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Ratio Working Paper No. 251

Understanding Psychological Competencies:

Conceptualization and Measurement of Psychological Capital at Various Levels

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Abstract

This study addresses the longstanding concern of how to identify and evaluate individuals' psychological strengths. While much research has concerned itself with identifying psychological weaknesses of organizational employees, an emergent stream of literature in the human resource management literature has begun to pay attention to the psychological capital of human resources. Psychological capital and other competing views righteously build on positive psychology to address the developmental strengths of individuals. We elaborate further on the concept of psychological capital by conceptually proposing an alternative view. Our view is more elaborate and suggests a three dimensional approach to psychological strengths, taking into consideration the approach-belief subsystem of individuals, the monitoring-creating-executing subsystem, and the self-regulating subsystem. We confirm these three dimensions, which together contain 16 psychological competencies through a survey instrument in a Scandinavian manufacturing firm in China. The results are discussed and implications for future research are proposed.

Keywords: Psychological Capital, Approach-Belief, Monitoring-Creating-Executing, Self-Regulating.

JEL: M100, M120

Introduction

The focus on psychological components in the work force has been focused on mainly negative implications like stress, burnout, violations of psychological agreements, workplace violence, job insecurity, and downsizing to name only a few (Barling, 1999; Tetrick & Barling, 1995). However, such a problem-focused approach is limiting. Negative affect and illness information is insufficient and gives little information about our coping and psychological capacities. It also ignores prevention and promotion efforts. By recognizing the positive aspects and strengths of a company and individuals, a better understanding can be gained about a company in the midst of stress and strain as well as success and growth. Such an approach echoes recent developments in management and organization theory that take seriously organizational members' coping strategies in response to human pain (Dutton et al., 2006), decision making (Maitlis & Ozcelik, 2004), their quest for knowledge (Linstead & Brewis, 2007), and speaking up (Burris, 2012; Detert & Edmondson, 2011). For example, recently Pfeffer (2010) called for an increased focus on human sustainability, arguing that such a focus would, among other things, render public and private companies benefits in attracting and retaining employees and building a strong reputation among their stakeholders. Indeed, research is revealing how important positive emotions, strengths and adaptive behaviors are to living a satisfying and productive life in general independent of physical capacity (e.g., Gherardi, Nicolini, & Strati, 2007; Lawler & Thye, 1999; Locatelli, 2007). It is not surprising that much of this research stems from the mind and body connection (Linstead & Brewis, 2007; Turner, 1999). People who express more positive emotions and adaptive behaviors are more productive and satisfied at their job (Diener, Suh, Lucas & Smith, 1999) and they are also more resistant to disease and physically healthier (Danner, Snowdon, & Friesen, 2001).

It is clear that the physiological immune system is not infallible. On occasion, it fails to respond to and overcome harmful stress and diseases. Even when the physiological immune system does successfully deter a pathogen, it does so by depleting the biological based resources that could have been used for other physiological functions. It is in this way that behavioral and psychological processes supplement and work with one's physiology (Schaller & Duncan, 2007; Schaller & Park, 2011). Although one may get diagnostic tests on their general physiological strengths also known as positive health status like blood pressure or body mass index, very few measure their psychological strengths much less know what these strengths are or how to measure them. In the corporate environment, even less is known about how individuals with certain

psychological strengths work together, whether certain individuals with certain psychological profiles would better function in certain areas of a company and so forth.

The stand-alone models. Stand-alone models are models which consider a specific competence or a few competencies in isolation. We believe that this could be a primary reason to why limited knowledge exists in the area from a holistic standpoint. Firstly, stand-alone models tend to focus on a few isolated psychological strengths. For example, many have focused on a few select strengths that tend to focus on optimism and expectancy values (Carver & Scheier, 1999; Carver, Scheier, & Segerstrom 2010), life satisfaction (Diener), sense of coherence (Antonovsky, 1988), Flow (Csikszentmiyalyi, 1998), hardiness (Maddi, 2002; Maddi & Khoshaba, 2005). Although these isolated competencies have been shown to be linked to positive adaptation in unique ways, it does not take a holistic standpoint by looking at the system. Just as contemporary biological immune system models extend from B and T cell counts, contemporary psychological competence should consider the holistic framework of the psychological system.

