Enhancing the psychological capital of teams: Adapting an individual-level intervention for multilevel delivery and evaluation.

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Positive psychology interventions focussed on the conditions and processes that contribute to the flourishing or optimal functioning of people, groups, and institutions (Gable & Haidt, 2005) are increasingly used in organizations as a complement to those controlling risks to psychological health (LaMontagne et al., 2014). Team/group and organizational level positive approaches are being developed, and may prove to yield greater benefits than individual-level approaches or to enhance their effects (LaMontagne et al., 2014). However, given growing emphasis on multilevel conceptualisation and measurement of the construct of employee wellbeing we note that assessing the impact of team interventions at the individual level is problematic (Martin, Karanika-Murray, Biron & Sanderson, 2014).

This chapter outlines an example of a positive organizational behavior intervention that has been reconceptualized for delivery and evaluation within a multilevel framework. First we describe the concept of psychological capital (a superordinate construct representing the psychological resources of hope, resilience, self efficacy and optimism that positively impact work performance) and review the evidence on the efficacy of interventions to develop these resources in employees. Next, we argue that teams could benefit from the development of psychological capital as a 'shared psychological resource', and develop a multilevel model showing how individual and team level psychological capital interact and how this could be harnessed in a team-level intervention. Finally, we discuss measurement and research design issues related to evaluating this form of intervention and provide recommendations to researchers and practitioners interested in implementing the model we have presented.
What is psychological capital and can it be developed?

The paradigm of positive organizational behavior (POB) encompasses research and practice specifically focused on positive human strengths applicable to the workplace (Luthans, 2002; West, Patera & Carsten, 2009). It has tended to develop from the individual-level (e.g. Luthans, Avolio, Avey & Norman, 2007), but more recently has started to include team/group (e.g. Clapp-Smith, Vogelgesang & Avey, 2009; Walumbwa, Luthans, Avey & Oke, 2011) and organizational (Avey, Wernsing & Luthans, 2008) levels of analysis. POB is differentiated from the general area of positive psychology and other positive organization research approaches (e.g. Positive Organizational Scholarship; see Cameron et al., 2003) by its definitional inclusion criteria, which require a psychological capacity to be 1) measurable, 2) open to development, and 3) impactful on work performance.

Since the inception of POB, several psychological capacities have been examined, both conceptually and empirically. To date, the four constructs deemed to best fit the POB inclusion criteria are self-efficacy, hope, optimism, and resilience (Luthans, et al., 2007). Research attention is now being devoted to a core construct representing an individual’s positive psychological state of development known as Psychological Capital, or ‘PsyCap’, which is indicated by these four psychological resources (Luthans et al., 2007).

From a PsyCap perspective, hope is defined as persevering towards goals, and when necessary, redirecting paths to goals (Luthans, Youssef & Avolio, 2007). Thus, it represents a positive motivational state that is based on successful agency and pathways to achieve goals (Snyder, Irving & Anderson, 1991). Positive relationships between hope and job satisfaction and staff retention have been reported (Luthans & Youssef, 2004) and hope protects individuals against perceptions of stress (Snyder, 2000).

PsyCap self-efficacy relates to having the confidence to take on and put in the necessary effort to succeed at challenging tasks (Luthans et al., 2007). Self-efficacy has been
associated with desirable work-related outcomes such as performance and satisfaction (Stajkovic & Luthans, 1998) and is negatively related to job stress (Matsui & Onglatco, 1992) and turnover intentions (Harris & Cameron, 2005).

PsyCap resilience refers to the capacity to ‘bounce back’ and even beyond to attain success when faced with problems and adversity (Luthans et al., 2007). Positive relationships between resilience and job satisfaction have been demonstrated (Youssef & Luthans, 2007). Additionally, resilience enables individuals to better cope with job-related tension (Tugade & Fredrickson, 2004) and enhances organizational commitment (Youssef & Luthans, 2007).

