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Article

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Conceptualizing Vitality at Work: Bridging the Gap between Individual and Organizational Health

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Abstract

Based on the emerging literature on positivity in behavioral and organizational sciences, this study conceptualizes the phenomenon of Vitality at Work (VAW). VAW is an integrative, multi-dimensional framework which combines personal health with positive work attitudes and an energizing work environment. The article proposes that VAW is a state in which individuals feel healthy *and* committed to their work and organizations in the presence of positive and energizing work connections. Moreover, these three dimensions exist in a symbiotic relationship with each other. By demonstrating this co-existence, VAW confirms the interdependence of individual and organizational health. Five factors were identified from literature as the underlying dimensions of VAW which are; Sense of Coherence (SoC); Perceived Health and Energy (PHE); Energizing Connections (EC); Organizational Commitment (OC); and Goal Commitment (GC). For the first time, these elements have been brought together in a single empirical model, which applies exploratory factor analysis and confirmatory factor analysis to survey data on academics employed in top-ranking United Kingdom's (UK) universities. Results from 365 responses on a structured questionnaire demonstrate the robustness of the proposed construct, and provide evidence that healthy employees are committed to their work and organizations when energized by positive work connections.

Keywords: energizing connections, health, positive psychology, sense of coherence, vitality at work, well-being

1. Introduction

It has been a long standing argument that individual well-being and vitality is strongly associated with sustainable organizational performance (Quick and Quick, 2004; Wright and Cropanzano, 2004). This has led to an increased focus on positivity related phenomenon in organizational life, such as positive emotions (Fredrickson, 2001), organizational virtuousness (Cameron *et al.*, 2004), high quality connections (Dutton,

2003b) and authentic leadership (Avolio and Gardner, 2005). One of the important concepts related to the positivity literature is vitality, yet, to the best of our knowledge, there has been little success in the literature in coalescing its distinctive factors into a coherent and *measurable* framework, although some notable attempts have been made (Baldwin, 1990; Bland and Schmitz, 1988; Atwater and Carmelli, 2009; Kark and Carmelli, 2009). This article attempts to contribute to the literature in a systematic fashion by conceptualizing an over-arching integrative framework: Vitality at Work (VAW). In addition to establishing VAW as a concept, the article also develops a measure of it. As a starting point, this study validates VAW among academics working in the UK's top ranking universities. The objective of this article is to identify those conditions of positivity which contribute to individual and organizational health simultaneously, thus highlighting a symbiotic relationship between the two. Therefore, a higher level of VAW would ensure greater individual well-being as well as enhanced organizational performance.

The following section sets out to define VAW and identify its key elements. The next section outlines the empirical approach, which confirms the construct validity of VAW and validates an instrument to measure it. The findings are then presented and discussed. A brief and tentative conclusion follows, discussing the results, limitations and opportunities for further research.

2. Literature Review

2.1 Defining Vitality at Work (VAW)

VAW may be traced to the notion of “thriving” (Atwater and Carmelli, 2009; Spreitzer and Porath, 2012), where thriving is defined as state of learning and vitality, in which individuals are constantly progressing with a sense of enthusiasm and passion (Spreitzer, et al., 2005). Several approaches describing vitality are evident in the literature; for example, Kark and Carmelli (2009) describe vitality as a feeling of being enthusiastic and energetic towards anticipated life events both physiologically and mentally, rather than being aloof, indifferent and detached from them. Ryan and Bernstein (2004, p. 274) state that vitality is a “dynamic phenomenon, pertinent to both mental and physical aspects of functioning and thus refers to a person who is vital as energetic, feeling alive, and fully functioning”. However, there is no such definition that can comprehensively encompass the essential elements of vitality, particularly at work, and that which can significantly contribute to a state of thriving.

Parallel to positive psychology, there has been a body of literature emphasizing the concept of health in organizations (MacIntosh *et al.*, 2007; Quick *et al.*, 2007). Quick *et al.* (2007) propose an overarching, three-dimensional conceptual framework of health with three essential super-ordinate categories which encompass the physical, psychological and spiritual dimensions of well-being, and argue that these dimensions of health can be promoted at both the individual and organizational dimensions, thus suggesting that individual and organizational health can co-exist in a mutually supportive fashion.

By integrating the literature that proposes the co-existence of, and synergies between individual and organizational health and that which defines vitality and thriving, we propose to define vitality as:

A subjective state of energy and enthusiasm, where individuals perceive themselves as fully functioning, physically and psychologically, and are ready to commit their abilities towards work in a positive and enabling environment.

