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# Psychological Capital Development in Organizations: An Integrative Review of Evidence-Based Intervention Programs

**Marisa Salanova and Alberto Ortega-Maldonado**

**Abstract** Psychological Capital (PsyCap) is a recognized and well-investigated set of psychological resources comprised of self-efficacy, optimism, hope, and resilience, and it has been empirically shown to be a good predictor of many important positive attitudes and behaviours, such as psychological well-being, job performance, and goal achievement. PsyCap is an emerging, relevant, and applied topic related to scholarly and professional organizational management activity around the world in the workplace because it can be developed through interventions among employees and leaders. However, there is a lack of comprehensive reviews and updates of the research on PsyCap interventions in workplaces, which might be very useful for both researchers and practitioners developing, implementing or validating Positive Organizational Interventions. This chapter reviews and synthesizes the PsyCap intervention literature on both specific micro-interventions and broader and more extensive PsyCap development programs. Moreover, cultural differences have been found to be important in Positive Psychology Interventions (PPI), and so we particularly examine and summarize cultural differences in the PsyCap development literature. To provide a comprehensive and integrative perspective on this emerging issue, we base our analysis on a recent integrative review in which we systematically searched different types of publications, both research and professional literature, including journal articles, doctoral dissertations, books, chapters, and conference papers. Our conclusions shed light on PsyCap intervention research and practice, and they may help Human Resource Development (HRD) professionals to make evidence-based decisions when implementing PsyCap development programs.

**Keywords** Psychological capital · PsyCap development · PsyCap cultural-differences · Evidence-based interventions

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## List of Abbreviations

| | |
|---|---|
| HRD | Human Resource Development |
| OCB | Organizational Citizenship Behaviours |
| PCI | Psychological Capital Intervention |
| POB | Positive Organizational Behaviour |
| PPI | Positive Psychology Interventions |
| PsyCap | Psychological Capital |

## 1 Introduction

Since the beginning of the twenty-first century, we have been living in an increasingly dynamic, global, and uncertain business world. The information and telecommunications revolution emerged about twenty years ago, and globalization has become a reality. Furthermore, a global economic and financial crisis began ten years ago, seriously affecting consumers, workers, and organizations worldwide. In this new socioeconomic era, contemporary organizations will not be the same (Luthans, Youssef-Morgan, & Avolio, 2015). Organizations have to face dynamic and changing environments, and they need sustainable resources with distinct advantages and a competitive edge (Kraaijenbrink, Spender, & Groen, 2010; Le Blanc & Oerlemans, 2016). In this scenario, according to the resource-based theory (see Newman, Ucbasaran, Zhu, & Hirst, 2014), accumulating traditional material resources (i.e., financial and technological capital) and recruiting experts with many years of experience (i.e., human and social capital) may be insufficient strategies for organizational success (Luthans et al., 2015), and a sustainable and developable workforce could be of vital importance for viability and a competitive advantage (Le Blanc & Oerlemans, 2016).

Thus, at the beginning of the new century, Positive Organizational Behaviour (POB) emerged as a new evidence-based management and practice approach, stressing the role of Human Resource Development (HRD) as a strategic resource (valuable, rare, and imperfectly imitable) to obtain a competitive edge (Luthans, Youssef, & Avolio, 2007; Newman et al., 2014). The main focus of POB is on developing employees' psychological resources in order to enhance their psychological well-being and performance levels, through positive interventions, as a valuable tool to increase workforce sustainability (Le Blanc & Oerlemans, 2016; Luthans, Avey, Avolio, Norman, & Combs, 2006).

A recognized and well-investigated set of psychological resources that is highly involved in task performance and goal achievement is known as psychological capital or simply PsyCap (Luthans, Youssef, et al., 2007). It is defined as "an individual's positive psychological state of development that is characterized by (1) having confidence (efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2) making a positive attribution (optimism) about succeeding now and in the future; (3) persevering toward goals and, when necessary, redirecting paths to goals (hope) in order to succeed; and (4) when beset by problems and adversity, sustaining and bouncing back and even beyond (resiliency) to attain success" (Luthans et al., 2015, p. 2). The four psychological resources of PsyCap have empirically been found to make up a higher-order core construct in which they interact in a synergetic way (Luthans, Avolio, Avey, & Norman, 2007). In other words, the whole is greater than the sum of its parts. PsyCap is a dynamic topic that has experienced rapid growth in the literature (Luthans & Youssef-Morgan, 2017).



