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**Antecedents of psychological capital:
The role of work design**

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Abstract

Aim/purpose – Though psychological capital has become a hot topic in the recent years, scholars have given little attention to its antecedents. This study used the job characteristics model (Hackman & Oldham, 1975) as a framework to examine the relationship between the five job characteristics and the four components of psychological capital. Moreover, task performance is examined as an outcome of psychological capital.

Design/methodology/approach – Using structural equation modelling, data were obtained from Egyptian professionals (N = 251). The survey included measures of psychological capital and job characteristics as well as task performance, which was rated by employees' supervisors.

Findings – Results indicate that the five job characteristics of skill variety, task significance, job feedback, job identity and job autonomy are positively related to the four components of psychological capital. Moreover, hope, self-efficacy and resilience were

positively related to task performance. However, Egyptian employees' optimism was not found to be related to task performance.

Research implications/limitations – Results contribute to a better understanding of what enhances psychological capital in the workplace.

Originality/value/contribution – The current study is the first to integrate the theory of work design with the psychological capacities of hope, optimism, resilience and self-efficacy. Research on the development of psychological capital has been limited to interventions with little or no attention given to macro or organisational factors that could contribute to its enhancement. Moreover, it is the first to link psychological capital to job performance in an Arab country.

Keywords: psychological capital, job characteristics, task performance.

JEL Classification: M1, M10, M12, M20.

1. Introduction

Today's working environment is more dynamic, complex and competitive than ever before. With advances in technology, organisations will continue to adapt and change as competition intensifies (Avolio, Kahai, & Dodge, 2000). Managers have to deal with new government regulations, new products, market growth and a changing workforce (Kotter & Schlesinger, 2008). Creativity, innovation, quality and customer satisfaction are becoming main organisational objectives which cannot be accomplished except by competent employees (Mathis & Jackson, 2003). That is, for many organisations, competitive advantage is mainly derived from human capital (Lin & Wang, 2005; Luthans & Youssef, 2004).

As a result of these changes, organisations should pay greater attention to their employees and their psychological capacities. Psychological capital or PsyCap has been found to predict several work outcomes like engagement, organisational citizenship behaviour (Avey, Wernsing, & Luthans, 2008), job satisfaction (Badran & Youssef-Morgan, 2015; Luthans, Avey, & Patera, 2008a; Luthans, Avolio, Avey, & Norman, 2007a), commitment (Luthans et al., 2008a) and performance (Avey, Reichard, Luthans, & Mhatre, 2011; Luthans, Avey, Clapp-Smith, & Li, 2008b; Luthans, Avolio, Walumbwa, & Li, 2005; Luthans et al., 2007a; Luthans et al., 2008a; Youssef & Luthans, 2007). Despite the valuable research conducted on PsyCap, its development has been limited to interventions (Luthans, Avey, Avolio, Norman, & Combs, 2006; Luthans et al., 2008c) and lacked investigation of factors contributing to the enhancement of PsyCap.

Therefore, the current study has three goals: 1) to investigate the relationship between job characteristics (Hackman & Oldham, 1975) as an antecedent to PsyCap, 2) to measure the effect of PsyCap on task performance and 3) to study the mediating role of PsyCap on the relationship between job characteristics and task performance.

The remainder of this paper is structured as follows. Section 2 reviews the literature on psychological capital followed job characteristics and finally by the development of the hypotheses. Research design and methodology are then discussed in section 3. The results and discussion of the finding are presented in section 4.

2. Literature review and hypothesised model

2.1. Psychological capital and performance

Luthans (2002, p. 59) defined positive organisational behaviour or POB as “the study and application of positively oriented human resource strengths and psychological capacities that can be measured, developed, and effectively managed for performance improvement in today's workplace”. However, POB is not just about positivity. A psychological resource capacity within the defined POB should be state-like and thus open to development, and should affect job performance (Luthans, 2002; Youssef & Luthans, 2007). Examples of capacities that meet these criteria are hope, optimism, self-efficacy and resilience (Luthans, Luthans, & Luthans, 2004). Combined together, the four capacities form what is called PsyCap (Luthans et al., 2004; Luthans et al., 2007a; Luthans & Youssef, 2004; Luthans, Youssef, & Avolio, 2007b; Youssef & Luthans, 2007; Youssef-Morgan & Luthans, 2015) or the HERO within (Luthans & Youssef, 2017).

Although the literature review in the above sections has approached the PsyCap capacities as state-like nature, it is important to further explain the difference between states, traits, state-like capacities, and trait-like capacities. Luthans et al. (2007) distinguished between the four terms in an attempt to solve the debate around states and traits. They categorised the positive constructs found in the fields of organisational behaviour and psychology as follows:

- (1) “‘Positive States’: Momentary and very changeable; Examples could include pleasure, positive moods, and happiness.
- (2) ‘State-like’ – Relatively flexible or malleable and open to development; like hope, optimism, self-efficacy and resilience.

- (3) ‘Trait-like’ – Relatively stable and hard to change; like for example personality factors and strengths like the Big Five personality dimensions and Core self-evaluations.
- (4) ‘Positive traits’ – Very stable and hard to change, like intelligence or talents” (Luthans et al., 2007, p. 544).

Based on the above categorisation, optimism, hope, self-efficacy and resilience as combined in the construct of PsyCap are state-like capacities and not states. These state-like capacities have some stability over time but they are not as stable as traits and they are also not momentable as states (Luthans et al., 2007b). So, they are not moods and are also not personality traits.