According to this definition, we argue that VAW has three essential integral, overlapping and mutually supporting dimensions: (a) positive feelings of well-being and energy; (b) positive work attitudes, and (c) positive and enabling environment. Positive feelings of well-being and energy measure 'individual health' and are represented by two factors; Sense of Coherence (SoC) and Perceived Health and Energy (PHE); positive work attitudes measure 'organizational health' and are represented by Organizational Commitment (OC) and Goal Commitment (GC). We argue that commitment and dedication of individuals are essential for organizational health, and that these individual level factors contribute significantly toward organizational health and performance. Finally, positive and enabling environment represent the 'bridging factor' between individual and organizational health and is measured by Energizing Connections (EC). We propose it as the bridging factor because energy created through positive interactions benefits individual health and also contributes towards motivation and thus bridges it with organizational health (Dutton and Heaphy, 2003).

Recently, a number of similar concepts have emerged in the literature. For example, Bakker *et al.*, (2008) propose "work engagement" in terms of vigour, absorption and dedication. Luthans *et al.*, (2007) advocate "psychological capital", which encompasses four factors: hope, optimism, resilience and self-efficacy. Kark and Carmelli (2009) define and measure "subjective vitality" as a uni-dimensional concept, and Atwater and Carmelli (2009) measure "vitality", particularly experienced at work, and they too, define it as a uni-dimensional concept. All of these measures have some appeal, but in our view they do not offer the breadth or versatility of VAW. For instance, "work engagement" is confined only to vigour/energy at work, whereas VAW although associated with work, also takes into account the general feeling of health and energy experienced in an individual's working and non-working life. Luthans, *et al.*'s "psychological capital" overlooks the importance of energy or vigour created through positive relationships, and also does not measure a person's overall feeling of energy. Finally, Kark and Carmelli (2009), and Atwater and Carmelli (2009) only employ a uni-dimensional conception of vitality. By contrast, VAW is multi-dimensional; thereby acknowledging the complexity of factors influencing well-being. Drawing from work on the notion of organizational health (MacIntosh *et al.*, 2007), in this study, we propose that vitality at work is a multi-faceted concept, and that it co-exists with organizational health in the presence of energizing connections. In VAW, personal health is combined with positive work attitudes representing organizational health which is created and co-created through energy arising from positive connections.

We elaborate on our argument, below.

2.2 Sense of Coherence (SoC)

Recent contributions to the literature have attempted to define health from being absence of disease to a holistic positive functioning of the mind and body (MacIntosh, *et al.*, 2007). This draws on Antonovsky's (1979) path breaking argument for concept of "salutogenesis" – the origins of health. Antonovsky (1979) promoted the idea that human health is a function of an individual's overall resistance and capacity to overcome crisis,

stress and disease. He termed this ability as “Sense of Coherence”, which is defined as, “a global orientation that expresses the extent to which one has a pervasive, enduring, though dynamic, feeling of confidence that one’s internal and external environments are predictable and that there is a high probability that things will work out as well as reasonably be expected” (Antonovsky, 1987, p. xiii). Antonovsky identified three elements of Sense of Coherence, i.e. comprehensibility (belief that the challenge/stressor is understood), manageability (belief that resources to cope are available) and meaningfulness (wish to be motivated to cope). A number of studies indicate that there is a significant relationship between Antonovsky’s measure of well-being and physical, psychological and emotional well-being (Antonovsky, 1993; Feldt and Rasku, 1998; Pallant and Lae, 2001).

2.3 Perceived Health and Energy (PHE)

Where SoC has been employed to measure an individual’s *subjective* assessment of their *actual* state of well-being (Pallant and Lae, 2001), PHE captures individuals’ *subjective* assessment of their *perceived* state of health and well-being. Moreover, SoC measures health whereas PHE particularly measures the feeling of energy and vitality; therefore these are distinct factors which complement each other. The usefulness of perceived health as an indicator of health status has long been recognized by a number of studies (Engel, 1977; Epperly, 1988; Hunt *et al.*, 1980). On the other hand, the biomedical tradition in medicine, arguably ignores many facets of health and well-being that are important to human functioning, such as psychological, social and spiritual dimensions, given its grounding in reductionist Cartesian dualism (for example, Engel, 1977).