There are compilations on the theoretical predictive relationship between PsyCap and employee attitudes, behaviours, and performance (Luthans et al., 2015; Luthans, Youssef, et al., 2007), as well as numerous literature reviews (Dawkins, Martin, Scott, & Sanderson, 2013; Luthans, 2012; Luthans & Youssef-Morgan, 2017; Newman et al., 2014) and meta-analyses (Avey, Reichard, Luthans, & Mhatre, 2011) on this topic. Generally, the PsyCap literature supports the higher-order factor structure of the core construct, the prediction of desirable levels of performance (self-reported, manager-rated, and objective performance), and positive attitudes and behaviours such as problem solving, innovative behaviour, organizational citizenship behaviours (OCB), commitment, job satisfaction, and psychological well-being (Abbas & Raja, 2015; Avey, Luthans, Smith, & Palmer, 2010; Avey, Luthans, & Youssef, 2010; Avey, Wernsing, & Luthans, 2008; Baron, Franklin, & Hmieleski, 2013; Choi & Lee, 2014; Culbertson, Fullagar, & Mills, 2010; Liu, 2013; Luthans, Luthans, & Jensen, 2012; Luthans, Avey, Clapp-Smith, & Li, 2008; Luthans, Avolio, et al. 2007; Luthans, Avolio, Norman, & Avey, 2006; Luthans, Avolio, Walumbwa, & Li, 2005; Peterson, Luthans, Avolio, Walumbwa, & Zhang, 2011; Rego, Marques, Leal, Sousa, & Pina e Cunha, 2010; Youssef & Luthans, 2007), as well as the prediction of lower levels of undesirable attitudes and behaviours such as absenteeism, counterproductive work behaviours, cynicism, deviance, job search behaviours, stress, and turnover intentions (Abbas & Raja, 2015; Avey, Luthans, & Jensen, 2009; Avey, Patera, & West, 2006; Avey et al., 2008, Avey, Luthans, & Youssef, 2010; Choi & Lee, 2014).

Moreover, PsyCap has been conceptualized—and empirically demonstrated—as a malleable state-like psychological resource, which means that it can be developed through Positive Psychology Interventions (PPIs) (Luthans, Avey, & Patera, 2008; Luthans et al., 2015), making it a very interesting variable for practitioners who want to invest in evidence-based positive actions now in order to reduce future costs. Since Luthans and colleagues proposed the Psychological Capital Intervention (PCI) model (Luthans, Youssef, et al., 2007), a cumulative body of research on PsyCap development has been published. There is empirical evidence about face-to-face micro-interventions (Luthans, Avey, Avolio, & Peterson, 2010) and web-based interventions (Luthans, Avey, & Patera, 2008) in samples of students and employees (Dello Russo & Stoykova, 2015), people at risk of social exclusion (Rew, Powell, Brown, Becker, & Slesnick, 2017), and expatriate workers (Reichard, Dollwet, & Louw-Potgieter, 2014). The majority of the PsyCap intervention literature replicates the PCI. However, some of the research is based on PCI, but introduces some variations (Rew et al., 2017), developing a new PsyCap intervention approach (Zhang, Li, Ma, Hu, & Jiang, 2014) or combining PsyCap and strengths interventions (Mey-

ers, Van Woerkom, De Reuver, Bakk, & Oberski, 2015). There is also evidence of a PsyCap increase at the end of the intervention (Luthans, Avey, & Patera, 2008), and even after a follow-up period (Reichard et al., 2014). Moreover, PsyCap development increases positive outcomes in performance levels (Luthans et al., 2010), assertiveness (Demerouti, Eeuwijk, Snelder, & Wild, 2011), positive emotions (Reichard et al., 2014), and job satisfaction (Harty, Gustafsson, Björkdahl, & Möller, 2016).

However, to the best of our knowledge, there has been no comprehensive review and update of the research on PsyCap interventions, which might be very useful for both researchers and practitioners engaged in Work and Organizational Positive Psychology. To begin to fill this gap and facilitate more rigorous HRD and performance programs and increase practitioners' confidence in PsyCap interventions, Ortega-Maldonado (2018) performed an integrative review of 32 works on PsyCap interventions, including different types of publications such as journal articles, doctoral dissertations, books, chapters, and conference papers (reviewed studies appear in Table 1). Based on this work, in this chapter we synthesize different published strategies, procedures, and methodologies for PsyCap development and analyse their effectiveness and results. We especially explore whether there are cultural differences in PsyCap development, and we compare the advantages and disadvantages of each intervention.

## 2 Method

To provide a comprehensive and integrative perspective on PsyCap interventions, Ortega-Maldonado (2018) systematically searched in his dissertation both research and professional literature, including journal articles, doctoral dissertations, books, chapters, and conference papers. First, three databases on business, management, and psychology were searched (i.e. PsycNet, ABI/INFORM complete, and ProQuest Central). Two keywords were used as descriptors ("psychological capital" and "PsyCap"), combined with one operator "and" ("intervention") in two different fields: "title" and "abstract". Literature on PsyCap interventions was selected for review only if, after reading the abstract, it met all of the following inclusion criteria: (1) they were focused on PsyCap interventions (application and evaluation), (2) they were written in English or Spanish, and (3) they were accessible either searching in the author's University electronic library or requesting from the corresponding authors by email.

Second, the search was completed by using additional sources of information, such as publications included in the Google Scholar and Researchgate profiles of the main PsyCap authors, or articles published in a topic-related, specific, applied journal: "The Positive Work and Organizations: Research and Practice (PWORP)", which belongs to a scientific and professional association: the Work and Organizations Division of the International Positive Psychology Association (http://www.ippanetwork.org).