The attention to certain isolated competencies has influenced measurement. As a result, a magnitude of instruments have been developed which measure specific or a few competencies together. For example, the LOT-R (Life orientation test-revised; Carver, Scheier, & Bridges, 1994) focused on optimism, the subjective well-being instrument focused on general subjective well-being (Diener, Emmons, Larsen, & Griffin, 1985), the hardiness III instrument (Maddi, Harvey, Khoshaba, Lu, Persico, & Brow, 2006) which focuses on commitment, control and challenge characteristics of the individual to name only a few. In the field of organizational behavior, authors like Luthans (2002; Luthans & Church, 2002) have taken this limitation seriously by proposing a more elaborate approach in their CHOSE (Confidence/Self-efficacy, Hope, Optimism, Subjective well-being, and Emotional intelligence) model. However, these instruments have been useful as far as those particular competencies are concerned, but they are limited since they focus on single or few competencies and thus provide a narrow view of individuals' complex repertoire of psychological strengths. In so doing, interrelationships between competencies within the individual or groups of individuals tend to not be measured or assessed. Indeed, a theoretical restructuring of the model and a new methodological approach to measurement is needed for a better understanding of psychological competencies which we also term as "psychological capital" (Luthans, Youssef, & Avolio, 2007).

Against this background, it is the aim of the present paper to propose an alternative concept and measurement of the psychological immune competence of individuals. We do so by drawing on recent developments in the literature on psychological competence which in part draws from positive psychology. We apply this theory in a European manufacturing firm operating in China, provide some empirical evidence of its strengths and discuss its implications on management and organization theory and more generally on management practice in China. The paper is structured as follows. First, we introduce the psychological immune competence system and show how it may be measured. Second, we discuss the empirical setting and methodological considerations. Third, our findings from the survey are presented and discussed in the subsequent section. We close by outlining some conclusions and implications for theory and practice.