Thus, in the absence of a comprehensive objective definition of health status, and also the contradiction between biomedicalism and other approaches, it becomes difficult to employ an objective measure of health. Therefore, two comprehensive subjective measures of health and energy, i.e., Sense of Coherence and Perceived Health and Energy have been employed. The two measures complement each other by accessing health from two standpoints; one evaluates actual strength of being able to cope with stressors which is an established marker of health and the other measures the personal perception of health. Moreover, SoC measures health whereas PHE particularly measures the feeling of energy and vitality, which is one of the major objectives of defining VAW

2.4 Energizing Connections (EC)

The efficacy of social networks, the rewards of quality relationships and the opposing effects of workplace incivility, distrust, and even bullying have been widely recognized in the literature (Andersson and Pearson, 1999; Duffy *et al.*, 2002; Gersick *et al.*, 2000). Of particular relevance to our argument is the notion of ‘High Quality Connections’, which are defined as relationships of positive mutual regard, trust and active engagement on both sides and have been found to have an energizing effect on individuals (Dutton, 2003a), boost workplace morale (Dutton and Heaphy, 2003), and facilitate organizational learning and growth (Dutton and Ragins, 2006). Also, a climate of warmth and cooperation contributes to personal resources which in turn can lead to effective work performance (Xanthopoulou *et al.*, 2012). Therefore, energizing connections have been identified as the bridging factor which connects both individual and organizational health, such that in the presence of these connections, people feel healthier and energized, and

also motivated and charged towards work (Cross and Parker, 2004) thereby contributing towards organizational health.

Energizing Connections draws from Dutton's (2003b) notion of High Quality Connections. It is the energizing effect of such high quality connections which is an integral dimension of VAW. Thus, energizing connections are defined as '*those relationships at work that energize individuals and enable them to perform effectively at work*'. Two elements are essential to this concept and have been termed as Task Enabling and Energy in Interactions. Energizing Connections is a similar concept to High Quality Connections; however there is a fine distinction in their definitions. Dutton (2003b) has identified three elements of high quality connections, i.e. respectful engagement, task enabling and trust. However, it is not essential that such connections of engagement, enabling and trust lead to an energizing effect. On the other hand, the concept of energizing connections ensures that energy is an essential element of these relationships, thus focusing on the ends rather than the means. Feeling energy in such connections and also being enabled to perform effectively, both are the ends desired from such high quality connections.

2.5 Organizational Commitment (OC)

Organizational commitment and specifically affective commitment defined as "the relative strength of an individual's identification with and involvement in a particular organization" (Mowday *et al.*, 1982, p. 226) has been identified as one factor within the organizational health dimension. The literature indicates that organizational commitment is related to many dimensions of work including performance. For example, Harrison, *et al.* (2006) found that when taken together with job satisfaction, it affects all primary job behaviours. With specific reference to academics, organizational commitment strongly relates to the notion of the 'good corporate citizen' directed towards students, workgroups and colleagues, and their institution (Somech and Bogler, 2002), and networks beyond their institution. In the context of academia, Sheldon (1971) found that in the absence of social involvement there is a subsequent withdrawal of commitment from the organization. More recently, in a study of the impact of performance supervision in English further education colleges, Mather and Seinfert (2013) found that close observation by management potentially eroded organizational commitment. Both studies indicate that positive connections are indeed a bridge towards organizational health, as in the absence of these connections, organizational commitment, and therefore organizational health diminishes. Finally, affective organizational commitment is more strongly related with performance than any other dimension of organizational commitment (Mayer and Schoorman, 1993; Meyer *et al.*, 1993; Siders *et al.*, 2001), and therefore has been identified as one of the factors of VAW.

2.6 Goal Commitment (GC)

This work attitude, along with organizational commitment has been identified to represent the organizational health dimension. The presence of challenging goals is important for motivation but only challenging goals will not motivate individuals unless there is an acceptance of such goals, which is called goal commitment (Locke *et al.*, 1988). Aubé and Rousseau (2005) have found a positive relationship between goal commitment and performance. Hollenbeck, *et al.* (1989) found that in the presence of difficult goals, goal commitment is the factor that significantly influences performance.

Also, Brunstein (1993) found that goal commitment increases subjective well-being given favourable situations. These findings reinforce the proposition that personal and organizational health co-exist in the presence of a positive connections, since positive connections contribute towards a favorable situation. Since goal commitment relates with performance and therefore, an integral element of organizational health; and that it also connects with well-being within a positive environment; it qualifies as a strong candidate for inclusion.