As for the development of PsyCap, research has been limited to training interventions (Luthans, et al., 2006; Luthans, Norman, Avolio, & Avey, 2008c). Except for two studies on transformational leadership (Janaki, Mark, Paul, Lance, & Bradely, 2009) and task complexity, self-esteem and authentic leadership (Avey, 2014), previous research did not examine possible antecedents that might lead to the enhancement of PsyCap. Thus, this study attempts to link the theory of work design (Hackman & Oldham, 1975) to PsyCap by examining the five dimensions of job characteristics (Hackman & Oldham, 1975) as antecedents to PsyCap. Below, we provide a brief literature review of the model’s constructs and the link.

Self-efficacy

Self-efficacy is defined as “an individual’s convictions (or confidence) about his or her abilities to mobilize the motivation, cognitive resources, and courses of action needed to successfully execute a specific task within a given context” (Stajkovic & Luthans, 1998, p. 66). Self-efficacy is essential for accomplishment and achievements (Bandura, 1993).

Bandura (1997) has identified four categories of experiences that determine efficacy beliefs. First, self-efficacy could be enhanced through accomplishing a given task. Second, vicarious learning in the employee’s social environment could also increase self-efficacy. Third, verbal persuasion whereby the employee is informed that he/she “has what it takes”. Finally, self-efficacy can be enhanced by psychological stimulation. Therefore, it is possible that the more confident the employee is about achieving a certain task, the more he/she will be motivated to do it. Thus, we suggest that self-efficacy is related to task performance.

Hope

Hope is defined as “a cognitive set that is based on a reciprocally derived sense of successful (a) agency (goal-directed determination) and (b) pathways (planning of ways to meet goals)” (Snyder et al., 1991, p. 571). The agency component refers to individuals’ thoughts or beliefs about their capacity to initiate and elongate movement toward goal completion (Peterson & Byron, 2008; Snyder, 2002). So it can be viewed as having the determination to meet goals (Snyder et al., 1991). Pathways act as the cognitive routes to goals (Snyder, Sympson, Ybasco, Borders, Babyak, & Higgins, 1996). Thus, the pathways component refers to one’s sense of ability to generate different ways to meet goals (Snyder et al., 1991, 1996). Together, the two components make the will or the ‘I believe I can do it’ and the way or the ‘I believe there are so many ways’.

Hope theory has received considerable support through empirical research in several settings where hope was found to be linked to goal attainment (Feldman, Rand, & Kahlie-Wroblewski, 2009), academic and sports achievement (Curry, Snyder, Cook, Ruby, & Rehm, 1997; Rand, 2009), and performance (Peterson, Gerhardt, & Rode, 2006; Peterson & Byron, 2008). Therefore it is likely to assume that hope should lead to better performance as the employee will be more likely to have many paths to achieve the desired tasks and has strong sense of willingness to do it as well.

Optimism

Optimism is about positive expectations about the future (Carver, Scheier, Miller, & Fulford, 2009). Seligman (1995) defined optimists as those who attribute negative events to impersonal, temporal, and specific reasons. Optimism has been linked to a variety of positive outcomes like effective problem solving, academic, political and work-related success, happiness, achievement, good health and even long life (Sameer, 2018; Seligman, 2002, 2006). Contrarily, pessimism has been linked to negative outcomes like depression, failure and indifference (Peterson, 2000; Seligman, 2007; Seligman, Steen, & Park, 2005).

Optimism was found to be positively related to organisation citizenship behaviour, and negatively related to organisational cynicism, intentions to quit, and counterproductive behaviours (Avey, Luthans, & Jensen, 2009). Avey et al. (2008) also found a significant relationship between optimism, positive emotions, and engagement. Moreover, optimism has been found to related to job satisfaction (Luthans & Youssef, 2004; Luthans et al., 2007ab), and work happi-

ness (Youssef & Luthans, 2007). Finally, innovation, team orientation and risk taking may be related to the degree of optimism of employees (Medlin, Green, & Gaither, 2010). Since optimism helps an individual find more options and alternatives as a result of thinking in a more positive explanatory style (Seligman, 2006), it is likely that it is related to better task performance.

Resilience

Resilience is defined as “the psychological capacity to rebound, to ‘bounce back’ from adversity, uncertainty, conflict, failure or even positive change, progress and increased responsibility” (Luthans, 2002a, p. 702). This process of bouncing back occurs when we evaluate differently our risks and individual assets (Luthans et al., 2006). Therefore, resilience is characterised by positive responses in the face of failure or even great success. As Coutu (2002, p. 46) states “Confronted with life’s hardships, some people snap, and others snap back”. Thus, it is expected that the more resilient employees are, the better they will be able to perform in their jobs. So we are hypothesising that those who will bounce back after any adversity faced will be more able to perform their daily work tasks as they are more adaptable and more flexible when it comes to changes.