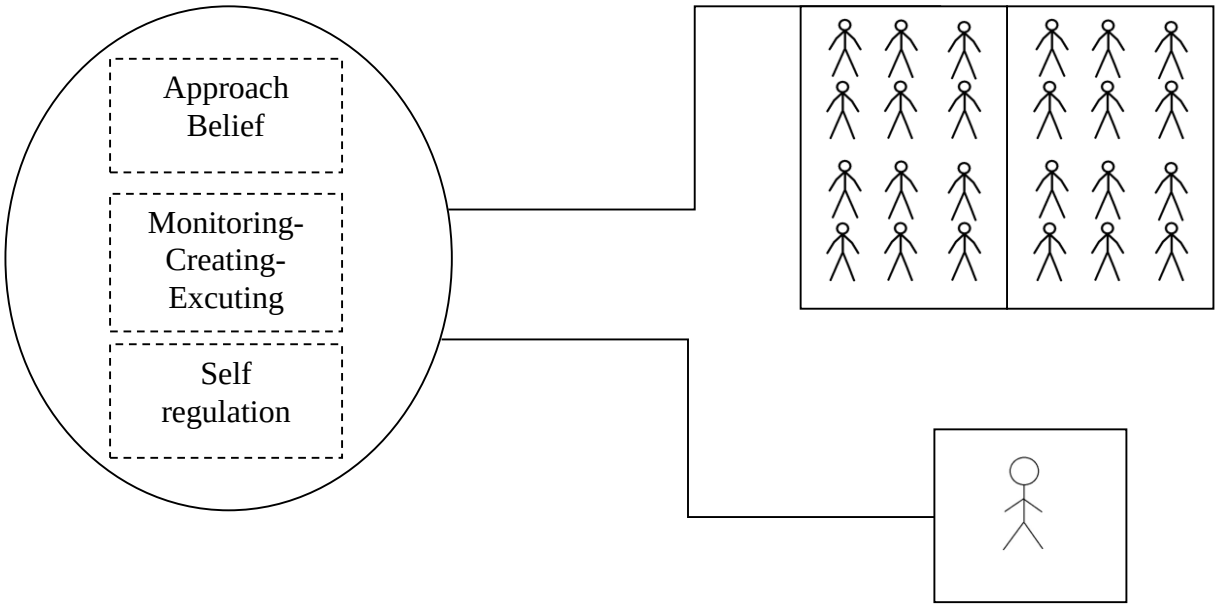
The Psychological Immune System

The psychological immune competence system (PICS; Oláh, 2005) is an integrated system of 16 personal competencies which includes cognitive, behavioral and trait-like dimensions that should provide immunity against stress and promote healthy development. In lines with positive psychology, the system involves both prevention of weakness and damage as well as promotion of strengths at the group or individual level. PICS includes three interacting subsystems (1) approach-belief, (2) monitoring-creating-executing, and (3) self-regulating. The approach-belief subsystem guides the organism's orientation towards the environment. The monitoring-creating-executing subsystem initiates the seeking out and assimilation of information as well as puts into action the resources necessary to influence and create possibilities within the environment. The self-regulating subsystem insures the functioning of the first two subsystems by stabilizing the individual's inner emotional life.

These subsystems help initiate effective adaptation and coping, which is a general challenge for most individuals. A necessary precondition of this adaptation is the continuous exploration of the changing environment and the assimilation of new experiences. This process of adaptation also occurs within the inner environment of the individual. It is the synchronization of adaptations within and outside of the individual that produces an optimization between the organism and its environment. *The psychological immune competence system is an optimizing system that creates a balance between personality functioning and environmental (social and physical) demands in order to increase adaptive fitness. At the individual level a key of*

psychological health and adaptive power is an optimized dynamic interaction of protective factors in sync with personal purpose and environmental demands (Oláh, 2005). A flexible self-regulation is needed for goodness of fit between the self and environment which in turn increases synchronicity. A structural model of the psychological subsystems in relation to group and individual is presented in figure 1. The psychological immune system functions as a whole but always in relation to its unique systems and their interrelationships with each other and to the environment at both the individual and group levels. In doing so, the psychological competence can be measured and studied at the individual and group level as well as a system level with regard to whole system, subsystem, or unique competencies within subsystems.

Figure 1. Structural Figure of the Psychological Immune Competence System



Approach-Belief Subsystem (ABS)

The cognitive factors in the ABS direct the individual's outlook towards the environment. This system facilitates the appraisal of the environment as positive, manageable and meaningful or as chaotic and threatening. In addition, factors within this subsystem provide a positive definition of the self as a competent, goal-oriented, continuously growing individual. The competencies included are positive thinking, sense of coherence, sense of control and growth expectation.

Positive thinking is viewed as a global concept involving those cognitive personality dimensions which facilitate anticipation of positive outcomes in connection with all kinds of life changes including those which are outside of our own personal control. These cognitive factors directly influence the process of primary appraisal (Lazarus, 1993). Positive thinking primes the cognitive system to perceive the continuously changing person-situation interaction as positive and favorable. The main feature of positive thinking is optimism/hopefulness. The positive thinking construct defined here is also closely related to Scheier and Carver's (1987) dispositional optimism concept. Optimism refers to the anticipation of positive outcomes and good occurrences. Individuals with high degree of optimism anticipate positive results, and their favorable views generally result in positive judgments.

Sense of coherence is based on the ideas of Antonovsky (1988). The individual's sense of coherence is of prime importance in determining his or her relative position on the health/disease continuum. Antonovsky (1988) defines sense of coherence as a dispositional tendency to appraise life situations as both predictable and manageable. The sense of coherence disposition comprises comprehensibility, manageability and meaningfulness. In the PICS, sense of coherence is the belief that one's life is understandable, comprehensible and manageable. The sense of one's abilities to see a situation as a workable and coherent event should predict a positive outcome. By the confident belief of an environment's predictability, the individual is able to think in a positive oriented manner rather than in a state of chaos or confusion.