2.7 Vitality in Higher Education

Higher education has a particular resonance with vitality (Baldwin, 1990; Bland and Schmitz, 1988; Bland *et al.*, 2002; Clark *et al.*, 1986; Clark and Lewis, 1985). Indeed, it is the only sector where the particular concept of vitality has been discussed by referring to the notion of interdependence of individual and organizational health (Clark, *et al.*, 1986; Gardner, 1963; Maher, 1982). Maher (1982) writes:

“In essence, then, the quest for vitality might be said to focus on the capacity of the college or university to create and sustain the organizational strategies that support the continuing investment of energy by faculty and staff both in their own career and in the realization of the institution’s mission” (p. 7).

A study on performance management in UK Higher Education Institutions (HEIs) supports Maher’s proposition and conclude that institutions that employ a long-term approach to performance management in which complex goals are achieved through shared leadership in a high trust environment show higher levels of faculty well-being, which in turn relates positively with research excellence, student satisfaction and financial performance of the HEI (Franco-Santos *et al.*, 2014). Thus, all three dimensions of VAW have been shown to co-exist. Finally, another major feature of the academic career is the importance of connections and networks, which have been proposed as an essential element of VAW. The membership of esteemed research groups and circles is considered not just a means to success but an in end itself; a reward of acclaimed scholarship (Baruch and Hall, 2004; Gersick, *et al.*, 2000). Therefore, positive connections are an integral element of success in academic life, thereby expected to contribute both towards personal health and organizational health in a more pronounced fashion than other professions. Given the aforementioned, the academic profession has been selected as a suitable setting for this study.

3. Method

3.1 The Questionnaire

Data were to be collected via e-mailed questionnaires, which consisted of closed-ended questions. Responses were measured on a seven point Likert scale, related to the five identified factors constituting VAW. Three types of items were used; those that the authors have developed, items adapted from previous measures, and some items were drawn from previous studies. Table 1, below, shows the source of questionnaire items for each construct.

Table 1: Questionnaire items for factors of VAW

Construct	Scale employed to measure the construct
Energizing Connections	17-items developed by the researchers. An 8-item scale was finalized after analysis through EFA and CFA
Sense of Coherence	13-item scale adapted from Antonovsky (1987)
Perceived Health and Energy	7-item scale developed by employing 4 items from Ryan & Fredrick (1997) to measure perceived health and 3 items added by the researchers to measure perceived energy
Organizational Commitment	8-item scale developed by Allen & Meyer (1990)
Goal Commitment	4-item scale developed by Hollenback, et al. (1989)

In the absence of a survey instrument measuring EC, a 17 item scale based on Dutton’s (2003a, 2003b) concept of “high quality connections” was developed, consisting of four dimensions: Task Enabling, Energy in Interactions, Respectful Engagement, and Trusting. Unlike other measures, such as Carmelli and Gitell’s (2009), our measure captured the ‘energizing’ dimension of connections. The following sections describe the finalization of an 8-item scale through EFA and CFA.

Three items measuring perceived health were added to the scale developed by Kark and Carmelli (2009) to measure perceived health and energy, as the scale developed by them only measured subjective vitality (considered here as perceived energy) of a person. We also tested its validity through exploratory and confirmatory factor analysis.

For measuring SoC, we utilised a slightly amended version of Antonovsky’s SoC scale. This was to make it consistent with the 7-point response format which was employed for other items. Scales for organizational commitment and goal commitment were adopted without any modification.

3.2 Sampling Method and Sample Generation

A stratified sampling method was employed to identify universities that met the criteria of “top UK universities” on four different university rankings, i.e. Times Higher Education ranking, Guardian University Guide, Complete University Guide and Russell Group of Universities. Universities that fall into top ranking of all three league tables and were also a member of the Russell Group were screened through this analysis. On the basis of these criteria, 18 target universities were selected as a first step. The sample selection procedure then attempted to ensure the generation of a relatively similar sample, in terms of subject areas and experience, across like institutions in order to minimize variation potentially attributable to unidentified factors, such as differences between a teaching university and research-intensive university, or differences inherent between how natural sciences and social sciences are taught and explored. Therefore, only social science subjects were selected, which were Business, Law, and Education. These social

science subjects were also most frequently occurring subjects and employed the largest number of faculty members. Out of the 18 universities screened through rankings, 16 had business schools, 15 had law schools, and 13 had schools of education. Nonetheless, the sample was sufficiently diverse ranging over a number of universities across three major social sciences disciplines. Ultimately, responses were collected from 41 different departments, enabling sufficient variation for construct validation.