Finally, PsyCap optimism refers to making positive attributions about succeeding now and in the future (Luthans et al., 2007). It has been theorized that positive expectations provide a motivational propensity that enhances the degree of effort expended by individuals (Scheier & Carver, 1985). This relationship has been empirically demonstrated; higher optimism is positively associated with increased job performance and satisfaction (Youssef & Luthans, 2007) and reduced turnover (Luthans, Avolio et al., 2007; Seligman, 1998). Moreover, optimism provides an important buffer against the effects of job tension (Totterdell, Wood & Wall, 2006).

PsyCap is positioned as a higher-order construct, ostensibly a manifest variable comprised of the four factors. It has been found that the second-order construct of PsyCap produces higher correlations with performance outcomes than any of its individual components alone (Luthans, Avolio et al., 2007). Thus, it is suggested that PsyCap appears to have a synergistic effect, whereby the whole (PsyCap) may be greater than the sum of its parts (Luthans et al., 2007). Avey et al (2011) suggest this effect occurs because PsyCap incorporates the coping mechanism(s) that the four factors have in common. This mechanism process is attributed to psychological resource theory (Hobfoll, 2002), whereby it is suggested that some constructs (i.e. hope, self-efficacy, resilience, optimism) are indicators of
broader, multidimensional ‘core’ factors (i.e. PsyCap). Thus, while individual constructs may be psychometrically valid in their own right, they can also be considered as ‘markers’ of an overarching multidimensional core construct (Avey et al., 2011). To help illustrate this theoretical position, Avey et al. (2011) draw parallels with other organizational behaviour constructs including core self evaluation traits (Judge & Bono, 2001), transformational leadership (Antonakis, Avolio & Sivasubramaniam, 2003) and empowerment (Spreitzer, 1995) where each construct is considered a second-order factor consisting of shared variance between individual predictive components.

Consistent with POB criteria, PsyCap has been purported as a resource that can be leveraged for organizational competitive advantage (Luthans et al., 2007). As such, concerted research has been conducted to demonstrate the utility of PsyCap, particularly in relation to employee performance and functioning (see Avey et al., 2011). This research has demonstrated manifold positive effects of PsyCap, even after controlling for demographic factors, personality traits (e.g. core self-evaluations) and employee/organization and employee/job fit analyses (Youssef & Luthans, 2011). Specifically, PsyCap is reported to be positively related to both employee-rated job performance (e.g. Avey, Avolio & Luthans, 2011; Luthans, Avey, Clapp-Smith & Li, 2008; Luthans, Avolio et al., 2007; Luthans et al., 2005; Luthans, Norman, Avolio & Avey, 2008; Rego et al., 2010); and objective or manager-rated employee job performance (Luthans et al., 2010; Peterson, Luthans, Avolio, Walumbwa & Zhang, 2011).

Additionally, PsyCap has been positively associated with other desirable employee attitudes and behaviors including job satisfaction (Cheung, Tang & Tang, 2011; Larson & Luthans, 2006; Luthans, Avolio et al., 2007), organizational commitment (Avey, Luthans & Jensen, 2009; Larson & Luthans, 2006), psychological well-being and work-related happiness (Avey, Luthans, Smith & Palmer, 2010; Culbertson, Fullagar & Mills, 2010), and
organizational citizenship behaviors (OCBs; Avey, Luthans & Youssef, 2010; Gooty, Gavin, Johnson, Frazier & Snow, 2009).

Research has also demonstrated negative associations between PsyCap and undesirable employee attitudes and behaviors including cynicism and intent to quit (Avey, Hughes, Norman & Luthans, 2008; Avey et al., 2009; Avey, Luthans & Youssef, 2010; Avey, Wernsing et al., 2008), absenteeism (Avey et al., 2006) and workplace deviance (Avey, Wernsing et al., 2008; Norman, Avey, Nimnicht & Pigeon, 2010).

The primary explanation for these relationships is that employees with higher PsyCap tend to expect good things to happen to them at work (optimism); believe they can create their own success (hope and efficacy); and are persistent in the face of challenges (resilience) when compared with employees with lower PsyCap (Avey et al., 2011).