PsyCap as a core construct

Finally, it is crucial to examine how PsyCap as a higher order factor could predict task performance (Luthans et al., 2008b). As suggested by Luthans et al. (2007; 2008a), there is a benefit behind combining these capacities as they all share an underlying component or psychological resource that allows individuals who possess higher levels of these capacities to perform at consistently higher levels than would be likely with higher levels of just one of these components alone. Therefore, based on the conceptual linkages offered above and shown in Figure 1, we propose the below hypotheses:

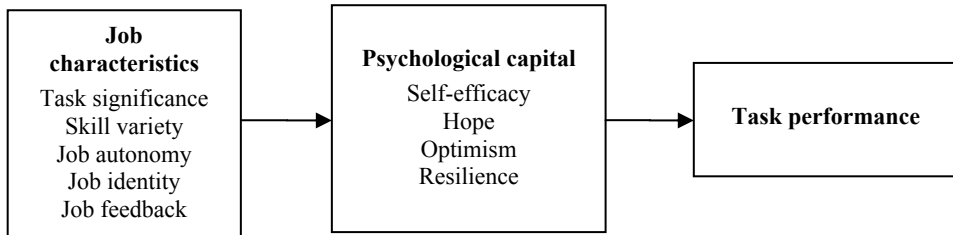
H1. The employee’s level of psychological capital has a positive relationship with task performance.

H1.1. The employee’s level of self-efficacy has a positive relationship with task performance.

H1.2. The employee’s level of hope has a positive relationship with task performance.

H1.3. The employee’s level of optimism has a positive relationship with task performance.

H1.4. The employee’s level of resilience has a positive relationship with task performance.

Figure 1. The hypothesised model

2.2. Job characteristics as antecedents to PsyCap

Hackman & Oldham (1975) introduced job characteristics theory to explain how job dimensions affect employees' intrinsic motivation. By enhancing jobs along five dimensions, organisations can encourage positive work attitudes as well as increased work quality. The five job dimensions are: (1) variety (the degree to which a job requires the use of a number of different skills and talents); (2) identity (the degree to which the job requires completion of a 'whole' piece of work, or doing a task from beginning to end with a visible outcome); (3) significance (the degree to which the job has a substantial effect on the lives of other people); (4) autonomy (the degree to which the job provides substantial freedom); and (5) feedback (the degree to which the job provides clear information about performance levels) (Hackman & Oldham, 1975; Hackman, Oldham, Janson, & Purdy, 1975).

Job characteristics theory proposes that positive outcomes like motivation, satisfaction and performance will result when "critical psychological states" are present. These states include (Hackman & Oldham, 1975 p. 160): "(1) experienced meaningfulness of the work, (2) experienced responsibility for the outcomes of the work, and (3) knowledge of the results of the work activities" and are created by the existence of the five job dimensions. The psychological state of experienced meaningfulness of the work is mainly obtained by the three dimensions of task significance, skill variety and task significance. If any dimension of the three dimensions is missing, meaningfulness drops (Hackman et al., 1975). Experienced responsibility is enhanced by job autonomy. Knowledge of the results is enhanced when the job is high in the dimension of feedback (Hackman & Oldham, 1975; Hackman et al., 1975). Moreover, if any of the psychological states are missing, motivation is decreased.

A conceptual linkage may be drawn between Hackman & Oldham (1975) psychological states and Luthans & Youssef (2004) PsyCap's psychological capacities. Though the critical psychological states are different than the capacities of PsyCap in that they do not demonstrate capacities, a similarity can be found between them as both are changeable and open to development. As psychological needs are necessary for the effect of job dimensions (Hackman et al., 1975), it is likely that psychological capacities could be important as well. Moreover, Renn, & Vandenberg (1995) examined the mediating role that critical psychological states play between job design and performance (Saavedra & Kwun, 2000). In their study, they found out that there is a direct as well as an indirect relationship between job characteristics and work-related outcomes. However, Hackman, & Oldham's (1975) original theory, though not explicitly stated, assumed a full mediation relationship for the relationship between job characteristics and work outcomes through the critical psychological states. In the current study, we assume psychological capital should fully mediate the relationship between job characteristics and performance. Meaning that work design should not directly lead to better performance. There is a human psychological factor that must occur first so that the performance is affected.

In sum, the five dimensions of job characteristics have been found to be related to positive states named 'critical psychological states'. Thus, since the four capacities of PsyCap are also state-like, an association, whether a partial or full mediation, can be found between core job characteristics and PsyCap. Moreover, such association is also based on previous research and literature as follows.

Job characteristics and self-efficacy

First, self-efficacy is developed through enactive mastery experiences (Bandura, 1997; Stajkovic & Luthans, 1998) which is mainly about accomplishing a specific task. Thus, it is assumed that job identity would directly relate to self-efficacy as a result of the completion of a task from the beginning to the end (Hackman & Oldham, 1975). In the same sense job autonomy should enhance self-efficacy. Though skill variety might not be related directly to self-efficacy, we propose that a job that allows an employee to use different skills gives a sense of flow (Seligman & Csikszentmihalyi, 2000), which in turn leads to more confidence in one's abilities. In addition, task significance is likely to increase one's sense of efficacy as he/she feels their job is significant to company's success. Finally, feedback enhances perceived self-efficacy and performance (Bandura, 1993).

Job characteristics and hope

As for hope, goals that are clearly communicated, realistic and measurable are crucial for developing one's agency and pathways. At the same time, breaking down complex or difficult goals into sub-goals has been found to enhance hope. Moreover, learning goal orientation, which is about mastery of subject, has been found to be related to trait hope (Peterson et al., 2006). Thus, it is anticipated that autonomy and identity are likely to increase the employee's level of hope as these two dimensions allow the employee to set goals for himself/herself and divide the task into sub-tasks. Skill variety could also give employees the ability to construct several pathways. In addition, hope is triggered through important tasks as more important goals should elicit greater motivation or agency as well as goal-directed planning (Snyder, 2002). Thus, it is anticipated that skill variety and task significance would be directly related to hope. Besides, as a state, hope has been found to be affected by negative verbal persuasion (Peterson et al., 2006). Thus, it is likely to expect that feedback could have an effect on hope.