3.3 Data Collection

Data were collected from academics working in 14 universities out of the list of 18. Four universities were excluded because; a) data were collected from one university to pilot the questionnaire and; b) the remaining three universities did not have faculties of law, business and education. Initially, emails were sent to 2079 academics in seven universities randomly selected from the list of 14. Upon receiving a low response rate, even after one reminder email, a second wave of emails was sent to 1257 more academics in the remaining 7 universities. A reminder email was sent to both groups fifteen days after the initial invitation. Responses were collected through an online web-based survey which transferred the results instantly to the online account. The resulting dataset although similar, was still sufficiently diverse to conduct analysis as it consisted of respondents from 14 universities across 3 disciplines, giving responses from 41 different work units.

3.4 Response Rate

From the 3336 e-mail invitations, there were approximately 950 out of office and mail-delivery failure replies. A total of 421 questionnaires were returned, out of which 365 were complete and therefore, valid responses. The response rate is about 17.68%, which is satisfactory for research of this type, and in line with other similar surveys (Vicente and Reis, 2010). Arguably, however, response representativeness is of more importance than the response rate, *per se* (Cook *et al.*, 2000). Thus, it can be assumed that it is not relevant to this study, given that all faculty members may be reasonably assumed to have access to an e-mail account.

3.5 Common Method Bias

As the dataset was generated from a common source, a variety of precautions were taken in order to minimize common method variance. Guidelines from Podsakoff *et al.* (2003) were followed for this purpose. To introduce time-lag for reducing consistency motifs and demand characteristics, the data were collected in four waves, set apart from each other by a period of fifteen days. Also, the online survey appeared for each respondent with items in a randomized order to reduce priming effects which can be generated by the question context or item-embeddedness. Finally, the email included detailed information ensuring confidentiality and anonymity of the respondents in order to reduce the potential of participant bias, for example, in the form of what may be considered to be socially desirable responses.

4. Results

Exploratory factor analysis (EFA) using principal component analysis was carried out with varimax rotation. Then, confirmatory factor analysis (CFA) with maximum likelihood estimation (MLE) was used to test the measurement model for Energizing Connections (the measure being developed during the study) and Perceived Health and

Energy (the measure being significantly modified). Finally, EFA and CFA were employed respectively to establish VAW's construct validity.

4.1 Energizing Connections

Out of the 17 items, 8 items from two dimensions of Task Enabling and Energy in Interactions loaded significantly on the component matrix. Items developed for Respectful Engagement and Trusting did not give adequate results, and therefore, these two dimensions were dropped from the construct. Items were selected with factor loadings of more than 0.50 and item-total correlations of more than 0.30. Table 2, below shows the results of the factor analysis. Cronbach's Alpha for the final 8-item scale was 0.873. Communalities were also above the 0.50 cut-off value, which shows that all selected items performed well on the given criteria for inclusion. Individual item-statistics were also adequate.

Table 2: Factor Analysis for Energizing Connections

Item No.	Item Statement	Factor Loadings	
		Task Enabling	Energy in Interactions
EC1	If I feel stuck about a work-related issue, I am likely to get some guidance from my peers.	.783	
EC3	My boss has advocated my competence and abilities in crucial situations, e.g. for promotion/sanctions/project approvals etc.	.789	
EC4	Whenever I have experienced pressure due to organizational politics, someone from my workplace has been there to guide me and protect my interests.	.608	
EC5	My boss acknowledges my domestic responsibilities and tries to accommodate them where possible.	.783	
EC10	When I tell my boss about an issue which is affecting my performance, he/she genuinely acknowledges my problem.	.842	
EC15	While interacting with certain people at my workplace, I feel charged and energized.		.880
EC16	Interaction with certain people at my workplace enhances my motivation.		.901
EC17	Talking to certain people at my workplace can make my problems look smaller.		.805
Eigenvalue		4.328	1.336
% of Variance		54.102	16.704
KMO Measure of Sampling Adequacy		0.860	
Bartlett's Test of Sphericity		Chi-square = 1606.235 (Sig=0.00)	
% of Total Variance		70.806	

After screening from EFA, the two factor model was tested for its measurement accuracy through CFA. The overall model achieved satisfactory goodness-of-fit with $\chi^2 = 55.13$, $df = 19$, CFI = 0.976, TLI = 0.965, NFI = 0.965, RMSEA = 0.072. All standardized regression estimates were statistically significant in that they were greater than 0.50. AVE was 0.59; also satisfactory.