PsyCap and its individual components are also considered ‘state-like’ in nature (Avey, Luthans & Youssef, 2010). This state-like concept is supported by a theoretical distinction between PsyCap and other positive psychology constructs including Big Five traits and core self-evaluations. This distinction is based on a continuum perspective dichotomized by ‘pure’ poles of state and trait, with PsyCap positioned as midrange and therefore a ‘state-like’ construct which is relatively malleable and open to development (see Figure 1; Luthans et al., 2007). As such, PsyCap is differentiated from both stable, fixed traits (e.g. Big Five, core-self evaluations) and pure, transient states (e.g. moods and emotions). Empirically, convergence and divergence evidence between PsyCap and other related positive constructs has been provided to further support the state-like nature of PsyCap and its overall construct validity (see Dawkins, Martin, Scott & Sanderson, 2013 for detailed psychometric review and critical analysis of the PsyCap construct).
As noted earlier, a definitional criterion for POB constructs is openness to development. Accordingly, a micro-intervention aimed at enhancing individuals’ level of PsyCap has been developed. The PsyCap Intervention (PCI; Luthans, Avey, Avolio, Norman & Combs, 2006) has been empirically assessed, in both online (Luthans, Avey & Patera, 2008) and in-house delivery formats (Luthans et al., 2010). Initial evidence has demonstrated significant increases in PsyCap via these brief training interventions, with small to medium effect sizes reported ($d = .31-.40$; Luthans et al., 2010). As controlled experimental methodologies were employed, this research suggests that PsyCap training has a causal impact on improving participants’ performance (Luthans et al., 2010).

The PCI model (summarized in Figure 2) has been developed with three primary goals: (1) to be brief in duration and thus minimize disruption to the workplace; (2) to enhance each of the four dimensions of PsyCap; and (3) to enhance overall PsyCap through integration of the underlying principles and developmental aspects of each of the four individual PsyCap resources (Luthans et al., 2010). Thus, the intervention focuses on the development of each individual state of PsyCap, as well as overall PsyCap.

Figure 1. The trait-state continuum proposed by Luthans et al. (2007).
Specifically, the PCI involves a series of exercises specific to each individual component of PsyCap, along with more integrative reflective exercises which are aimed at incorporating the development of the individual component training into an understanding and operationalization of overall PsyCap (Luthans et al., 2010). For instance, employees are asked to consider a personally meaningful work goal. In identifying this goal, the employee is assisted by the facilitator to phrase the goal so as to enhance ‘agentive capacity’ (Bandura, 2008) and to ‘step’ goals into manageable units (Snyder, 2000). The employee is then guided to generate several pathways that could enable them to achieve this goal. Luthans et al. (2010) outline that a critical element of the PCI delivery is facilitated small group discussions; thus employees are encouraged to share their goals and pathways with the group.
in order to generate additional pathways and model positive goal setting behavior to the group.

This bi-directional group process of vicarious learning and modeling is posited to further enhance participants’ level of self-efficacy through the generation of additional pathways to achieve their stated goal; while also enhancing their positive expectations (optimism) to achieve it. In addition, it is theorized that the generation of multiple pathways for goal achievement increases participants’ resilience as it enables them to ‘bounce back’ by selecting an alternative pathway, if an original pathway is blocked or met with challenge (Luthans et al., 2010).

The final element of the PCI is directed towards optimism development by increasing participants’ self-awareness of negative cognitions they may possess when faced with a challenge or problem at work. The optimism development phase of the PCI is based upon cognitive-behavioral theory that posits that people tend to make automatic, unfounded, negative cognitions when confronted with problems or challenges, which in turn generates negative behaviors (e.g. “This is hopeless, I can’t possibly complete this report by the deadline. I give up!”). The PCI optimism development phase aims to counter negative cognitive distortions by encouraging participants to identify and challenge negative cognitions and replace these with more positively oriented and realistic expectations (e.g. “This report is going to take a lot of work, but I have done similar reports before and can do this one if I keep working at it”).