Job characteristics and optimism

As for the development of optimism, effective goal setting in organisations should increase employee optimism as optimists naturally feel that they can succeed (Medlin et al., 2010). Thus, it is likely to anticipate that job autonomy and job identity could increase optimism as a result of the freedom and completing of a specific task whereby the employee will be able to see the main goal behind the work done. In addition, an employee is more likely to have positive expectations when there is a degree of positive feedback and feeling of significance.

Job characteristics and resilience

Resilience can be developed through reducing risk and stressors and providing the employee with adequate resources or increasing opportunities and accountability (Luthans & Youssef, 2004). Thus, it is expected that job autonomy would be directly related to resilience as the job will give the employee more freedom that will result in increased responsibilities. Moreover, positive emotions trigger finding positive meaning and vice versa (Fredrickson, 2000). At the same time, positive emotions could stimulate individual differences in resilience (Fredrickson, 2001). Since skill variety, job identity, and task significance directly relate to experienced meaningfulness of the work that could affect positive emotions, it is likely to predict that the above-mentioned job characteristics would be directly related to resilience.

Job characteristics, PsyCap and performance

PsyCap as a higher order construct is also assumed to be affected by the job characteristics over and above each capacity alone. Finally, given that the antecedents are expected to predict PsyCap and PsyCap predicts job performance, it is possible that PsyCap mediates the relationship between the antecedents and job performance. This is consistent with the job characteristics theory and based on the idea that PsyCap is composed of states which are similar to the critical states discussed in the theory that mediates the relationship between job characteristics and work outcomes (Hackman et al., 1975). Therefore, based on the conceptual linkages offered above and shown in Figure 1, we propose the below hypotheses:

H2: Employees' perceived job characteristics have a positive relationship with their level of PsyCap.

H2.1: Skill variety has a positive relationship with level of PsyCap components.

H2.2: Job identity has a positive relationship with the level of PsyCap components.

H2.3: Task significance has a positive relationship with the level of PsyCap components.

H2.4: Autonomy has a positive relationship with the level of PsyCap components.

H2.5: Feedback has a positive relationship with the level of PsyCap components.

H3: The relationship between job characteristics and task performance is mediated by PsyCap.

3. Research methodology

3.1. Sample

Participants in the study ($n = 251$) were Egyptian professionals from a variety of job types. They were limited to employees who report to a direct supervisor and have been working in the organisation for at least 6 months. Employees from wide range of organisations were invited to participate in a study on assessing employees' perceptions and thoughts about their work. E-mails were sent to HR managers to ask them to participate in the study. One of the researchers and an employee from the HR department were responsible for the data collection. The printed questionnaire was divided into two parts, one for job characteristics and PsyCap which was completed by the employees and one for task

performance which was completed by the supervisors. The two versions were match-coded to ensure anonymity. Companies were motivated to participate as the researchers promised a feedback report. The total number of questionnaires sent to participants was 320. However, only 280 questionnaires were received that were then reduced to 251 because of incomplete data. Approximately 69% of the participants were males and 31% were females, ranging in age from 21 to 71 years with a sample mean of 29 years ($SD = 10.42$). Participants working in the service sector were the majority (31.9% of the sample), followed by the manufacturing sector (17.9%), software and IT sector (13.5%), government sector (11.6%), the food sector (11.2%), the auditing sector (5.6%), the banking sector (4.4%), and finally the consultancy sector (4%).

A major problem with cross-cultural research is the validity of the translation from the US-based measurements to other cultures and languages (Luthans et al., 2005). To avoid this problem, Brislin's (1980) back translation method was followed. The questionnaire was translated by an English teacher who is fluent in both Arabic and English. The Arabic questionnaire was then re-translated back to English by an economics instructor who is bilingual. The original and the re-translated questionnaires were then carefully compared and discrepancies were discussed and modified. The questionnaire was also revised by an Egyptian translator and was piloted with several native Arabic speakers where verbal protocol was adopted and few amendments were made.

3.2. Measures

All instruments used in this study are published and standard measures. Participants were asked to indicate the extent to which they agree with the statements on a scale that ranged from 1 (strongly disagree) to 5 (strongly agree). Psychological capital was measured using the PsyCap 24 item questionnaire that consist of 6 items per each component (Luthans et al., 2007b). The Cronbach alphas across studies on PsyCap conducted by Luthans et al. (2007a) show support for the reliability of each of the four facets and for the overall PsyCap that ranged as follows: hope (.72-.80), optimism (.69-.79), self-efficacy (.75-.85), resilience (.66-.72), and PsyCap (.88-.89)

Job characteristics were measured using the revised form of the Job Diagnostic Survey (Hackman & Oldham, 1974; Idaszak & Drasgow, 1987). Sample items are for example: "The job requires me to use a number of complex or high-level skills" (variety), "The job provides me a chance to completely finish

the pieces of work I begin” (identity), “After I finish a job, I know whether I performed well” (feedback), “The job gives me considerable opportunity for independence and freedom in how I do the work” (autonomy), and “the job itself is very significant and important in the broader scheme of things” (significance).