4.2 Perceived Health and Energy

EFA results and individual item statistics were examined to assess the adequacy of items for Perceived Health and Energy. The factor solution revealed one single component, with all items loading significantly on the component as shown in Table 3. All the items demonstrated high communalities. Cronbach's Alpha value was 0.880, and individual items statistics were also satisfactory.

Table 3: Factor Analysis for Perceived Health and Energy

Item No.	Item Statement	Factor Loadings
		Component 1
PHE1	I feel alive and vital.	0.847
PHE2	I don't feel very energetic. (R)	0.801
PHE3	I look forward to each new day.	0.750
PHE4	I nearly always feel alert and awake.	0.764
PHE5	I think I am losing my health gradually. (R)	0.709
PHE6	I feel quite healthy.	0.835
PHE7	I think I will be able to live a long, healthy life.	0.752
Eigenvalue		4.272
KMO Measure of Sampling Adequacy		0.880
Bartlett's Test of Sphericity		Chi-square = 1393.28 (Sig=0.000)
% of Total Variance		61.023

After EFA, the single factor model was confirmed for its measurement theory through CFA. One item, PHE3, was removed following an examination of the modification indices, which revealed that the error terms of this item covaried with the other error terms. Literature suggests to either add an interaction between error terms, or preferably, the removal of such items (Byrne, 2010). The respecified model achieved satisfactory goodness-of-fit with $\chi^2 = 173.37$, $df = 14$, CFI = 0.943, TLI = 0.907, NFI = 0.934, RMSEA = 0.13. All standardized regression estimates were greater than 0.50 and AVE was 0.53, also satisfactory.

4.3 Reliability of Individual Measures Adapted From Previous Instruments

In the next step, the reliability of individual measures that were adapted from previous scales was examined, and no major modifications were made. Table 4 shows that all the scales demonstrated adequate reliability statistics with satisfactory alpha values.

Table 4: Internal Consistency of Adapted Instruments

Construct	No. of Items	Cronbach's Alpha
Sense of Coherence	13	0.867
Organizational Commitment	8	0.865
Goal Commitment	4	0.734

4.4 Validation of Vitality at Work

After establishing the construct validity and reliability of individual constructs in this study, the analysis proceeded to ascertain the validity of VAW through EFA as a first step. Of the 39 items, the results showed a clear factor structure for 29 items and 7 components (See Tables 6). Five items from the SoC scale (SOC1, SOC4, SOC5, SOC6, and SOC10), four from the OC scale (OC1, OC2, OC3, and OC4) and one item from the GC scale (GC3) were deleted due to low factor loadings. Since Energizing Connections and Sense of Coherence were both multi-dimensional constructs, their items loaded on more than one component. Antonovsky (1987) developed a 13-item scale on three dimensions of SoC, i.e. meaningfulness, comprehensibility and manageability. However, the items did not emerge in the same factor structure. Seven of the original 13-item SoC short scale loaded on two factors, which have been relabelled as 'Controllability' and 'Comprehensibility' in the resulting factor structure. The emergence of factors incongruent to Antonovsky's proposed factor structure was also found previously, where Breed *et al.* (2006) observed that the items measuring comprehensibility and manageability loaded significantly on two factors, but meaningfulness cross-loaded on the first two factors. However, items from all three dimensions of SoC loaded on the two factors, implying that they are underlying dimensions of SoC. Thus, the two sub-factors were assumed to proxy SoC.

The item-total correlations were also within the prescribed range and the 29-item scale had a Cronbach's Alpha score of 0.912.