In addition to research establishing the efficacy of the PCI in relation to enhanced PsyCap and improved job performance (Luthans et al., 2010), PsyCap proponents have also reported a quantifiable return on investment for the PCI. Preliminary utility analyses have estimated robust return of investment (ROI) in excess of 200% (see Luthans et al., 2007, for detailed quantitative utility analysis based on varying corporate data).
Psychological capital: A team-level resource?

In addition to individual-level research, it has been assumed that PsyCap can also be experienced on the level of teams (Clapp-Smith et al., 2009; Petersen & Zhang, 2011; Walumbwa et al., 2011). Although these studies have been divergent in the approach to the conceptualization and measurement of collective PsyCap (which will be discussed in more detail later in the chapter); they provide initial empirical support for the notion of collective PsyCap at the team level. In particular, these studies have demonstrated positive relationships between team-level PsyCap and team performance (Clapp-Smith et al.; Peterson & Zhang, 2011; Walumbwa et al., 2011) and organizational citizenship behaviors (Walumbwa et al., 2011). A comprehensive examination of the theoretical conceptualization of a collective, or team-level, PsyCap construct has already been detailed (Dawkins, Martin, Scott & Sanderson, 2014) and as such, an abridged synopsis of these theoretical foundations is provided here.

Team-level PsyCap research draws on the individual-level definition of PsyCap and as such the team-level construct is defined as a “group’s shared psychological state characterized by efficacy, hope, optimism and resilience” (Walumbwa et al., 2011, p. 6). Accordingly, collective (team-level) PsyCap refers to a team’s shared positive appraisal of a situation and their likelihood for success given the situation based on their collective motivated effort and perseverance (Peterson & Zhang, 2011).

Similar to other team-level constructs, such as collective efficacy, collective PsyCap refers to aggregation from the individual to the team-level (Petersen & Zhang, 2011; Walumbwa et al., 2011). Walumbwa et al (2011) suggested that collective PsyCap shares the same interactive and dynamic formation processes as collective efficacy (Bandura, 1997). According to this reasoning, the social interaction and synergistic processes inherent to teams are critical for team-level PsyCap.
Similarly, West et al (2009) proposed that collective psychological resource (i.e. hope, efficacy and resilience) emerges through ‘contagion’ processes within a group. Accordingly, an individual’s positive emotions and behaviours may elicit positive emotions and behaviours within other group members, creating a dynamic, spiralling process which may contribute to the formation of positive affective homogeneity (Fredrickson, 2003).

In our own research, we have further developed these early theories of collective PsyCap by positing the processes by which collective (i.e. team-level) PsyCap emerge (Dawkins, Martin, Scott & Sanderson, under review). As outlined above, a critical element of the current definition of collective PsyCap is a sense of sharedness among members of a collective (i.e. team) regarding their perceptions of PsyCap. Specifically, we suggest that that process of both social and emotional contagion play a role in the emergence of PsyCap at higher levels (i.e. team-level). Social contagion refers to the process of communicating and exchanging information among members of a collective, which results in a shared perception regarding some aspect pertinent to the team (Degoey, 2000). Thus, individuals adopt the attitudes and beliefs of others who influence them. In contrast, emotional contagion refers to the process by which an individual’s emotional response is influenced by the emotional responses of other members within the collective, resulting in emotional convergence within the team (Hatfield, Cacioppo & Rapson, 1994).

PsyCap can become shared among team members via communications regarding the team’s functions and operations. For instance, a central aspect for PsyCap hope development is a planning process for goals which involves goal design, pathway generation and planning for obstacles (Luthans, Avey, Avolio & Peterson, 2010). Thus, when team members are actively engaged in team goal-oriented discussions, they have the opportunity to exchange beliefs and generate multiple pathways towards team goals, establishing a greater sense of team agency. Similarly, team discussions related to obstacle planning may provide a
foundation for shared optimism expectations and social exchange among team members regarding previous team failures or team goal attainment may also foster shared resilience and efficacy perceptions.

