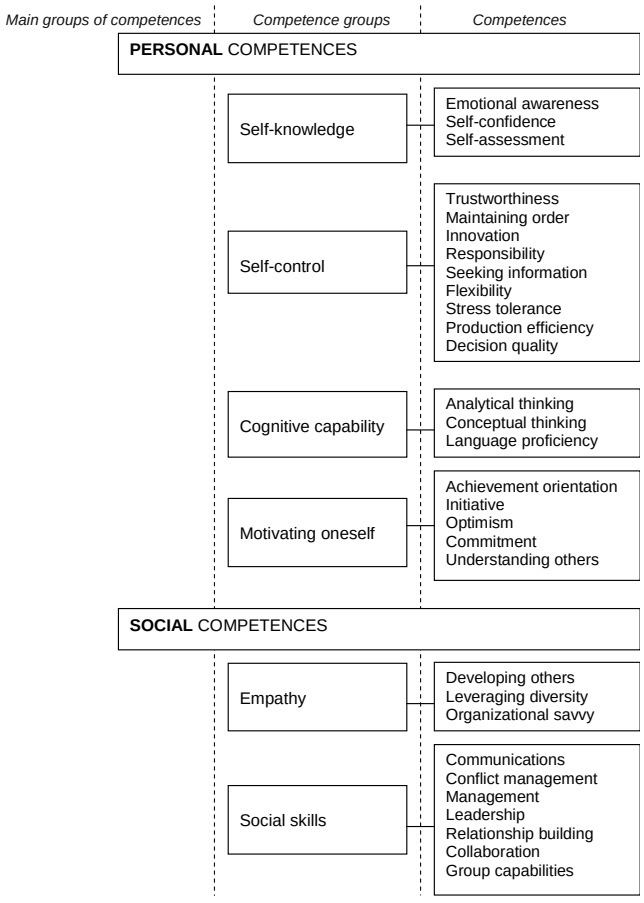
a curvilinear relationship between the level of psychological strain and a ratio demand/ability experienced by the individual (Edwards 1996).

Although two theories consider the importance of resources, the main difference between them lies mainly in the status of objective and subjective resources. Lazarus (1966) transactional model sees objective resources only as antecedents that maybe has an indirect effect, whereas subjective resources (resource appraisals) represent the direct precursors of the stress process. In contrast in the Conservation Resources (COR) theory (Hobfoll 1988, 1989, 1998, 2004) considers that the resource loss is considered the principal component in the stress process.

The basic tenet of COR theory is that individuals strive to obtain, retain, protect and foster those things that they value (Hobfoll 2001). The COR theory considers both environmental and internal process with relatively equal measure.

The Cycloid competence model has thirty competences that are condensed in six competence groups: self-knowledge, self-control, cognitive capability, social skills, motivating oneself and empathy. In addition to this six groups an aggregation into two main groups: personal and social competences is available. Self-evaluation generates the synthesis of results for each person at the three levels of competences, with several graphical displays, informing on competence levels, targets, and creative tension.

Figure 1: The Cycloid competence model



Based on Liikamaa (2006)

The application of Cycloid was conducted during October november 2006 at the University of Girona, which is one out of the nine public higher education centers located in the region of Catalonia in Spain. Students (248 participants) were in their third year of their studies for a Bachelor's degree in Business and Technical studies (e.g. engineering). Their proximity to finishing their degree, and the fact that some of them were already working, made them especially receptive to competence evaluation and to consider themselves as project managers of their learning career. Although they were finishing their degree, many of them would naturally consider continuing their education by enrolling in a Masters course.

Overall results show that 22% of students has as the first competence to improve Stress tolerance, if we consider the first three main competences, stress tolerance is in 44.5% of the sample in 2006 and 42,7% in 2007 (table 1 and 2).The classification of most perceived needed competences to develop is fairly consistent and results of different students in a second round show similar patterns.

Table 1. Percentage of participants where competence creative tension is in the first three positions (2006)

	Total (N=218)	TA (N=53)	IE (N=26)	INFE (N=8)	BA (N=131)
Stress tolerance	44,5%	48,1%	23,1%	87,5%	44,7%
Language proficiency	27,5%	23,1%	26,9%	37,5%	28,8%
Innovation	20,2%	9,6%	19,2%	25,0%	24,2%
Decision quality	18,8%	15,4%	26,9%	37,5%	17,4%
Relationship building	13,8%	21,2%	7,7%	0,0%	12,9%
Communications	13,3%	19,2%	7,7%	0,0%	12,9%
Understanding others	13,3%	11,5%	23,1%	0,0%	12,9%
Flexibility	11,5%	9,6%	11,5%	0,0%	12,9%
Maintaining order	11,0%	15,4%	11,5%	25,0%	8,3%
Responsibility	10,6%	17,3%	11,5%	0,0%	8,3%

Technical architecture (TA) Degree in Informatics Engineering (INFE), Degree in Industrial Engineering (EI) and Business administration degree (BA).