To analyse the literature a complete reading of each selected literature source was conducted identifying the intervention objective, characteristics and proce-



**Table 1** PsyCap intervention procedures organized by duration (Ortega-Maldonado, 2018)

| Timing | Type of session | Intervention model | Follow up activities (Transfer of training) | Studies |
|---|---|---|---|---|
| 1 × 30 min | Individual | Reading intervention | – | Zhang et al. (2014) |
| 1 × 37 min | Computer-based (individual) | PCI | – | Griffith (2010) |
| 1 × 1 h | Face-to-face (group) | PCI | – | Luthans, Avey, et al. (2006), O' Reilly (2016) |
| 1 × 2 h | Face-to-face (group) | PCI | – | Gutierrez (2016), Luthans, Luthans, and Avey (2014), Luthans, Avey, et al. (2006, 2010) |
| 1 × 2 h | Face-to-face (group) | Cross-cultural PsyCap training | – | Reichard et al. (2014) |
| 1 × 2 h | Face-to-face (group) | PsyCap development training program (similar to PCI) | – | Ertosun, Erdil, Deniz, and Alpkan (2015) |
| 1 × 2.5 h | Face-to-face (group) | PCI | – | Luthans, Avey, et al. (2006), Luthans, Youssef, et al. (2007) |
| 1 × 1–3 h | Face-to-face (group) | PCI | – | Luthans, Youssef, et al. (2007) |
| 1 × 1–3 h | Face-to-face (group) | HERO workshop (similar to PCI) | – | Dello Russo (2014, Dello Russo and Stoykova 2015) |
| 1 × 3 h | Face-to-face (group) | PCI | – | Diedrich (2015) |
| 1 × 3 h | Face-to-face (group) | SOAR personal branding intervention | – | Bell (2016) |
| 1 × 3.5 h | Face-to-face (group) | PCI + happiness | Weekly (4 weeks) | Hodges (2010) |
| ½ day | Face-to-face (group) | Strengths intervention | Homework tasks | Meyers and Van Woerkom (2017) |

(continued)

**Table 1** (continued)

| Timing | Type of session | Intervention model | Follow up activities (Transfer of training) | Studies |
|---|---|---|---|---|
| 1 day | Face-to-face (group) | Strengths intervention | 2 short homework tasks (2 weeks and 2 months after) | Meyers et al. (2015) |
| 1 day | Face-to-face (group) | Deficiency intervention | 2 short homework tasks (2 weeks and 2 months after) | Meyers et al. (2015) |
| 2 × 45 min | Computer-based (individual) | PCI | – | Luthans et al. (2008) |
| 2 × 1 h (1/week) | Face-to-face (group) | Navigating the college experience (similar to PCI) | – | Bauman (2014) |
| 2 × 4 h (1 day off) | Face-to-face (group) | PsyCap components intervention | – | Larson (2004) |
| 3 × 1.5 h (6 weeks) | Face-to-face (individual) | Brief resilience coaching programme | Pre-work activities | Sherlock-Storey, Moss, and Timson (2013) |
| 3 × 2 h (consecutive days) | Face-to-face (group) | Positive psychology training intervention | – | Williams, Kern, and Waters (2016) |
| 3 × 4 h (5 weeks) | Face-to-face (group) | JD-R intervention | Homework tasks between session 2 and 3 (4 weeks) | Van Wingerden, Bakker, and Derks (2016) |
| 3 sessions (6 weeks) | Face-to-face (group) | Personal resources intervention | Homework tasks between session 2 and 3 (4 weeks) | Van Wingerden, Derks, and Bakker (2017) |
| 3 sessions (6 weeks) | Face-to-face (group) | Job crafting intervention | Homework tasks between session 2 and 3 (4 weeks) | Van Wingerden et al. (2017) |
| 3 sessions (6 weeks) | Face-to-face (group) | Personal resources + job crafting intervention | Homework tasks between session 2 and 3 (4 weeks) | Van Wingerden et al. (2017) |
| 4 × 1 h | Face-to-face (group) | Health risk behaviours and PsyCap intervention | Weekly phone reminders (4 weeks) | Rew et al. (2017) |
| 1 lunch and learn 2 × 45 min individual 1 × 2 h seminar | Computer-based and face-to-face | PCT (PCI + stress) | 4 × 15 min web-based homework | Hargrove (2012) |
| 5 × 1 h (10 weeks) | Face-to-face (group) | Program on positive focus | – | Harty et al. (2016) |
| 5 × 1 h (10 weeks) | Face-to-face (group) | Program on constructive problem-solving | – | Harty et al. (2016) |
| 8 × 2 h (2 months) | Face-to-face (group) | PCDTI | – | Kalman and Summak (2017) |
| 20 × 2 (10 weeks) | Face-to-face (group) | Career development intervention based on PsyCap | – | Babinchak (2012) |
| No information | Face-to-face (group) | RET | – | Demerouti et al. (2011) |

*Note* JD-R = Job-Demand Resources; PCDTI = Psychological Capital Development Training Intervention; PCI = Psychological Capital Intervention; PCT = Psychological Capital Training; RET = Rational-emotive Therapy; SOAR = Strength, Opportunities, Aspiration, Results



dure (i.e. design, participants, timing, and schedule), and the main results displayed (i.e. PsyCap increase, outcomes, and effect significance and size). In order to homogenize the data reported by every study reviewed, the percentage of increase or decrease in each variable from each study was calculated.