Sense of control is one of the most researched components in the PICS. Basic control conceptualization in the PICS follows three dimensions. The first dimension concerns behavioral strategy and competence. The benefit of a control strategy is highly dependent on the individual's competence. For example, having control over various aspects of working conditions is not adaptive if the necessary work skills are not available. In the framework of health, people may know what they should do to improve their condition, but nevertheless fail to take appropriate

action. One reason for this may be their conviction that they do not have the requisite behaviors in their repertoires to make the needed changes. The *second* aspect of control type concerns the individual's need of, preference for or desire to control. At a general level, it has been argued that preference for control is likely to be associated with information-seeking behavior, which is more fundamental than control needs. An excessively strong and excessively weak need and/or desire for control may lower individual's effectiveness. Obsessive-compulsive patients who often have elaborate checking and cleaning rituals display an extreme manifestation of a high need for control. And the third dimension, belief in control (locus of control), is an important individual difference construct (Rotter, 1966). Both extremely high and low beliefs in personal control may represent cognitive distortions of the real world. The concept of control in the psychological immune system is interpreted in a broad form. Sense of control is associated with a sense of personal influence over life events. Individuals with high levels of perceived sense of control believe that they have the ability to change their everyday environments rather than being under the control of events or dependent on chance.

The final component in the ABS is the *sense of personal growth.* It is operationalized as the understanding and promotion of oneself as a healthy, mature and fully functioning individual (e.g., Maslow, 1950; 1970; Allport, 1961; Heath, 1977; 1991). The fundamental attributes of the healthy and well-adjusted individual as described by the humanistic and self-growth approaches can be summarized as: (a) an ability to be happy and content with a sense of direction and purpose; (b) a capacity for productive work, a sense of competence, and environmental mastery; (c) emotional security, self-acceptance, self-knowledge, and a realistic and undistorted perception of one-self, others, and one's surroundings; and (d) interpersonal adequacy and capacity for warm and caring relations to others with intimacy and respect. Using the PICS approach, a sense of self-growth means that an individual has a stable conviction and feeling that he/she is able to continuously overachieve him/herself and that his/her personal productions are continuously in a state of becoming. It is a feeling and expectation of successful self-expansion and personal growth. The expectation of growing self-actualization gives motivation for openness towards new experiences.

Monitoring-Creating-Executing subsystem (MCES)

The MCES should be understood in terms of the person x environment. Monitoring factors instigate the exploration of the physical (e.g., challenge orientation), social (e.g., social monitoring capacity), and intrapsychic environments for challenges and new experiences. The creating components direct the actualization of inner personal and social resources (e.g., social mobilization capacity) to reach a goodness of fit between environmental demands and long-term individual aims. In addition, the executing components of the Monitoring-Creating-Executing Subsystem (MCES) consist of abilities to work out alternative solutions, create new ideas and possibilities (e.g., problem solving capacity) which are suitable tools for handling social and adaptation difficulties (e.g., social creation capacity). The competencies of the MCES consist of social executing, social creating, social monitoring, challenge orientation, creative self-concept and self-efficacy, goal orientation, and problem solving.

Initially introduced by Oláh (2005), social creating, executing and monitoring capacities are dynamic with each other and should be understood in terms of person and context. *Social Creating Capacity* is a related higher-order competence that entails an ability to produce a deep impact on others with the goal of establishing new groups or teams. These groups are formed by transferring one's own ways of thinking and being to others. This produces a reorganization of human relations and social resources. This process is a foundation of psychological reproduction. Examples of individuals with high levels of social creating include founders of movements of thought, those who are able to create a "cult of personality", and/or highly influential teachers or leaders. They are able to create and establish social resource groups that are able to engage in collective forms of problem solving. Social creating is generally associated with a broader need for self-actualization and self-expansion in the social world.

Social Executing Capacity promotes the consolidation of innovative resources by being knowledgeable of and in tune with the capacities and resources that others can offer. This instrumental capacity is based on an ability to motivate, govern, and direct human resources to benefit one's own goals. Social executing is generally associated with the individual's conviction that he or she is able to influence, persuade and direct an individual or groups of people. Those with high levels of social mobilizing have developed leadership abilities, social assertiveness and communication skills. *Social Monitoring Capacity* facilitates an exploratory orientation to life selectively monitoring those aspects of the social environment (e.g., natural social information,

body language) which are beneficial for the actual or long-term aims of the person. Social monitoring is generally associated with openness for contact and the ability to deal well with people, as well as a developed empathic ability and public self-consciousness. People at high levels of social monitoring are able to effectively decode meta-communicative messages, sensitively recognize hidden relations among people, and are highly motivated to explore and understand the social behavior of people. They are sensitive to people's approval, affect and good will.