Table 2. Percentage of participants where competence creative tension is in the first three positions. (2007)

	Total (N=241)	TEC N=47)	RRPP (N=61)	BUSS (N=133)
Stress tolerance	42,7%	52,2%	39,3%	41,4%
Language proficiency	29,0%	21,7%	16,4%	37,6%
Decision quality	22,0%	34,8%	29,5%	14,3%
Responsibility	12,4%	2,2%	16,4%	14,3%
Flexibility	12,4%	10,9%	11,5%	13,5%
Communications	11,6%	6,5%	13,1%	12,8%
Maintaining order	11,6%	17,4%	13,1%	9,0%
Optimism	11,2%	15,2%	19,7%	6,0%
Organizational savvy	10,8%	10,9%	11,5%	10,5%
Understanding others	10,0%	6,5%	8,2%	12,0%

Technical studies (e.g. engineering), Public Relations degree (RRPP), Business administration degree (BA).

Bivariated correlations of competences shows that actual level of stress tolerance is highly correlated to optimism, initiative, flexibility and communication and no significantly correlated with Emotional awareness and Developing others.

Table 3 presents the results of (COPSOQ) for assessing psychosocial work environment of 133 participants shows Students business administration. Short versions of the copenhagen stress. High exposition leads to stressful conditions.

Table 3. Exposition to psychosocial levels in the working environment

	Total (N=122)			*Men (N=55)*			**Women (N=67)**		
	Low	Med	High	Low	Med	High	Low	Med	High
Psychological work demands	23.8	27.9	48.4	20.0	32.7	47.3	27.3	22.7	50.0
Job control and commitment*	53.7	27.3	19.0	55.6	27.8	16.7	53.0	25.8	21.2
Workplace social support	5.7	30.9	63.4	9.1	32.7	58.2	3.0	29.9	67.2
Insecurity at work	58.1	27.4	14.5	63.0	25.9	11.1	54.8	27.4	17.7
Double presence	31.5	36.9	31.5	46.9	30.6	22.4	19.7	41.0	39.6
Quality of leadership	39.2	23.3	37.5	40.0	27.3	32.7	39.1	20.3	40.6

Despite this preliminary results we consider that organizations and individuals that show high levels of psychological stress and strain should reflect on reinforcing their resources through competence development as a holistic view of organization and rather than individual sets of instruments. Moreover focusing on different profiles and adapting their competence sets to this specific context should be more efficient and reliable.

In fact organizations has to align different strategies related to different objectives sometimes seen as opposite as cost reduction and flexibility. Accordingly Health and safety improvement should be integrated in actual competence development strategies.

This study provided evidence for the reliability, factorial validity, and construct validity of the cycloid application. This broader conceptualization of competence development should lead to better correlations with other constructs as performance measurement.

The empirical approach for competence development and stress tolerance represents an interesting point of view of a field so prolific of literature. The finding of the present study help to advance our understanding on preventive action and coping strategies for burnout based on competence development.

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Conclusions

Students self assessment in higher education is recognized as a distinctive outcome and a useful tool for learning (Tan 2008).

The perceived gap between actual level of competences and future requirements in a professional context is significant, as well as this gap is also perceived by employers the issue is visible and widely recognized.

Moreover, the sets of learning tools considered have an impact on some competences and could have negative outputs among other competence. Accordingly we strongly encourage consider in the development or revision of actual studies the inclusion of coping strategies and resources for improving stress tolerance of our students in a more holistic view of the competence development of our future professionals.

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Appendix. Competence list

Emotional awareness	Ability to recognize, understand and analyze one's own feelings
Self-confidence	Belief in one's own capacity, competence and value
Trustworthiness	Honesty and following professional ethics
Maintaining order	Maintaining order, quality and accuracy
Innovation	Natural and open attitude towards new ideas, views and information
Responsibility	Conscientiousness and the sense of responsibility of one's own actions
Seeking information	Satisfying curiosity and thirst for knowledge
Analytical thinking	Dividing problems to parts and organizing the parts systematically on rational basis
Conceptual thinking	Recognizing, applying and defining concepts
Language proficiency	Ability and courage to use foreign languages
Achievement orientation	Will to develop or to pursue still better performance
Initiative	Perceiving opportunities, seizing opportunities and ability to create new opportunities
Optimism	Reaching for goals regardless of obstacles and setbacks
Understanding others	Perceiving, considering and understanding other peoples' emotions and views
Developing others	Noticing other peoples' development needs and promoting their capabilities
Communications	Sincere listening and sending messages
Conflict management	Conciliating and settling of disagreements
Management	Management focusing on matters
Leadership	Management focusing on people
Relationship building	Establishing, maintaining and developing beneficial relationships and unofficial networks
Collaboration	Working together with others for common goals
Self-assessment	Understanding one's own weaknesses and strengths
Flexibility	Flexible attitude towards changes and diversity
Stress tolerance	Ability to handle unfavorable, tiring as stressful matters and situations and strong emotions
Commitment	Adopting the goals of a group or an organization
Production efficiency	Performing tasks quickly and effectively
Decision quality	Making decisions based on high principles, goals and values
Leveraging diversity	Pursuing goals together with the diversity of people
Organizational savvy	Recognizing and utilizing organizational dynamics for achieving goals
Group capabilities	Creating synergy while reaching for common goals

Questions and/or considerations for discussion

The sets of learning tools considered have an impact on some competences and could have negative outputs among other competences.

The perceived gap between actual level of competences (in our study the stress tolerance) and future requirements in a professional context is significant, as well as this gap is also perceived by employers the issue is visible and widely recognized.