## 3 Developing PsyCap Through a Specific Micro-intervention: The PCI Model

As Table 1 shows, most of the PsyCap interventions found in the literature (58%) are micro-interventions, a highly focused and very short strategy (1 or 2 sessions) for developing this set of psychological resources (Luthans, Avey, et al., 2006). Micro-interventions are a highly cost-effective tool for HRD practitioners and man-

agers (Luthans et al., 2015) that might lead organizations towards a culture of health and resilience (Salanova, Llorens, Cifre, & Martínez, 2012). Of these micro-interventions, the most popular procedure for developing PsyCap to date is the Psychological Capital Intervention model (PCI) (Luthans, Avey, et al., 2006). At least 38% of the studies reviewed conducted PCI, either the original version proposed by Fred Luthans and colleagues or an adapted or similar intervention based on the PCI proposal. PCI is a micro-intervention that generally consists of a 1–4 h group workshop designed to develop PsyCap through different strategies to increase participants' levels of each of the four PsyCap components. Based on previous research on self-efficacy, hope, optimism, and resilience development, PCI presents participants with a wide range of activities designed to develop each resource through several cognitive and affective strategies (Luthans, 2012). Moreover, due to the higher-order core construct property of PsyCap, the PCI approach is a synergetic model based on increasing PsyCap through the reinforcing effects of developing its components in the activities performed (for more information about PCI, see Luthans, Avey, et al., 2006; Luthans et al., 2015; Luthans, Youssef, et al., 2007). Next, we synthesize the psychological strategies detected in the literature review to develop each of the PsyCap components.

*Hope* development strategies are mainly grounded in Snyder's (2000) theory and research on Hope, which proposes two primary cognitive processes for hope-building: will-power (agency) and way-power (pathway). Hope is conceptualized as a positive goal-directed motivational state, and so several activities to improve the individual's goal design capacity were suggested in the literature. Thus, activities such as SMART goal-setting (designing Specific, Measurable, Achievable, Relevant and Time-bound goals), stepping (dividing goals into several sub-goals), and learning to fit goals to personal values and challenges, are conducted to enhance agency (Luthans et al., 2015). On the other hand, way-power is addressed as a pathway generation capacity to overcome obstacles. Activities are focused on learning to adopt an approach orientation rather than an avoidance orientation, obstacle planning and designing alternative pathways, and positive self-talk training. Participants usually work on their own the first time and then share their ideas and reflections through group activities. Practices such as real task-related role-play are also performed in hope development training.

*Optimism* development strategies are mainly based on the positive expectancy definition of this positive resource (Seligman, 2011). Optimism training is focused on learning to accept the past, appreciate the present, and be confident through opportunity-seeking for the future. Suggested activities are again self-talk training in positive and realistic expectations and reported activities such as the "best positive self" exercise (Sheldon & Lyubomirsky, 2006) and the ABCDE model (Seligman, 2011). This is a cognitive strategy to address life's bad circumstances, become aware of real Adversity, self-related Beliefs, and real Consequences, Dispute personal negative beliefs, and Energize proactive behaviour to overcome setbacks. Because PsyCap is a higher-order construct, optimism is also developed through hope, self-efficacy, and resilience training.



*Self-efficacy* development strategies are grounded in social cognitive theory (Bandura, 1997), which proposes self-efficacy development via five psychological processes: task mastery, vicarious learning and role modelling, social persuasion, positive feedback, and physiological and psychological arousal. Activities suggested in the PsyCap development literature are visualization (mastery-experiences) and communication skills exercises (positive feedback). Moreover, self-efficacy is trained through group interaction (social persuasion) and facilitator interaction (modelling).

*Resilience* development strategies are designed to obtain an ideal resilience process, characterized by having a realistic and objective perception of negative events and performing ideal reactions when setbacks arise. The interventions reviewed focused on three well-recognized elements of resilience: (1) increasing asset factors, (2) decreasing risk factors, and (3) enhancing an adaptive perception of influence processes when adverse events occur (Masten, 2001). Thus, suggested activities to increase asset factors included recognizing and increasing personal, group, and organizational resources, such as personal reflexion and communication skill exercises. Suggested activities to decrease risk factors were focused, on the one hand, on diminishing stressors through visualizing, anticipating, and planning obstacles in order to proactively avoid the risk of adversities. On the other hand, activities were focused on mobilizing the power of the individual's adaptation system through training in adaptive coping and problem-solving strategies, enhancing stress management skills, and practicing goal-setting exercises. Suggested activities for enhancing the adaptive perception of influence processes when adverse events occur involved cognitive reframing of adverse events (ABCDE model). In summary, the resilience development strategies were mostly designed to increase participants' level of control and pathway generation when obstacles arise and interfere with the desired goal.

## 3.1 *Micro-interventions' Efficacy*

PCI or similar PsyCap micro-interventions are conceptualized as a cost-effective tool for developing PsyCap. However, scholars and practitioners might wonder whether this procedure is really effective and worthwhile in terms of HRD investment (Luthans & Youssef-Morgan, 2017). According to our review, the average PsyCap increase after this type of intervention was 3.11%, ranging from −5.60% (decrease) to 7.50%, with the majority obtaining an increment of 2–4%. Moreover, some of these studies obtained an increase of about 5% (Dello Russo & Stoykova, 2015; Ertosun et al., 2015; Reichard et al., 2014), and one developed PsyCap by 7.50% (Reichard et al., 2014). The increase in PsyCap participants' levels was statistically significant,[1] except for the study conducted by Bauman (2014). Effect sizes reported were small (Cohen's *d* ranged from 0.19 to 0.40) (Bauman, 2014; Luthans, Avey, & Patera, 2008, 2010), which is consistent with effect sizes in the Positive Psychology interventions literature (see Bolier et al., 2013, for a positive interventions meta-

[1]Some articles did not report information about significant differences.

analysis). However, two of the micro-interventions reviewed were not successful in increasing PsyCap participants' levels, which hardly increased (0.40%) or even decreased (−5.60%) (Griffith, 2010; Hodges, 2010). Despite of these unsuccessful results weren't statistically significant, it was argued that their results may be due to the so-called ceiling effect (i.e., participants' level scored near the upper limit at the pre-test so that developing PsyCap through the intervention was almost impossible) (Griffith, 2010). Furthermore, the qualitative data were successful in reporting changes in the variables of study (Hodges, 2010).