Task performance was measured by the seven-item scale developed by William & Anderson (1991). Supervisors were asked to indicate the extent to which they agree with the statements about their subordinates’ performance such as ‘Adequately completes assigned duties’ and ‘Engages in activities that will directly affect his/her performance’.

4. Research findings

4.1. Correlational analysis

Mean values and standard deviation for the main variables are shown in Table 1. Though translation of the PsyCap questionnaire has been carefully managed and discrepancies were eliminated, lower reliabilities are possible when constructs are being measured in a different language with different culture and orientation (Earley, 1989; Luthans et al., 2005). In this study, the Cronbach alpha reliability coefficient for self-efficacy was .69, for hope was .58, for optimism .56, and for resilience .33. However, for the psychological capital, the Cronbach alpha was .73 which is considered adequate (Pallant, 2010). Reliability estimate of resilience is considerably low (.33). Therefore, to increase the reliability of the resilience scale, a reduced resilience scale (3, 5, and 28) was used in the analysis for the study. To indicate which items should be removed, inter-item correlation has been checked. The resilience reliability increased from .33 to .508 after eliminating items ‘when set by adversity....’, “I can work on my own....”, and “I usually deal with stressors....”. Finally, for task performance, Cronbach alpha was .90 which is excellent.

Table 1. Variables descriptives and intercorrelations

Variable	M	SD	a	1	2	3	4	5	6	7	8	9	10	11	12
1. Hope	19.8	2.50	.58	1											
2. Self-efficacy	24.1	3.14	.69	.48**	1										
3. Resilience	12.3	1.66	.50	.49**	.54**	1									
4. Optimism	21.9	3.23	.56	.46**	.36**	.30**	1								
5. PsyCap	78.2	8.06	.73	.78**	.79**	.69**	.75**	1							
6. Skill variety	7.5	1.65		.25**	.17**	.14**	.16**	.24**	1						
7. Task significance	8.2	1.45		.34**	.35**	.38**	.22**	.41**	.34**	1					
8. Job feedback	8.0	1.34		.43**	.30**	.38**	.20**	.39**	.10**	.27**	1				
9. Job autonomy	7.6	1.52		.39**	.40**	.36**	.38**	.51**	.25**	.33**	.20**	1			
10. Job identity	7.5	1.44		.38**	.25**	.23**	.39**	.42**	.04**	.15**	.19**	.38**	1		
11. Job characteristics	39.0	4.60	.59	.58**	.47**	.45**	.44**	.63**	.59**	.67**	.54**	.70**		1	
12. Task performance	28.0	4.35	.90	.12*	.13*	.15*	.03	.59**	.69**	.09	.54**	.14*	.14*	.21**	1

Note: $p > 0.1$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table 2. Multiple regression analyses predicting task performance

Variables	Task Performance		
	Step 1 b	Step 2 b	Step 3 b
Resilience	.15***	.11***	.09***
Self-efficacy		.07	.05
Hope			.04
Change R2	.15**	.16	.16

Note: $p > 0.1$; *** $p < 0.01$; ** $p < 0.001$.

Table 3. Multiple regression analyses predicting PsyCap

Variables	PsyCap				
	Step 1 b	Step 2 b	Step 3 b	Step 4 b	Step 5 b
Job autonomy	.512***	.407***	.320***	.303***	.291***
Job identity		.271***	.264***	.234***	.239***
Task significance			.270***	.218***	.198***
Job feedback				.230***	.231***
Skill variety					.066
Change R2	.262**	.062***	.065***	.048***	.004

Note: $p > 0.1$; *** $p < 0.01$; ** $p < 0.001$.

4.2. Confirmatory factor analyses

We used three fit indices; SRMR, RMSEA, and CFI. Cudeck and Browne (1993) suggest cutoffs below 0.08 for SRMR, 0.06 for RMSEA and above 0.95 for CFI. For the PsyCap Arabic version, the Goodness of Fit Index is .993, the adjusted Goodness of Fit Index is .963 and the comparative fit index is .992. For task performance, the Goodness of Fit Index is .910, the adjusted Goodness of Fit Index is .820 and the comparative fit index is .916. For job characteristics, the

Goodness of Fit Index is .959, the adjusted Goodness of fit Index is .876 and the comparative fit index is .834.

4.3. Correlational analyses

As shown in Table 1, a comparison of the correlation coefficients of PsyCap and its four components indicates that resilience bears the strongest relationship to task performance with $r = .15$, as compared to self-efficacy ($r = .13$), hope ($r = .12$) and PsyCap ($r = .13$). Further, a positive significant relationship ($r = .63$, $p < .01$) was noted between PsyCap and Core job characteristics as well as each job dimension. Simple regressions showed significant relationships for the same significant relationships shown in the correlational analyses table.

4.4. Regression analysis

A regression model using SPSS was created where task performance was regressed on the three PsyCap components (Table 2). Based on the beta values of each component, determined by simple regressions, where resilience, hope and self-efficacy were found to predict performance, resilience was entered into a regression equation with task performance as a dependent variable. In step 2, self-efficacy was entered to test the additional variance in task performance that could be explained, however, was not found to explain any. Then hope was entered in step 3 and was also not found to explain any variance. Thus, resilience was the only significant predictor of task performance ($\beta = .15$, $p < .05$). Optimism was not included since it showed no significance anyway.