In addition to social exchange processes, we also posit that PsyCap perceptions can become shared among group members via emotional contagion (Hatfield et al., 1994). Leadership research has demonstrated that groups with leaders who displayed positive mood have more positive affective tone than groups with leaders with negative mood (Sy, Cote & Saavedra, 2005) and Walumbwa et al (2010) reported positive associations between leader and follower PsyCap. Emotional contagion has also been demonstrated within work teams without the direct influence of a team leader (Totterdell et al., 1998). Thus, we suggest that emotional contagion may complement social contagion processes in contributing to the emergence of collective PsyCap.

**Designing a multilevel psychological capital intervention to enhance both individual and team capacities**

We suggest that the primary components of the PCI, reviewed previously and summarized in Figure 2 are amenable to adaption to a team-focused training intervention. As such, a model for a proposed team-focused PCI (tPCI) is provided in Figure 3. This model demonstrates how the goals and training exercises of the current PCI could be adapted so to encompass a team-focus and thereby aim to bolster team-level PsyCap. However, as shown in Figure 3, we suggest that the proposed tPCI retain elements of the individual-focused PsyCap development as they relate to identified team goals so as to potentially simultaneously enhance individual-level PsyCap, essentially creating a multilevel intervention. For example, the team efficacy component of the tPCI encourages the team to devise a specific plan for goal attainment, incorporating team reflection on past experiences to guide this process. However, as a sub-component of team efficacy development team
members would also be encouraged to identify their own related individual plans and responsibilities to ensure the successful achievement of stated team goals. Thus, while aspects of individual-level PsyCap development would be incorporated into the tPCI; the primary and overall focus of the tPCI remains the enhancement of team-level PsyCap.

The model also highlights how many aspects of the current PCI format (as described by Luthans et al., 2010) provide for a conceivable and logical extension to the team-level. For instance, the current individual-level PCI delivery is provided in a small group format in order to enable vicarious learning and modelling between participants; thus, a tPCI would utilize a similar delivery format. However, as indicated in Figure 3, the tPCI would primarily focus on the generation of meaningful team goals and multiple pathways to achieve these goals (team hope); including specific designation of roles or tasks to team members.

Likewise, the focus of the optimism development component of the PCI would be modified to become team-focused through examination of how the collective team responds when faced with challenges/problems and generating alternative, positively oriented team-based approaches. Finally, the resilience component of the PCI would be adapted so that team members focus on the identification of meaningful team resources and assets that the team possess which will assist them in team goal attainment.

The reasons for arguing that the tPCI may be an effective training intervention at the team-level are grounded in both theory and empirical research. At the individual-level the PCI has been shown to bolster individual PsyCap and in turn have a positive effect on distal outcomes including performance (Luthans et al., 2010). Moreover, similar interventions originally developed to enhance individual-level efficacy have been shown to be adaptable to the team-level; bolstering collective efficacy and subsequently increasing team performance (e.g. Verbal Self-Guidance Training; Brown, 2003).
Based on collective efficacy theory (Bandura, 1996, 1997), we suggest that the same mechanisms that bolster hope, optimism, resilience and efficacy and overall PsyCap at the individual-level can also enhance these capacities at the team-level. Chan (1998, p. 239) argued that collective efficacy is “derived from the original construct [of] self-efficacy” and as such the basic content (self-efficacy) does not change as one moves to a new form (collective efficacy); rather only the referent changes from self to team. Thus, similar to Chan’s perspective regarding collective efficacy, we propose that the primary components of the PCI which serve to bolster individual-level PsyCap will also be effective in bolstering team-level PsyCap by adapting a team-referent focus.

Figure 3. A model of the proposed team-focused PsyCap Intervention (tPCI)
Key issues in evaluating a multilevel psychological capital intervention

Measurement of psychological capital at the team level

Measurement of team-level PsyCap has been mainly operationalized in two ways; a direct-consensus approach, which aggregates individual PsyCap to the team-level (Clapp-Smith et al., 2009; Peterson & Zhang, 2011), and a referent-shift approach (Walumbwa et al., 2011). The direct-consensus model implements within-group consensus of the lower-level units as the functional relationship to specify how the construct at the lower-level is functionally isomorphic to another form of the construct at the higher-level (Chan, 1998).