## 4 Developing PsyCap Through Broader Positive Psychology Interventions

As Table 1 shows, other interventions for developing PsyCap consist of general PPI (Williams et al., 2016) or specific PPI, such as strengths development (Bell, 2016; Meyers & Van Woerkom, 2017; Meyers et al., 2015), personal resources interventions (Van Wingerden et al., 2017), and positive focus training and constructive problem-solving exercises (Harty et al., 2016). Moreover, the PsyCap intervention literature also utilizes Organizational or Clinical Psychology procedures to enhance participants' PsyCap levels, such as Ellis Rational-Emotive Therapy (RET). For example, Demerouti et al. (2011) conducted a training program based on this psychotherapeutic approach with 36 Dutch employees, showing an increase in the four PsyCap dimensions after the training intervention. Unfortunately, there was no control group to compare training program effects. More recently, Manesh and Shibani (2018) conducted an Ellis intervention model to promote the psychological capital of 60 experts working in industrial centres in the Iran Khodro Diesel Company. They used a randomly controlled design with experimental and control groups. The experimental group received training in 10 two-hour sessions using the Ellis rational emotive behavioural method, and results supported the increase in PsyCap in these employees compared to the control group, even on the follow-up measures.

Other Work and Organizational psychology interventions, such as career development (Babinchak, 2012), job crafting intervention (Van Wingerden et al., 2017), job demands and resources intervention (Van Wingerden, 2016), coaching (Sherlock-Storey et al., 2013), savouring (Sytine, Britt, Sawhney, Wilson, & Keith, 2018), and personal branding interventions (Bell, 2016), appeared in the literature as PsyCap development strategies. Furthermore, researchers also designed PsyCap development strategies that combine PCI and specific positive contents. There are combinations of PCI and happiness (Hodges, 2010), stress management (Hargrove, 2012), health risk behaviour avoidance (Rew et al., 2017), and even cross-cultural interactions (Reichard et al., 2014). However, it is important to note that there is also research on PsyCap development based on traditional Psychology, either with traditional contents such as deficiency intervention (Meyers et al., 2015) or traditional procedures such as a reading intervention (Zhang et al., 2014).



Finally, regarding the interventions conducted in more than two sessions (42%), they obtained an average increase of 4.56%, ranging from 1.20 to 8.88%. Two of these lengthenedPsyCap interventions obtained an increase of about 8% (Babinchak, 2012; Demerouti et al., 2011). The rest of the studies (N = 9) reported an increase in participants' PsyCap levels of about 1, 2, or 4%. These interventions again obtained an increase in participants' PsyCap levels, and this increment was statistically significant[2] (except for Hargrove, 2012). Moreover, the Van Wingerden et al. (2016) study reported a large effect size of the intervention ($\eta^2 p = .27$), even when other-rated evaluations were used ($d = 0.89$) (Demerouti et al., 2011).

## 5 Comparing Micro Versus Long-Term Interventions

Many of the studies reviewed (62%) reported between-groups comparisons. These comparisons were successful in a wide range of studies, both in micro- and long-term interventions. In the case of PCI or similarly successful comparison studies, Bauman (2014) and Luthans et al. (2014) obtained highly significant differences between the PCI condition and a control or waiting list condition in university students. In addition, Zhang et al. (2014) found that using a brief 30-min structured reading materials-based PsyCap intervention significantly increased participants' levels of PsyCap, compared to workers who did not participate. Highly significant results were also found in a long-term PsyCap intervention. Babinchak (2012) reported a significant development of students' PsyCap levels, compared to a waiting list, in his career development program consisting of 20 two-hour sessions in 10 weeks.

Moreover, some of the PsyCap micro-intervention literature did not find significant differences between participants and control groups or a WL (waiting list) condition (or did not report them). Some of this literature carried out PCI with university students and workers (Ertosun et al., 2015; Luthans, Avey, et al., 2006; Luthens et al., 2010; Luthans, Avey, & Patera, 2008), whereas three studies corresponded to extended PsyCap programs conducted at work, such as positive psychology training interventions (Williams et al., 2016), job crafting training (Van Wingerden et al., 2017), and PCI plus stress management (Hargrove, 2012). However, some of the reviewed research reported inconsistent results. Thus, on the one hand, we found some PCI or similar studies that reported unsatisfactory effects in group comparison results (Griffith, 2010; Hodges, 2010; Larson, 2004; O' Reilly, 2016). Methodological problems in conducting the interventions and ceiling effects due to high baseline levels of PsyCap were discussed by the authors as possible explanations for these negative results. On the other hand, a four-week health risk behaviour and PsyCap intervention did not report satisfactory results when comparing the two conditions (Rew et al., 2017). However, participants in this program were a population at social risk, and it must be kept in mind that PsyCap development was not originally designed for people with mental health problems.

[2]See Footnote 1.