The C*hange and Challenge Orientation* relates to the classic concept of hardiness (Kobasa, 1979). Hardiness however focuses on psychological commitment, control and challenge. Although the change and challenge orientation with the PICS framework focuses on change positively and openly, its function is clearly a monitoring capacity. Individuals high on PICS challenge and change selectively monitor, detect and identify those aspects of the internal and external environment which can be used as an adequate resource to cope with demands of the physical environment. Just as hardy individuals, those individuals with a change and challenge orientation can tolerate high levels of uncertainty and experience frustration in situations where stability is assured. People at high levels of monitoring are able, in flexible way, notice the signs of change. In addition they are open to new experiences and they are inwardly motivated to explore their environment and renew themselves. They believe that change rather than stability is the normative mode of life and they anticipate change as a possibility to develop and be challenged. Even in connection to job loss, illness, and death, these individuals try to learn and grow to conquer (in a self-defined way) the challenges they face.

Creative Self-Concept relates to ego resilience, in that it is characterized by an innovative orientation to life adversity. The gathering and consolidation of creative resources are central to Block and Block's (1980) view of ego resilience. Indeed, Block and Kremens (1997) classic study illustrated that those individuals high on IQ may function better in structured environments with little affect and little human interactions but those with high ego-resiliency may function competently in interpersonal and highly changing, less structured environments. Those high on creative self-concept define themselves as creative, producing individuals and strongly believe in their own creative competence. It is a belief in one's own worth and in the worth of what one has accomplished in general. By the satisfaction of oneself and by what one has achieved from past to present the individual develops a strong self-worth. An individual with high creative self-concept is able to actively enter into situations with a positive outlook.

Self-efficacy (Bandura, 1982) is the ability to expect that one can actually act in a way that is needed to produce desired outcomes. An efficacy expectation is the conviction that one can successfully execute the behavior required to produce expected results. A strong sense of self-efficacy is associated with personal mastery. Given appropriate skills and adequate incentives, efficacy expectations can be assumed to be major determinants of people's choice of activities, outward efforts, and sustainment of effort. Efficacy expectations determine how much effort people will expend and how long they will persist in the face of obstacles.

Goal Orientation is a precondition of efficacy expectations and the capacity to act effectively in the environment. It reflects early classic ideas surrounding the social cognitive approach (Dweck & Legget, 1988; Diener & Dweck, 1980; Dweck, 1975) where motivated actions focused on goal mastery rather than helplessness is more adaptive in general. PICS goal orientation focuses on an ability to have the motivation and endurance to stick to or continue with a task even in the face of adversities and obstacles. Momentary adversities do not push the person from his or her goal. In addition, goals should be relatively well formulated. The individual can visualize the desired end state. If one is high in goal orientation, one has ability to thoroughly execute decisions from the beginning to the end, whereas the individual with low goal orientation capacity is less apt to finish a task or keep an aim. Goal-oriented individuals do not give up unless it is clearly impossible to continue. The development of a goal orientation is based on two complementary capacities involving abilities to actively engage in individual and collective problem solving. Goal orientation is founded on the individual's ability to work out alternative solutions, create new ideas and plans, to reconstruct and reorganize learned experiences, which are suitable tools for handling problems and difficulties.

Finally, the competence in the PICS of *problem solving* is the perception that one can find solutions to problems in general. Originality, innovative ability and constructive thinking are central parts of this capacity. A number of problem-solving approaches and classifications have been advocated to stimulate ideas and solutions (e.g., VanGundy, 1988; Cougar, 1995). Discussions remain however on which problem solving approach is more creative (e.g., Dane et al, 2011; Garfield, Taylor, Dennis, & Satzinger, 2001; Kaufmann & Vosburg, 1997). PICS problem solving does not differentiate from rational or intuitive, creative problem and nor does it focus on the type of problem solving used per se but rather the PICS problem solving component is focused on the perceived general ability to solve any problem that may arise.