A second regression model was created where PsyCap was regressed on the five job characteristics (Table 3). Based on the beta values of each of the job characteristics, job autonomy was entered into a regression equation with PsyCap as a dependent variable. In step 2, job identity was entered to test the additional variance in PsyCap that could be explained by job identity. Then task significance was entered in step 3 followed by job feedback in step 4 and finally skill variety in step 5.

The results showed that 43.7% ($p < .05$) of the variance in PsyCap could be accounted for by model 4. Job autonomy accounted for 26.2% ($p < .01$) of the variance in PsyCap. Entered in the second block, job identity accounted for an additional 6.2% ($p < .01$) in PsyCap. In the third block was task significance

which explained an additional 6.5% ($p < .01$). Job feedback also explained an additional 4.8% ($p < .01$). Although if entered alone skill variety was a significant predictor of PsyCap, skill variety did not account for any additional variance in PsyCap (R change = .04). Job autonomy, job identity, task significance and job feedback were the four variables which significantly predicted the variation in the model, with job autonomy being the strongest predictor ($\beta = .303$, $p < .01$).

4.5. Further analyses

We conducted regression models where each of the PsyCap constructs was regressed on the different job characteristics constructs. First, for self-efficacy, job autonomy accounted for 16.2% ($p < .01$) of the variance in self-efficacy. Entered in the second block, task significance accounted for an additional 5.6% ($p < .01$). In the third block job feedback explained an additional 3.2% ($p < .01$). However, when job identify and skill variety were added to the equation, the changes in R square were not significant. Job autonomy, task significance and job feedback were the three variables which significantly predicted the variation in the model, with job autonomy being the strongest predictor ($\beta = .264$, $p < .01$).

As for optimism, job identity accounted for 15.8% ($p < .01$) of the variance in optimism. Entered in the second block, job autonomy accounted for an additional 6.5% ($p < .01$) in optimism. However, when task significance, job feedback and skill variety, were added to the equation, the changes in R square were not significant. Job identity and job autonomy were the two variables which significantly predicted the variation in the model, with job identity being the strongest predictor ($\beta = .288$, $p < .01$).

For hope, job feedback accounted for 19.1% ($p < .01$) of the variance in hope. Entered in the second block, job autonomy accounted for an additional 9.9% ($p < .01$) in hope. Job identity explained an additional 4.3% ($p < .01$). Task significance explained an additional 2.3% ($p < .01$) and skill variety explained an additional 1.4% ($p < .05$). The five job characteristics were all statistically significant predictors with job feedback being the strongest predictor ($\beta = .310$, $p < .01$).

For resilience, task significance accounted for 14.6% ($p < .01$) of the variance in resilience. Entered in the second block, job autonomy accounted for an additional 6.6% ($p < .01$) of the variance in resilience. Job feedback explained an additional 2.4% ($p < .01$). However, job identity and skill variety did not account

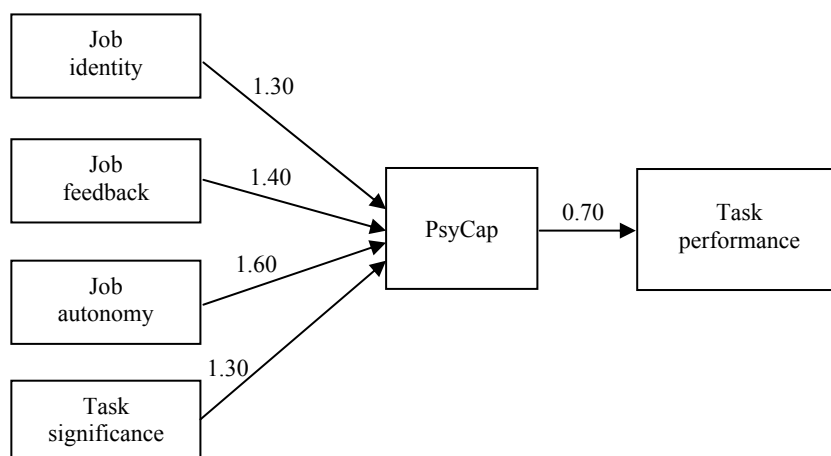
for any additional variance in the model. Task significance was the strongest predictor with $\beta = .254$ ($p < .01$).

4.6. Structural equation modelling

Structural equation modelling (Amos 5) using maximum likelihood procedure was applied (Bentler, 1990; Bentler & Bonett, 1980). As a first step, confirmatory factor analysis was used to verify the model. Second, structural paths were examined. Skill variety was not included in the model as it was not found to explain additional variance in PsyCap through the regression analysis.

The research model fitted the data with a reasonable error of approximation (RMSEA = .191; Adjusted GFI = .724). The SEM path model is presented in Figure 2. The test statistics indicate that the model fits the data well. The RMSEA = .191, indicating that the data fit the model with a reasonable error or approximation. The other goodness of fit indicators were as follows: CFI = .612; GFI = .868, thus confirming the fit of the model with the data. However, as shown in Figure 2, no direct paths were shown between job characteristics and task performance. Therefore, the model predicted complete mediation with no direct paths between the job characteristics and the task performance included. Figure 2 shows the standardised regression coefficients for the dependent variables.