## 5.1 PsyCap Interventions' Durability

Some of the reviewed studies (24%) reported follow-up measures designed to assess the durability of the PsyCap intervention effects. The results reported generally support the sustained effects of PsyCap micro and long-term interventions, measured in a range from 2 weeks to 6 months. Bauman (2014) measured PsyCap two weeks after a micro-intervention ended and found that participants' levels of PsyCap remained at the baseline level. However, the waiting list levels significantly decreased (5.8%, $p <$ .01), and this difference between groups was highly significant ($p < .05$, $\eta^2 p = .18$), confirming the post-intervention results. Additionally, other researchers performed the follow-up measure one month after the last training session. For example, two micro-interventions showed maintenance of participants' increased PsyCap levels after the program ended (Dello Russo & Stoykova, 2015; Meyers & Van Woerkom, 2017). These results were confirmed in between comparisons. For instance, significant differences with small effect sizes were found between the experimental and WL conditions in two studies: Dello Russo and Stoykova (2015) ($p < .05$, $d = .34$) and Meyers and Van Woerkom (2017) ($p < .05$, $\eta^2 p = .05$). Additionally, at the one-month follow-up after a long-term intervention (Rew et al., 2017), PsyCap levels continued to increase in the experimental condition, but the WL also reported a similar increase.

Regarding longer follow-up research designs, Reichard et al. (2014) measured PsyCap between one and two months after their cross-cultural PsyCap micro-intervention ended. They found that participants' PsyCap levels remained higher than baseline ($p < .01$), even though the scores were lower than in the post measurement. The same results were found by Zhang et al. (2014) in a three-month follow-up; furthermore, they found large significant differences between participants in their short reading intervention and the WL ($p < .01$). Additionally, a six-month follow-up study of a ten-week program on constructive problem-solving reported higher levels of participants' PsyCap compared to baseline (Harty et al., 2016).

Finally, the study by Meyers et al. (2015) reported two different follow-up measures after the first and third month, where PsyCap levels of participants showed a "rollercoaster" pattern. They increased after the micro-intervention, started to decrease one month later, and finally reached the highest scores in the third month. These results are consistent with PsyCap's definition as a state-like and developable psychological resource (Luthans, Youssef, et al., 2007).

## 5.2 PsyCap Interventions and Positive Organizational Outcomes

Some of the reviewed PsyCap interventions were designed to enhance not only participants' PsyCap levels, but also positive organizational outcomes such as employee performance, either self-reported or manager-rated. In both micro and long-term interventions, in-role self-reported performance was positively developed. Van Wingerden et al. (2016) found a significant 1.75% increase in participants' performance compared to a WL ($p < .05$) after a five-week JD-R intervention. Zhang et al. (2014) conducted a short reading intervention and found a significant increase of 3.8% in participants' performance, compared to a WL ($p < .001$), which remained after three months ($p < .05$). Extending the self-reported measure of performance, some studies combined self-reported measures with manager-ratings, showing increases on both measures (Hodges, 2010; Luthans et al., 2010). Moreover, Luthans and his team reported a high and significant increase in participants' self-reported performance (10.89%, $p < .01$, $d = .96$) and a small and significant increase in manager-rated performance (6%, $p < .05$, $d = .35$).



In addition to job performance enhancement, three studies aimed to increase positive job attitudes. Demerouti et al. (2011) found a high significant increase in both self-reported (14.6%, $p < .001$, $d = 1.27$) and other-rated (9.55%, $p < .001$, $d = 0.85$) assertiveness after participating in a RET program. Reichard et al. (2014) reported a high significant increase in participants' cultural intelligence after a cross-cultural PsyCap micro-intervention (4.25%, $p < .001$), and this increase was maintained two months later (4%, $p < .01$). They also reported a decrease in levels of negative attitudes, such as ethnocentrism at work, at both the post (3.60%, $p < .001$) and follow-up measures (1.6%). Similar positive effects were found after a brief resilience coaching program that achieved a 10.93% ($p < .01$) increase in readiness for organizational change (Sherlock-Storey et al., 2013).

The PsyCap intervention literature also aims to improve employees' health and well-being at work. Regarding engagement, the literature reviewed reported inconsistent results. A longer, general positive resources intervention obtained a 5.83% increase in engagement, which was significantly different from a WL ($p < .01$) (Van Wingerden et al., 2016). However, two PsyCap micro-interventions did not obtain work engagement improvements, compared to the experimental condition and WL (Hodges, 2010; Meyers & Van Woerkom, 2017). Positive results have been found with job satisfaction (4% increase), positive emotions (10.6%, $p < .001$), and work happiness (1%) (Harty et al., 2016; Meyers & Van Woerkom, 2017; Reichard et al., 2014; Williams et al., 2016). Finally, Meyers et al. (2015) reported positive results on a more general well-being measure: personal growth initiative. It showed an increase of about 8.4% after a strengths intervention and about 4.4% after a deficiency-solving intervention. These results remained stable at 1- and 3-month follow-up measures.

Additionally, the literature review showed psychological variables and cognitive mechanisms related to the effectiveness of PsyCap interventions, such as participants' levels of training transfer motivation and perceptions of organizational virtues (Griffith, 2010; Williams et al., 2016). Moreover, participants reported higher levels of positive selective exposure (focus on positive stimuli) than WL members (5 and 0.18%, respectively) (Williams et al., 2016).