Typically, a within-group agreement index (e.g. rwg; James, Demaree & Wolf, 1984) of the scores from the lower-level with a certain cut-off value (i.e. .70) is employed to represent within-group consensus, and therefore justify aggregation of the construct to the higher-level. When consensus within the unit does not reach the pre-determined cut-off value, it is assumed that there is insufficient agreement among the unit to warrant aggregation to the higher-level (Klein, Conn, Smith & Sorra, 2001). Thus, team PsyCap measured using the direct-consensus model requires shared perceptions among team members in regards to their own individual-referent PsyCap (e.g. “I feel confident helping to set targets/goals in my work area”).

The referent-shift model shares some procedural similarities with the direct-consensus approach, in so far as justification for aggregation to the higher-level is dependent upon sufficient within-group consensus. However, unlike direct-consensus where the referent of interest is the individual’s experience or perceptions (i.e. “I feel confident...”), the referent-shift model focuses on the individual’s perception of the unit as a whole (i.e. “My team feels confident...”). This new referent is then combined to represent the higher-level construct providing sufficient within-group agreement (Rupp, Bashshur & Liao, 2007).
Although both the direct-consensus and referent-shift measurement approaches have demonstrated positive associations between team-level PsyCap and team-level outcomes, arguably two distinct constructs are being measured using these approaches. Mischel and Northcraft (1997) suggested that the cognition of “can we do this task?” (referent-shift consensus) is different from the cognition of “can I do this task?” (direct-consensus). Chan (1998) further suggested that referent-shift composition is important because it results in a new form of the construct that is conceptually distinct from the original construct. For example, it has been suggested that the aggregation of team members’ individual self-efficacy scores as a representation of collective efficacy would be flawed, as mean scores would represent individual members’ perceptions of themselves, and not their perceptions regarding the team as a whole (Guzzo, Yost, Campbell & Shea, 1993).

Our own research has provided the first known empirical investigation of the viability of these two different compositional models for operationalizing team PsyCap (Dawkins, Martin, Scott, Sanderson & Schüz, 2014). Using hierarchical linear modeling (HLM), the study compared two compositional models of aggregation (direct-consensus and referent-shift; Chan, 1998) to represent the construct of team PsyCap. The findings revealed significant associations between team-level PsyCap and both individual-level (job satisfaction and turnover intentions) and team-level outcomes (performance, satisfaction and conflict). These relationships were significantly stronger when a referent-shift operationalization of team PsyCap was implemented. Thus, greater understanding regarding the influence of team PsyCap on outcome variables is achieved when team members are asked to reflect specifically on their team’s shared capacities, rather than amalgamating team members’ individual perceptions regarding their own individual psychological capacities.

These results also suggest that team-level PsyCap interventions could be more encompassing than those aimed at developing individual PsyCap (e.g. Luthans, Avey, Avolio
& Peterson, 2010), as team-level PsyCap interventions may have the added benefit of enhancing both team-level and individual-level PsyCap, and subsequently, bolstering both team and employee performance and functioning. In providing the first known analysis of the cross-level influence of team PsyCap, our study also showed that in addition to having positive relationships with team-level outcomes (e.g. performance, satisfaction and conflict); team PsyCap was significantly related to individual-level outcomes (e.g. job satisfaction and turnover intentions). These results provide initial evidence to suggest that membership of a positively-oriented work team can have multiple benefits in terms of both team functioning and individual employee functioning. Furthermore, the findings emphasize the importance of fostering team-level positivity in organizations; perhaps over and beyond that of individual employee positivity.