Figure 2. A model of Antecedents to PsyCap as well as its relationship to Task performance (Path Analyses)



Note: $B = > .05, p < .001$.

5. Discussion

The recently proposed construct of PsyCap has received great attention from scholars (Luthans et al., 2005, 2007b, 2008a) based on the call for positive organization behaviour (Luthans, 2002a; 2002b). While studies have focused on the consequences or outcomes that relate to PsyCap (Luthans et al., 2004, 2007b; Luthans & Youssef, 2004), this study aimed at investigating possible antecedents to PsyCap. Thus, drawing from the job characteristics theory (Hackman & Oldham, 1975), and based on the commonality between the critical psychological states found in the theory and the PsyCap components, the five dimensions of the job characteristics were expected to serve as antecedents for PsyCap. Moreover, the study also aimed at investigating the relationship between PsyCap and task performance and whether the former predicts the latter. Additionally, the psychometric properties of the Arabic questionnaires were also assessed.

There has been a great deal of interest in psychological capital in recent years. However, the antecedents of PsyCap were not given much attention. This study provides one of the first empirical tests of the antecedents of PsyCap and makes a number of contributions to this emerging area.

Consistent with PsyCap studies conducted in the USA and China (e.g. Luthans et al., 2004, 2007b; Luthans & Youssef, 2004), the results of this study provided initial support that the PsyCap of Egyptian employees is related to their task performance. However, PsyCap predicted only 1.9% of the variance in task performance. One explanation behind this small amount of variance is how performance was measured. That is, for example when PsyCap was found to predict 7% of the variance in performance among Chinese workers (Luthans et al., 2005), performance was measured using a supervisor rating technique. While, when performance was measured through actual performance evaluation for another sample, PsyCap predicted 10% of the variance in task performance. Our results show the importance and cross-cultural validity of PsyCap.

Simple regression also showed that the core construct of PsyCap is a significant predictor of task performance. Moreover, self-efficacy, hope and resilience were found to be significant predictors of task performance when examined individually in simple regressions. However, resilience was the most powerful predictor. Resilience as a PsyCap construct is mainly about bouncing back from a negative or even a positive situation or incident (Luthans, 2002a). A person who is able to bounce back is the one who can effectively assess risks and assets and so is able to adapt (Luthans et al., 2006). Employees with high scores on the

Resilience scale seem more likely to adapt to change, recover quickly and take action, and are also good at evaluating themselves. Thus, it is possible that resilience can contribute to one's ability to perform his/her own duties and responsibilities despite of risk, adversity or any changes.

As for self-efficacy, simple regression showed that it is a significant predictor of task performance. The relationship between self-efficacy and task performance is not surprising as self-efficacy is about the belief that one has the capabilities to accomplish a specific task (Stajkovic & Luthans, 1998). Hope was also proved to be a significant predictor of task performance. Hope in the PsyCap theory is based on two components, agency and pathways (Snyder et al., 1991; 1996). Employees who scored high on the Hope Scale seem more likely to find ways and alternatives for accomplishing a task as well as motivation toward achieving those tasks. Thus, it is possible that employees who are high on hope fulfill their tasks and accomplish their goals, which are also dimensions of the task performance.

Finally, optimism was not found to be related to, or predict, task performance. One explanation for the absence of significant results for optimism may be found with the optimism scale used in the PsyCap questionnaire. Items that were reverse coded had lower reliabilities so it might have been that participants could not understand them. Additionally, the study only focused on task performance and not on extra roles or contextual performance. If performance was measured in terms of other criteria rather than doing the task, results may have differed.

A key finding of this study is that employees' perception about job characteristics was found to be significantly related to their PsyCap. Further, simple regression showed significant positive relationships between skill variety, job autonomy, task significance, job feedback, job identity and each of the four components of PsyCap. This study also hypothesised that the five job characteristics could serve as antecedents to PsyCap. Simple regression showed that the five job characteristics of job autonomy, job identity, job feedback, task significance and skill variety are statistically significant predictors of PsyCap. Job autonomy was found to be a significant predictor of PsyCap and all of its components. Moreover, job autonomy was the most significant predictor of PsyCap and self-efficacy. Employees with high scores in job autonomy seem more likely to have freedom in their jobs. Thus, it may be that the freedoms that their jobs give makes them feel self-officious as they can accomplish a specific task and thus gain experience (Stajkovic & Luthans, 1998). This freedom will also affect hope as the employee has the freedom to come up with different solutions (pathways)

and motivate himself/herself toward achieving such solutions (Snyder, 2002). That is, the more autonomy an employee has the more hopeful he/she will be. As for optimism, it is likely to assume that one would expect the best if he/she is not limited in the way he/she performs the job. Finally, employees seem more likely to adapt and accept change if their job provides them with substantial freedom as they will be more able to assess their assets and risks (Luthans et al., 2006).

Task significance was found to be a significant predictor of PsyCap and all of its components. Moreover, task significance was the most significant predictor of resilience. Employees who scored high in task significance seem more likely to perceive their job as important and having an impact on the lives of others (Oldham & Hackman, 1975). Thus, this perception might affect their degree of confidence about their abilities (self-efficacy), motivate them to create pathways (hope) and to adapt quickly (resilience). Job feedback was found to be a significant predictor of PsyCap. Employees who scored high in job feedback are the ones that their job provides with clear performance information. Receiving positive feedback increases one's self-efficacy (Luthans, 2002a).