### *5.3 Qualitative Data*

Some of the reviewed articles provided qualitative data to complement the quantitative information about the effectiveness of PsyCap interventions. Kalman and Summak (2017) conducted a qualitative study to explore the participants' evaluation of the experience of a PsyCap intervention. Content analysis of semi-structured interviews revealed participants' general satisfaction with the intervention implementation. They found the program to be useful for their personal and professional growth, and they described having higher levels of personal awareness, positive affect, and efficacy in problem-solving after the intervention. Moreover, some of the literature reviewed used a mixed methodology with quantitative and qualitative data. The qualitative data generally confirmed the PsyCap intervention effects found in quantitative research. This literature suggested that participants understood what PsyCap means, and they benefitted from the training transfer of the resources developed to their daily work lives. They reported positive changes at work, feeling more positive emotions and facing difficulties with a more positive approach by being more aware of their personal resources (Diedrich, 2015; Hargrove, 2012; Harty et al., 2016; Hodges, 2010; Van Wingerden et al., 2017).

## 6 Transfer Training Approaches

The main goal of POB training intervention is not only to obtain changes immediately after the intervention, but also to ensure that positive resources acquired during training will be useful in daily work life, in order to truly provide an organizational competitive edge (Nielsen, Randall, & Christensen, 2015). According to this proposal and related to the follow-up methodology explained above (Bauman, 2014; Dello Russo & Stoykova, 2015; Harty et al., 2016; Meyers & Van Woerkom, 2017; Meyers et al., 2015; Reichard et al., 2014; Zhang et al., 2014), some of the reviewed studies designed activities for training transfer. The most widely utilized strategy was planning short daily or weekly follow-up "homework" tasks to develop PsyCap in daily work life. These activities were performed between the intervention sessions (Meyers et al., 2015; Van Wingerden et al., 2017) or when all the sessions had ended (Hargrove, 2012; Hodges, 2010; Meyers & Van Woerkom, 2017), and they were based on reinforcing and practicing the PsyCap contents learned during the sessions (i.e. specific behaviours and cognitions). Electronic devices were utilized by some of these studies reviewed, such as a web-based "homework" format (Hargrove, 2012) or weekly phone reminders to participants (Rew et al., 2017).

Finally, one of the PsyCap intervention studies did not report post-intervention tasks, but rather pre-intervention activities. Sherlock-Storey et al. (2013) conducted a brief resilience coaching program with managers from a public organization. They required participants to complete some workbook activities related to the intervention before the first meeting with the coach assigned to them.



## 7 PsyCap Interventions and Cultural Differences

Research on PsyCap has considered the relevance of cultural differences in this construct. There are numerous studies on this topic, with aspects emerging such as: the evidence of cultural differences in Psycap (Dorling, 2017), measure sensitivity to cultural differences (López-Núñez, de Jesús, Viseu, & Santana-Cárdenas, 2018), implications of measuring cross-cultural PsyCap in employees who work internationally or within a diverse workplace (Dollwet & Reichard, 2014), and cultural boundary conditions of current tools employed for empirical research on PsyCap (Avey, 2014). Moreover, there are evidence for a cross-cultural nine-item PsyCap instrument with three factors, based on a large study with a sample of 56,363 employees from 12 national cultures (GLOBE project) (Wernsing, 2014), or even for the identification of cultural psychological capital as an important resource for expatriates (Avey, Nimnicht, & Pigeon, 2010; Yunlu & Clapp-Smith, 2014).

Regarding the PsyCap intervention literature, as we show in this chapter, there are studies on employees, supervisors, students, and unemployed people across different jobs, organizations and even countries. However, regarding countries, it is important to note that the majority of the research was conducted in Western contexts, for example, in the USA (53%) and Europe (34%, specifically in Bulgaria, Ireland, The Netherlands, Turkey, Spain, Sweden, and UK). However, there were only three studies in Asia (two in China and one in Iran), one in South America (Venezuela), one in Africa (South Africa), and one in Oceania (Australia). So far, there are many more studies in Western countries on PsyCap interventions that could be replicated in other Eastern cultures and countries in order to validate past results.

Cultural and societal settings are important factors to consider in POB and HRD interventions (Luthans & Youssef-Morgan, 2017). For example, this is illustrated by the PsyCap intervention conducted by Zhang et al. (2014) in an Eastern context. These researchers designed a structured reading materials-based PsyCap intervention in which participants read a text about psychological capital individually and silently. The material was designed according to the PCI model, and participants had 30 min to carefully read it and comprehend its meaning. At the post-test, participants' PsyCap levels had significantly increased, compared to workers who did not participate, and this increase remained stable after three months. Moreover, this short reading intervention produced a significant 3.8% increase in participants' performance, compared to those who did not participate, which also remained stable after three months. However, all of the individual PsyCap development studies conducted in Western contexts were computer- or web-based interventions, which are suitable for the individual approach due to their didactic characteristics (Griffith, 2010; Hargrove, 2012; Luthans, Avey, & Patera, 2008). Thus, it is worth wondering whether it would be possible to conduct this structured reading materials-based PsyCap intervention in Western contexts, where HRD scholars are concerned with engaging participants in PsyCap interventions and have suggested using gamification strategies supported by hand held devices, video games, or smartphone apps, as a new type of PsyCap development strategies (Luthans & Youssef-Morgan, 2017).

Finally, the applicability of PsyCap development has extended into the domain of cross-cultural interactions. Reichard et al. (2014) conducted a PsyCap intervention designed to increase cross-cultural PsyCap and cultural intelligence and decrease ethnocentrism. They reported a highly significant increase in participants' cultural intelligence after the training that remained two months later. They also reported a decrease in levels of negative attitudes, such as ethnocentrism at work, at both the post and follow-up measures. As the authors of this study suggest, the findings from this study provide important practical applications for the contemporary global work setting, which is leading most societies to become increasingly more multicultural and diverse.