Self-regulation subsystem

In the psychological immune system, four capacities are specified as being critical to a well-functioning self-regulation system: 1) impulse control, 2) emotional control, 3) irritability control, and 4) synchronicity. Furthermore, a compromised self-regulation system can influence the entire PIC system since the self-regulation system is emotion based. I *Impulse control* involves hindering instant gratification and limiting spontaneous actions related to immediate gratification. It is an orientation towards rational and reflected actions in contrast to impulsivity and immediateness. The individual with low impulse control often makes decisions without thinking beforehand and moves towards momentary pleasure with no consideration of consequences. The individual with high impulse control, in contrast, will thoroughly contemplate a decision before acting on it. It is important to note that it is not time constrained.

Emotional control is an ability to regulate feelings of anxiety, worry and depression and other negative feelings, which results from anticipation of failure. Individuals with lack of emotional control tend to be upset when small problems arise, as well as have an unusually difficult time recovering from barriers or setbacks that have occurred in their past. This individual is not present in life due to the threat of loss. In the positive form an individual with high levels of emotional control is able to mentally distance oneself from this worried and failure preoccupied state.

Irritability control relates to regulation of impatience and anger. Inhibition of irritability is highly associated with frustration tolerance. An individual with low levels of irritability control is very sensitive to his or her own comfort threshold. If one lacks irritability control, one loses one's temper quickly as well as displays sudden mood changes. Highly irritable individuals tend to be agitated easily and often create obstacles in the environment for themselves. In the adaptive form irritability can serve as a motivation for action. A person with high levels of irritability control is able to remain present-focused while enduring psychological and/or physical hardships.

And finally, *synchronicity*, also known as alignment, is the ability to be "on task", sync, or flow with the environment, rather than feeling "off task". A person high in synchronicity is able to live in the present with maximal levels of concentration on personal and environmental issues. The person is able to deal with concurrent problems rather than concentrating on the past or the future, or disengage from the present situation through avoidance and lack of concentration.

Synchronicity can also be understood in terms of Flow (Csikszentmiyalyi & Csikszentmiyalyi, 1998; Oláh, 2005).

In the present study, the focus was to study the usefulness of the psychological immune competence system by measuring 16 components from the psychological immune system inventory. No gender or age differences are expected on any of the components of the PIC subsystems. If differences are found, it is expected to be in the mobilizing-creating-monitoring subsystem.

Empirical setting and Method

Research site

X-Group (a pseudonym) is a privately owned family business founded in 1946 in Scandinavia. The initial business of the firm was production of dolls and other small toys. Today, the company has switched to manufacturing products in five segments: heating systems, battery chargers, tracking, alarm, and lighting. Heating systems are manufactured for cars and interiors such as hospitals, military, etc. Heating systems for cars consists of two categories, partly as OEM products to major brands such as Saab, Volvo, Scania, BMW and independent car importers, but most are sold as separate cabin heaters in the aftermarket for cars and boats through distributors. While heating systems and battery chargers have brought the company a strong market position over the years, especially in Scandinavia, Russia, Baltic States, Eastern Europe and Germany, the tracking and alarm segments are still in their infancy and have been added to the product portfolio through a number of strategic acquisitions, starting in 1986 when a corporate decision was taken to grow both organically and through structured acquisitions. The latter two segments have been mismanaged and therefore have small market shares in all the Nordic countries and in Norway (alarm).

The latest addition to the product range is the lightning segment through an acquisition of a Swedish company in 2007. Lighting products have a strong market position, however, only in Norway and southern Sweden. The lighting segment includes both private customer and actors operating in the public, industrial, marine and infrastructure (tunnels) sectors. The latter sector has been particularly successful through a unique focus on safety where tunnel lightning has been

designed so that the light is adjusted when entering and leaving the tunnel to compensate for bright daylight, distance between luminaires calculated carefully developed to minimize the gap between the light sources and artificial environments constructed in tunnels to keep drivers alert and attentive. Overall, X-Group's largest markets are in Northern Europe and production was until recently located in Norway, Sweden, Denmark and China. However, after a strategic restructuration program, the majority of manufacturing and assembly activities were moved to China in 2006. Since then, X-Group has more than doubled production, sales and profits, and managed to develop at least one new product series within each product segment.

At the time of the present study, however, the company faced a major challenge – to attract competent workers across levels and functions (both internally and externally) – as a majority of the company's previous competence in Scandinavia did not move along to China. With these challenges and yet remarkable growth figures we found it intriguing to study the psychological immune competence of employees at X-Group.