Job identity was found to be a significant predictor of PsyCap, hope, optimism, self-efficacy and resilience. Moreover, job identity was the most significant predictor of optimism. Employees with high scores in job identity are the ones who are able to perform a whole piece of work (Oldham & Hackman, 1975). The link between optimism and job identity might be because job identity makes you feel comfortable with the future outcomes as everything is within your hands. Thus, job autonomy is a predictor of optimism. Further, as job autonomy gives the employee the freedom in performing the task (Hackman & Oldham, 1975), which might include setting goals as well, it is likely to conclude that job autonomy can predict hope.

Finally, results showed that PsyCap mediates the relationship between job characteristics and task performance. Thus, like critical psychological states, positive state-like capacities are also crucial for the effect of the five job characteristics. Psychological ownership was suggested to be added to the job characteristics model (Pierce, Jussila, & Cummings, 2009). Thus, PsyCap as examined here could also be added to the job characteristics model.

6. Conclusions

This study offers several significant implications for research and theory building. First, the study extends theory of PsyCap. Though several studies examined the link between PsyCap and performance in the U.S.A (Luthans et al.,

2007a, 2008a) and in China (Luthans et al., 2005, 2008b) this study contributed to the research on PsyCap by examining such link in an Arabic country with a culture different than that of the U.S.A where the questionnaire was originally constructed.

This study also adds to the theory on PsyCap and job characteristics by examining antecedents or predictors to PsyCap. While considerable attention has been given to the consequences or outcomes of PsyCap like engagement, organisational citizenship behaviour (Avey et al., 2008), satisfaction, commitment (Luthans et al., 2008b) and performance (Luthans et al., 2005, 2007a, 2008a), possible work antecedents like job characteristics that can predict or increase PsyCap have not been examined yet. In addition, this study extends to the theory relative to job characteristics (Hackman & Oldham, 1975) in many ways. As discussed, job characteristics theory suggested that for positive outcomes like motivation, satisfaction and performance to occur, certain dimensions should be found in a job. These dimensions would result in certain states that in turn affect the outcomes. This study offered other possible state-like capacities that could result from job characteristics and in turn results in positive outcomes. Finally, the study further supports the relevance of PsyCap in Egypt and is consistent with the findings of Badran & Youssef-Morgan's (2015) study where PsyCap was found to be related to job satisfaction. However, it is the first to study task performance as an outcome and thus is a start for several studies in non-western cultures.

This study also adds to business practices in several ways. First, since PsyCap proved to predict performance, organisations should start paying attention to such positive capacities in today's turbulent working environment. The PsyCap questionnaire could be used for continuous improvements in organisations. It could be used for the training needs assessment and then possible training interventions or perhaps certain sessions could be given to employees. Second, human resource management should take into account the importance of PsyCap as a powerful predictor of several positive outcomes. Thus, practices should be tailored toward achieving such capacities by focusing on what improves or enhances them. One possible action is offered in this study which is focusing on the job dimensions. Organisations should evaluate jobs in terms of the five job characteristics and work on improving them.

In addition, companies should pay attention to how jobs within the organisation are designed. Job dimensions should be evaluated along different jobs to make sure there is high degree of autonomy, feedback, identity, and significance

as this will directly impact employee's PsyCap and thus their level of performance. Therefore great implications could be driven from research on job crafting (e.g. Wingerden, Bakker, & Derks, 2016).

As for the study limitations, albeit this study contributed to theory and practice, there are also some limitations that should be discussed. Though relational and prediction conclusions were derived, no causal conclusions can be drawn because of the study design. That is no causal conclusions between PsyCap and task performance or between job characteristics and PsyCap can be drawn. Thus, correlational analyses cannot conclude that the three PsyCap components caused the performance of the employees or that job characteristics caused the employees' PsyCap. For example, employees who are self-efficacious might be performing their task in a very good way anyway and so might be more likely to receive positive feedback. In addition, PsyCap predicted only 1.9% of the variance in task performance. One good explanation behind this small amount of variance is how performance was measured. That is, for example when PsyCap was found to predict 7% of the variance in performance among Chinese workers (Luthans et al., 2005), performance was measured using a supervisor rating technique. While, when performance was measured through actual performance evaluation for another sample, PsyCap predicted 10% of the variance in task performance. Besides, reliability coefficients were in most variables not very high. This is an indication that careful consideration for translation and cultural issues should be addressed in future research. Therefore, we call for a revision of the Arabic version of PsyCap with careful consideration of American English expressions and how it loses meaning sometimes when translated.

In addition, though the questionnaire was carefully designed and translated, cultural differences can still impact the results and outcomes of the study. This might explain the low reliability coefficients, especially in resilience. Thus, it is recommended that the study would be replicated perhaps in other Arabic countries. Finally, for the sample size, it could have been larger. However, due to time limits and the difficulty of reaching participants, it was hard to increase the sample size.

To conclude, although PsyCap has become a hot topic among researchers and also practitioners, little emphasis has been devoted to the study of its antecedents. The results of this study suggest there are a number of job-related antecedents that contribute to PsyCap. It also suggests that the job characteristics theory (Oldham & Hackman, 1975) provides a meaningful theoretical basis for understanding and studying PsyCap. Finally, it sheds light on the importance of

the psychological competences and how they affect performance especially when it comes to an African country like Egypt where the political and economic conditions are always challenging.

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