In summary, PsyCap interventions emerge as a social and development strategy to reinforce social cohesion and inclusion in organizations and society at large. From our perspective, effectiveness research on PsyCap interventions from a cross-cultural viewpoint helps to advance the scientific knowledge on this topic.

## 8 Limitations and Future Directions

Our study has limitations what could be solved in future research. First, inclusion criteria for this review could be put apart and no reviewed some studies. Future studies could include more papers and research with inclusion criteria broader. Second, although the studies reviewed found increases in participants' PsyCap levels after the interventions that were also statistically significant, with a broad range of effect sizes, further research should investigate PsyCap interventions by improving statistical power and significance. Two strategies could be useful: using larger sample sizes and using different methodologies for the traditional analysis of variance, such as longitudinal growth models (Moskowitz et al., 2017).

Results obtained did not lead to robust conclusions about the sustainability of the effects, and there were large discrepancies between the studies' follow-up measures, ranging from 2 weeks to 6 months. Moreover, researchers are interested in determining the sustainability of PsyCap development through longitudinal research designs and analyses, suggesting the need for future follow-up studies with measurements after 1, 3, and/or 6 months, or even after a whole year (Dello Russo & Stoykova, 2015; Meyers & Van Woerkom, 2017; O' Reilly, 2016; Rew et al., 2017; Yuan, Liu, Tang, & Zhang, 2014). Future research on sustaining PsyCap intervention effects might focus on training transfer, testing strategies such as using positive resources in the workplace and receiving reminders from HRD practitioners.

Finally, for greater external validity of the PsyCap intervention research, we suggest further developing research on cultural differences, conducting comparative studies and extending the literature to Eastern contexts. PsyCap development is also relevant for cross-cultural interactions, and so we think further research should investigate whether PsyCap interventions might encourage the construction of more inclusive and respectful societies, contributing to avoiding social problems such as racism or social exclusion and seeking a more diverse world.



## 9 Conclusions

Based on our PsyCap review, we can conclude that PsyCap is a promising developable psychological resource related to positive organizational outcomes. Specifically, we can conclude the following:

- PsyCap interventions seem to be a promising area for researchers and practitioners to increase wellbeing and performance in organizations, as well as other positive attitudes and behaviours.
- Many of the studies are micro-interventions with 1 or 2 sessions, mainly using the Psychological Capital Intervention Model (PCI). Broader PPIs to develop PsyCap also exist, such as focusing on strengths, personal resources, Ellis RET therapy, positive focus and constructive problem-solving activities, career development, job crafting, savouring, and so on. Both types of PsyCap interventions had positive effects on PsyCap, but some inconsistences were also noted. Additionally, in many of these studies, the authors did not report whether there were significant differences between experimental and control/waiting list groups, and so it is difficult to generalize the results.
- Effects durability: results generally support the long-term effects of PsyCap micro and long-term interventions, measured in a range from 2 weeks to 6 months.
- PsyCap interventions were effective in increasing not only baseline levels of PsyCap, but also positive organizational outcomes such as job performance, job attitudes (i.e., assertiveness, cultural intelligence, and change readiness), and employee well-being, as well as training transfer motivation and organizational virtues perception.
- It is relevant to use a combination of quantitative and qualitative methodologies to test the PsyCap intervention effects.
- In order to increase the effectiveness of PsyCap interventions, it is important to focus on strategies to extend transference of these effects, such as follow-up homework.
- Further studies on PsyCap Interventions should use a more sophisticated methodology, improving statistical power and significance, i.e., using larger sample sizes and longitudinal growth models.
- Most of the PsyCap interventions were conducted in western countries such as the USA and various European countries (87% of the reviewed studies), and so many of the conclusions of these interventions can only be generalized to western employees and organizations. In this area, we recommend further developing research on cultural differences, conducting comparative studies, and extending the literature to Eastern contexts.

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# Job Crafting Interventions: Do They Work and Why?

**Evangelia Demerouti, Maria C. W. Peeters and Machteld van den Heuvel**

**Abstract** The majority of job redesign initiatives follow a 'top-down' approach, in which management optimizes job demands and resources to obtain successful organizational outcomes. However, these approaches are not always effective. Little is known about the effectiveness of interventions, where employees proactively optimize their work environment in order to improve their well-being, motivation, and performance. One such job redesign strategy is job crafting. Job crafting is proactive behaviour that enables individuals to fit the job characteristics to their needs and preferences by seeking resources, seeking challenges and reducing demands. The first aim of this chapter is to describe the design of the job crafting intervention, which integrates a two-day crafting workshop intervention, followed by 3 or 4 weekly self-set crafting assignments and a reflection session. The second aim of this chapter is to present theoretical explanations regarding how the job crafting intervention leads to desired changes for both employees and organisations. We base our argumentation on social cognitive theory, experiential learning theory and situated experiential learning narratives. The final aim is to present an overview of the existing evidence regarding the effectiveness of the intervention. It is concluded that the job crafting intervention is a promising tool to help organisations to support and maintain employee well-being and (to a somewhat lesser extent) performance, even during times of organizational change. The chapter ends with several suggestions for future research and practice.

**Keywords** Job crafting intervention · Performance · Well-being

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