Method

The present study focuses on studying the usefulness of the psychological immune competence system (PICS) in the industrial work population in China. On an average work day, 125 factory workers aged 20 to 55 (M_{age}=28) voluntarily and anonymously participated in the study. Standard demographic information (t. ex. gender, age, civil status, position in company) was collected and analyzed. Of those who filled in the gender information, 79 were men (63.2%) and 45 were women (36%). All factory workers were Chinese nationals working at a Scandinavian owned company. The demographic information of participants is presented in Table 1. Based on this demographic information, it was concluded that that X-group was reflective of the structural organization of industrial production companies in China.

Table 1. Demographic information of participants (N=124).

Demographic information	Participants (%)
Gender	
Men (%)	79 (62.9)

Women (%)	45 (36.3)
Position at company	
Middle-management	7 (5.8)
Delivery/Logistics	8 (6.5)
Sales	1 (0.8)
Production	71 (57.3)
HR/administration	4 (3.2)
IT/Web	2 (1.6)
Other	26 (21.0)
Education	
No formal education	0 (0)
Secondary school	(8.9)
High school	(22.6)
Trade school	(1.6)
University	(26.6)
Other/Work training	(30.6)
Civil status	
Single	37.1%
Married or cohabiting	16.9%
Married/cohabiting with child/children	41.1%
Single with child/children	.8%

The Chinese version of the psychological immune competence inventory (PICI; Oláh, 2005; Trost & Demir, 2012) includes 80 items based on 16 PICS competencies and theoretical foundations. All questions posed had a 4 point Likert type response scale from 1 disagree completely to 4, agree completely. The 16 competencies are creating capacity, mobilizing/executing, monitoring, problem solving, goal orientation, challenge orientation, creative self-concept, self-efficacy, optimism, sense of coherence, personal growth, sense of control, synchronicity, impulse control, emotional control and irritability control. Comparable to findings in previous studies, internal consistency was very high. Item-total correlations per

component were in the upper range (>.50). Based on previous principal component analyses, the PICI factors well in three clear factors with loadings ranging from .48 to .91 (Trost & Demir, 2012).

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Results

Means and standard deviations of the PICS scores are shown in Table 2.

Table 2. Means and Standard deviations (SD) of the Psychological Immune Competencies.

Psychological Immune Competencies	N	Mean (SD)
Approach Belief		
Positive thinking	121	3.17 (.51)
Sense of Coherence	121	3.10 (.52)
Sense of Control	121	3.02 (.57)
Growth expectation	123	2.82 (.52)
MCES		
Creative self concept	123	2.76 (.46)
Change and challenge orientation	123	2.88 (.46)
Social monitoring	123	2.38 (.57)
Social mobilizing	123	2.76 (.47)
Social creating	123	2.39 (.45)
Problem solving	123	2.67 (.53)
Self efficacy	122	3.03 (.52)
Goal orientation	123	2.80 (.39)
Self regulation		
Irritability control	122	2.78 (.55)
Impulse control	123	2.72 (.44)

Emotional stability	123	2.67 (.59)
Synchronicity	122	3.08 (.55)

No age differences were found on any of the PICS 16 competencies and in turn no age differences were found at the sub-system level Gender differences were found however at the individual competence level. In an analysis of variance including gender and 16 individual competencies significant influences of gender were found for problem solving, $F(1, 121) = 13.7$, $p = .000$; for social creating, $F(1,121) = 6.43$, $p = .012$; and for social monitoring, $F(1, 121) = 11.13$, $p = .001$. At the sub-system level, men reported lower values on all three of these PICS sub-systems. Although a significant gender difference was found for the MCE subsystem, no gender differences were found for the approach belief subsystem or for the self-regulation subsystem

Discussion

In the present study, the Chinese version of the PICS was used to study the applicability of the PIC system and theory. In line with numerous previous studies in different samples, very convincing internal consistency was found illustrating it to be a valid instrument to measure multiple psychological strengths (see Oláh, Nagy, & Toth, 2010). No age differences were found on any of the individual competencies. For gender however some differences were found on a minimal number of strengths. Gender differences were found on specific MCES components. Women reported higher values on problem solving, social creating and social monitoring than their male counterparts. These findings are in line with past studies suggesting that women are more social beings than males. Indeed past research studying problem solving per se has reported gender differences but these differences are considered marginal at most and full of bias effects (e.g. Kalkhoff, Younts & Troyer, 2007; Rashotte & Webster, 2005; Wagner & Berger, 1997; Webster & Rashotte, 2010).