Table 5: Factor Analysis for Vitality At Work (VAW)

Item Code	Factor Loadings						
	(PHE)	(SOC)	(EC)	(OC)	(EC)	(GC)	(SoC)
EC1			.781				
EC3			.742				
EC4			.602				
EC5			.780				
EC10			.795				
EC15					.814		
EC16					.822		
EC17					.759		
SOC2							.839
SOC3							.815
SOC7		.736					
SOC8		.728					
SOC9		.722					
SOC11		.673					
SOC12		.697					
SOC13		.580					

*Controllability and Comprehensibility are the dimensions of Sense of Coherence; Task Enabling and Energy in Interactions are dimensions of Energizing Connections

Table 5 (Continued): Factor Analysis for Vitality at Work (VAW)

Item Code	Factor Loadings						
	(PHE)	(SOC)	(EC)	(OC)	(EC)	(GC)	(SoC)
OC5				.739			
OC6				.861			
OC7				.819			
OC8				.812			
GC1						.698	
GC2						.627	
GC4						.779	
PHE1	.682						
PHE2	.655						
PHE4	.665						
PHE5	.757						
PHE6	.867						
PHE7	.794						
Eigenvalue	8.907	3.379	2.060	1.826	1.388	1.201	1.102
% of Variance	30.713	11.65 2	7.103	6.296	4.785	4.143	3.801
KMO	0.892						
Bartlett's test of Sphericity	Chi-square = 5719.778 Sig =(0.000)						
% of Total Variance	68.493						

Finally, the measurement model was subjected to CFA in the second step to test the second-order factorial model. Out of the 29 items, four (SOC8, PHE6, PHE7 and OC7) were deleted from the overall model because of covarying error terms. Results of the respecified model show that the model achieves adequate goodness-of-fit with $\chi^2 = 643.91$, $df = 269$, $CFI = 0.91$, $TLI = 0.904$ and $NFI = 0.861$ and $RMSEA = 0.062$. Finally, the standardized regression estimates show that all factor loadings are above 0.50. The AVE of core construct of VAW by its factors equals to 0.55 which is adequate. This shows that the model achieves satisfactory construct validity and therefore, VAW can be conceptualized as a valid organizational construct.

5. Discussion

Employing both EFA and CFA procedures, our results demonstrate the construct validity of VAW. Five factors were identified through a literature review, and these factors emerged with a clear factor structure through EFA on seven dimensions. This factor solution was subjected to CFA to test the measurement model of VAW, which confirmed

the initial analysis. This approach of screening and preparing a measurement model through EFA is a viable procedure adopted prior to confirming the model through CFA (Gerbing and Hamilton, 1996).

This study builds upon the positivity literature and has contributed to organizational research by consolidating and integrating positive work attitudes, individual well-being and positive work connections, and has therefore developed a unique and comprehensive concept, VAW. By demonstrating that the three dimensions co-exist, this study has promoted research which assumes the symbiotic and interdependent relationship of individual and organizational health, particularly through the presence of energizing connections. In addition to defining and operationalizing VAW, the study has also developed and validated an instrument to measure it. Finally, our analysis has also defined and developed an eight-item instrument to measure an important organizational concept of energizing connections.

6. Limitations

As with every research enquiry, some limitations are inevitable and are beyond the control of the researchers. Firstly, the study was conducted on a specific sector. Therefore, the results need to be validated on a wider population and in other contexts to confirm generalizability. Then, although precautions have been taken to minimize common method bias, further insight can be gained about the concept by exploring the phenomenon from the angle of other informants. Finally, the response rate and sample size, although adequate, may be increased to improve the generalizability of results.

7. Future research

While complete in its approach and research design, this study has opened several opportunities for furthering research into vitality, organizational health, and in the field of career management. The study has provided the ground-breaking work on the concept of VAW as a combination of personal and organizational factors. Further research is also needed to validate this concept in other disciplines such as engineering and pure sciences in an academic context. The present research opens an opportunity for furthering research to assess the validity of this construct in other types of educational institutions, institutions located in other geographical areas, and also in other professions as well. Finally, it would be interesting to explore the relationship of VAW with actual performance of an individual and also to conduct multi-level analysis of relating VAW with organizational performance.

8. Practical implications

The managerial implications of this concept cannot be discounted. The debate has been long-standing that a healthy, happy worker is a more productive worker, and there is evidence that it is the case (Quick and Quick, 2004). VAW offers the possibility that management, and other agents, such as trades unions, may be able to assess if this health and well-being is related to work and the work environment. Wright and Cropanzano (2004) observe a dual benefit in their study in which they assert that on one hand employee psychological well-being, which is an integral dimension of VAW, is '*an intrinsic good*' for which all members of the organization should strive for, and on the other hand there is strong evidence linking psychological well-being with performance. Moreover, with the increasing emphasis on decentralization, less supervision, participatory management, there is a need for employees to be more proactive towards

work. A high level of VAW can ensure that employees will be happy, healthy and positively charged with enthusiasm towards work and shall be ready to take initiative by taking the goals of the organization as their own.

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