**Intervention assessment and outcomes**

A number of measures could be used to assess the utility and outcomes of the proposed tPCI. We recommend direct effects of the intervention be assessed using both individual-level and team-level PsyCap. The 24-item version of the Psychological Capital Questionnaire (PCQ; Luthans, Youssef & Avolio, 2007) has also been adapted to reflect a team referent, rather than an individual-referent. This adaptation of the PCQ has been implemented in previous research (Dawkins et al., 2013; Walumbwa et al., 2011). A 12-item brief measure is also now available (Harms & Luthans, 2012). At a minimum, we also recommend assessment of both individual and team level performance and functioning. Team performance and satisfaction assessed by both team members and team leaders (Hirst, 1999) and team organizational citizenship behaviours (Lee & Allen, 2002) may be useful measures. Similarly, both self-reported individual-level performance (Rego & Cunha, 2008) and team-leader rated performance could be assessed (Peterson, Luthans, Avolio, Walumbwa & Zhang, 2011). Employee mental health symptoms using the K-10 depression/anxiety scale (Kessler
et al., 2002) or other more general measures of employee well-being (Goldberg, 1972, Goldberg & Hillier, 1979) and job satisfaction (Warr, Cook & Wall, 1979) are also recommended. Control variables that could be considered include employees’ trait-like individual differences using the core self-evaluations measure (Judge, Erez, Bono & Thoresen, 2003) and the positive and negative affect schedule (PANAS-SF; Thompson, 2007) as these constructs have been positively associated with job performance and work success in previous research (e.g. Judge & Bono, 2001; Kluemper, Little & DeGroot, 2009).

Data Analysis

There are various data analysis options available for assessing the efficacy of the tPCI for enhancing team- and individual-level PsyCap, performance and functioning (in comparison with a wait list or active control condition). We recommend multilevel growth modelling be used to simultaneously analyse intra- and inter-team as well as intra- and inter-individual differences in growth trajectory and post-intervention status across time (pre-intervention, post-intervention and follow up (Raudenbush, Bryk, Cheong & Congdon, 2004).

Recommendations for future research and practice

Testing the propositions of the tPCI

Based on both individual- and team-level PsyCap research reviewed, we suggest that exploring the potential for a team-level PsyCap intervention (tPCI) would provide a logical and advantageous progression of enquiry. We have suggested there is potential for developing training interventions aimed at bolstering team PsyCap using mechanisms similar to those aimed at developing individual PsyCap (Luthans et al., 2010). We have argued that the benefits of an intervention aimed at bolstering the collective PsyCap of a team could be more encompassing than interventions focused on individual employees, as both team and
employee functioning may be enhanced (Dawkins et al., 2014). Consequently, the proposed tPCI may be far more effective than interventions focusing solely on the individual. As such, it is also possible that a tPCI may provide an increased return on investment (ROI) than initial estimates based on the individual-level PCI (see Luthans et al., 2007). Future research that provides an empirical evidence base regarding these assertions is required.

Furthermore, team processes, including team communication and shared mental models may also be enhanced as a result of teams simply participating in tPCI training. For instance, it has been argued that shared mental models in terms of perceiving, encoding, storing and retrieving information in the same manner is critical for team effectiveness (Langan-Fox, Code & Langfield-Smith, 200). To this end, the tPCI requires all team members to reflect and discuss past team experiences, and devise goals and pathways for achieving stated goals, which may also provide a method for generating shared mental models and enhancing communication within teams.

Based on the implications of tPCI, we provide a model of the potential benefits of the proposed tPCI and a series of testable propositions for future research. As illustrated in Figure 4, and based on individual-level research implementing the PCI (e.g. Luthans et al., 2010), the following propositions are made:

**Proposition 1:** The tPCI will have a positive effect on team-level PsyCap.

**Proposition 2:** The tPCI will have a positive effect on team-level outcomes including team performance and satisfaction and team conflict.

Furthermore, as shown in Figure 2, the proposed tPCI is an adaption of the PCI; and as such, it retains some individual-focused aspects for development, in addition to the core team-focused components. Thus, we suggest that it is conceivable that individual team member PsyCap may also be bolstered via participation in the tPCI.
Proposition 3: The tPCI will have a positive cross-level effect on individual-level PsyCap.