By connecting the three interacting subsystems; (1) approach-belief, (2) monitoring-creating-executing, and (3) self-regulating of the PICS, our study extends prior findings underscoring the value of positive thinking and self-efficacy in organizational behavior and leadership (for an overview see Luthans, 2002) and happiness for economic performance and well-being (e.g., Blanchflower & Oswald, 2011). Our study integrates these constructs into one and the same instrument and allows us to see how they interact, not only at the individual level but also at

the group (e.g., age, gender, hierarchy, function) and organizational levels. More specifically, our study demonstrates that a certain level of dispositional pessimism is a functional characteristic for creative individuals at this company. This parallels findings from prior studies with other adult populations. Employees at this company prepare themselves for failure of dysfunction by working harder or by trying to make improvements. An overly optimistic individual will not see the problems or neglect to see where there could be improvements. A certain level of irritability and anxiety are positive for seeking change and improvements but heightened levels will deter improvement and result in poor work satisfaction, lower performance, and poor work health. Emotional instability has a consistent link to poor work environment spread, poor productivity, negative employee health, and poor work performance.

With respect to individuals' sense of control our study shows that HR/administration department has a high sense of control when compared to other departments with the exception of IT. They however have lowered levels of innovation and change than other management/office level positions. They tend to follow routine well and desire it. The IT department has a high mean level of irritability when compared to all other departments, yet shows a high sense of control when compared to other departments (highest). The IT department also scores high on change and challenge when compared to other departments (highest). The IT department, however, is contradictory of most prior findings since irritability often correlates with lowered control and change. The irritation is likely a transitional irritation due to change at the company level. If this is a constant irritation, the sense of control is likely having a buffering effect on the high irritation level. These individuals adapt well to change however and enjoy a challenge which will likely lower the irritation level in the long term. It however is important that these individuals feel a sense of control if they expect many changes in their workplace. If the company relies heavily on the IT department, this department should be incorporated in any changes that take place in their own department particularly if irritation levels remain high.

Based on past research in the area, this mechanism of control, in the midst of change and high levels of emotional irritation, will likely have a long term buffering effect. These individuals require feedback on whether the change has been functional. In short, they need to have a measure of whether their irritability was worth the change. In most cases, when information is given after change implementation in which their daily routines are influenced, it will from an employee standpoint – independent of whether the change was positive (cost effective, better productivity

and the like) – result in positive work environment for the existing staff afterwards. These findings provide some explanation to Spreitzer's (1995) study which demonstrated lack of significance in the relation between sense (or locus) of control and empowerment, both conceptually (through the irritability measure) and methodologically – Spreitzer acknowledges that the lack of support for the hypothesis that sense of control yields empowerment is due to measurement limitations.

Limitations and suggestions for future research

There are limitations to the present study. Firstly, this correlational nature of the study does not give way to prediction or causality of any findings. Secondly, the generality of the findings are confined to the nature of the company and culture. Indeed, further research using the instrument and with more participants should be conducted. In the midst of these limitations however the importance of the present study is not diminished.

Conclusions

The selection process of promotion, group formations, and even hiring has become skewed. Many applicants are similar on paper but they may not fit in with the other existing members of the company or they may not have the psychological competence to function well in the corporate environment of constant change. Indeed, we have moved beyond assumptions about one's abilities and focused on a systematic way to see if one is a good investment for a company. There are a large number of ways in which qualifications of applicants are judged but in the midst of a changing corporate environment, the key determinants between individuals with similar academic and professional qualifications could be something far less likely to be featured on one's curriculum vitae. Whether individuals can do the job for the company is evident by simply looking at past work performance but looking beyond that, one must look beyond occupational competence and look at psychological strengths. By measuring the psychological immune competence of individuals, one can understand not only if the individual will survive in the company but also thrive for the company. After all, it is the psychological capital of the company one will be investing in.

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