Additionally, based on recent cross-level research (Dawkins et al., 2014) we suggest that enhancement of team PsyCap via the tPCI may in turn have a positive effect on individual-level outcomes, such as job satisfaction and turnover intentions.

Proposition 4: The tPCI will have a positive effect on individual-level outcomes including job satisfaction and turnover intentions.

Finally, given that the proposed tPCI requires team members to communicate and exchange perceptions regarding previous team performances and positive expectancies for future performance and functioning, we also suggest that engagement in the tPCI might provide opportunity for teams to enhance critical processes for team effectiveness including shared mental models and team communication.

Proposition 5: Engagement in the tPCI will provide ancillary benefit by enhancing team processes including shared mental models and team communication.
Figure 4. Proposed team-level and cross-level benefits of the tPCI contrasted with empirically demonstrated effects of the current individual-level PCI.

Note. P1-P5 indicate corresponding research propositions

Broader research opportunities

Future research that helps to create better understanding of the mechanisms of effect of PsyCap interventions may also help to inform further development and refinement of the both the tPCI described here and the original PCI (Luthans et al., 2007). Currently, it is assumed that individuals must engage in the development of all four components of PsyCap (hope, efficacy, resilience and optimism) in order to achieve the benefits of the PCI. However, research is yet to determine whether development of all four components is in fact necessary to produce the desired effects of PsyCap development (e.g. enhanced job
performance). In other words, it may be possible that by focusing on the development of one or two PsyCap components similar intervention effects could be observed as when overall PsyCap is developed (Luthans et al., 2010). This line of enquiry could result in the development of more cost- and time-effective PsyCap interventions.

Future research opportunities also remain to explore the application of the PCI and the rPCI proposed here to different work contexts. Research to date has been limited in exploring the efficacy of the PCI within mid- to large-sized companies and organizations (e.g. Luthans, Avey & Patera, 2008; Luthans et al., 2010). Given that the interaction between setting, intervention (training) and outcomes is complex, the question of transferability of the intervention to other contexts is crucial for evidence-based research (Cambon, Minary, Ridde & Alla, 2012). Thus, further investigation is needed to determine the transferability of the PCI to other organizational contexts, including the SME sector (Martin et al, 2009) and to consider the potential influence of contextual predictors, moderators and outcomes in assessing the efficacy of the rPCI and PCI.

As multilevel PsyCap research continues to develop, avenues arise to investigate organizational-level PsyCap and the interplay between PsyCap at multiple levels (i.e. beyond individual/team-level). Although it is generally acknowledged that positive organizational practices do not necessarily create positive individual employees or vice versa (Youssef & Luthans, 2012), there remains untapped opportunity to investigate the mechanisms that facilitate or hinder the cross-level transfer of positivity. As outlined above, this line of enquiry would require sophisticated research methodologies (e.g. growth models) so to consider the inter-relationships among constructs across various levels in a dynamic framework (e.g. changes across time). For instance, how does tenure moderate the relationship between organizational culture and employee PsyCap? Investigation of cross-
level transfer of positivity will provide further understanding of the utility of PsyCap and PsyCap interventions for organizations, work teams and individual employees alike.

Conclusion

As organizations become increasingly reliant on team-based structures to function more effectively and efficiently, there have been calls from practitioners and researchers for methods of improving the functioning of teams. In response to such calls, this paper leverages off emerging team-level PsyCap research, which has demonstrated positive associations between team PsyCap and team and individual employee functioning, to provide a rationale for the development of a team-focused PsyCap intervention aimed at bolstering team PsyCap. The paper provides a proposed model for the team-focused intervention (tPCI), adapted from the current individual-level PCI, and highlights the potential benefits of such an intervention in terms of both team and individual employee performance and functioning. Finally, initial research propositions directed towards encouraging and guiding future team-level PsyCap development research have been provided. It is envisaged that adoption of these directives for future research will contribute to improving the effectiveness of teams and thereby enhance the utility of team PsyCap within HRD and management practices.

References


