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Psychological Capital: underlying mechanisms, antecedents, and outcomes in the workplace

Tesis Doctoral

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Introduction

Positive Psychology emerged in the 90s with the initiative to point psychologists in a more positive direction where the main focus is on nurturing human strengths and capacities rather than fixing weaknesses. In the area of Work Psychology, the application of Positive Psychology evolved into Positive Organizational Behavior (POB), and the construct Positive Psychological Capital (PsyCap).

Overall, PsyCap is defined as "one's positive appraisal of circumstances and probability for success based on motivated effort and perseverance" (Luthans, Avolio, Avey, & Norman, 2007, p. 550) and "an internalized sense of agency, control and intentionality" (Youssef-Morgan & Luthans, 2015, p.3). The main value of the construct stems from the combination of four positive psychological capacities (hope, self-efficacy, resilience and optimism) and the synergy between them which has been found to contribute to employee and organizational outcomes above and beyond the four components separately (Luthans & Youssef-Morgan, 2017).

PsyCap has received a lot of attention over the past decade from academics, which has led to a rapidly growing research body that continues to expand progressively. The main emphasis in this research body is on the effects of PsyCap on organizational outcomes related to individual and organizational performance and employee wellbeing. For example, PsyCap has been found to explain variance in performance and wellbeing above and beyond the sum of the four dimensions which constitute it (Luthans Avey, Luthans, & Youssef, 2010), as well as above and beyond gender, age, self-evaluation traits, Person-Organization fit and Person-Job fit. It has been found to predict the financial performance of an organization (McKenny et al., 2013), manager-rated performance (Avey, Nimnicht, & Pigeon, 2010; Peterson et al., 2011), creative performance (Sweetman, Luthans, Avey and Luthans, 2011), job commitment and satisfaction (Luthans, Avolio, Avey & Norman, 2007), turnover intentions and subjective well-being (Choi & Lee, 2014). It is also helpful to employees when dealing with organizational politics and job stress (Abbas et al., 2013; Roberts et

al., 2011). This evidence underlines the role of PsyCap as a valuable organizational resource worth researching in depth.

It has been pointed out that POB, and the research on PsyCap in particular, has grown too fast, thus leaving unanswered questions regarding the construct (Dawkins, Martin, Scott, & Sanderson, 2013, 2015). Although PsyCap is now established in the work and organizational literature, significant effort still needs to be dedicated to untangling issues of its measurement and functioning. The necessity to keep studying how it operates hasn´t gone unnoticed by the authorship team of PsyCap, who pointed out in their latest review that ¨PsyCap continues to take an inquiry rather than an advocacy perspective¨ (Luthans & Youssef-Morgan, 2017, p.13).

Taking an inquiry perspective is especially important in the case of PsyCap because it has been very easily and rapidly accepted by organizations, companies and the non-academic public (Avey, Luthans, & Youssef-Morgan, 2010). For instance, interventions for developing PsyCap were already being designed and implemented in the United States when the constructs was still very new (e.g. Luthans, Avey, Avolio, Norman, & Combs, 2006; Luthans, Avey, & Patera, 2008). As practitioners' interest in PsyCap increases all over the world (Imam, Ali, & Soo, 2017), and so does the implementation of PsyCap interventions in organizations, it is even more vital to find out more about how to optimize its use.

Different authors (Dawkins, 2010, 2014; Dawkins, Martin, Scott, & Sanderson, 2013, 2015; Luthans & Youssef-Morgan, 2017; Youssef-Morgan, 2014) have made significant effort to encourage better understanding of the structure, functioning, measurement and utility of PsyCap, and they also offered concrete future research directions.

One of them is related to the measurement of PsyCap: the literature advises to utilize Confirmatory Factor Analysis (CFA) and Structural Equation Modeling when analyzing PsyCap as these analyses add rigor when working with a multidimensional constructs.

In addition, there is a debate that problematizes the unitary structure of the PsyCap construct and proposes that the use of the composite PsyCap score needs to be further explored as it omits information regarding individual variations across the hope, self-efficacy, resilience and optimism. The recommendation in the literature is to take a person-centered approach to PsyCap (rather than the traditional variable-centered one), exploring cases of individuals who may score particularly low on one or more PsyCap

subcomponent and high on other/s, and investigating the existence of individual PsyCap profiles.

A third recommendation is related to a necessity to take into account the contextual work factors. Since the PsyCap elements are developable and malleable, they can be influenced by organizational factors, which serve as antecedents that affect the PsyCap capacities. One important organizational factor is leadership.

Finally, the POB criteria have emphasized performance outcomes as fundamental for the value of the construct. However, the literature has also underlined the importance of employee wellbeing and job satisfaction since they are crucial factors for sustainability in organizations (Peiró, Ayala, Tordera, Lorente & Rodíguez, 2014).

Taking into account all these suggestions, ***the objective of this dissertation is to explore the construct Psychological Capital, by adapting and validating a measurement tool using CFA, testing for individual PsyCap profiles, and testing some of the components of PsyCap as mediating mechanisms between organizational antecedents and individual wellbeing. Three different studies have been carried out.***

Chapter 1 is a theoretical introduction to Psychological Capital and the problematic aspects associated to the construct, which have been emphasized in the literature.

Chapter 2 is a validation of a modified version of the Psychological Capital Questionnaire (PCQ12) in Spain.

Chapter 3 explores if the relationships between the dimensions of PsyCap result in individual profiles. It also tests which sociodemographic characteristics are linked to belonging to a certain profile, and how different individual profiles relate to employee outcome variables.

Chapter 4 analyzes the relationship between two of the PsyCap elements (self-efficacy and resilience), and their role as mediators between organizational antecedents (transformational leadership dimensions) and individual wellbeing.

Chapter 5 summarizes the results from all three studies and provides a general discussion on the findings of the dissertation, providing conclusions and implications drawn from all three studies.

Finally, Chapter 6 contains a brief summary of the entire thesis and the studies included in it.

CHAPTER 1

POSITIVE PSYCHOLOGICAL CAPITAL

The importance of positive personal capacities such as positive thinking, positive expectations or attitudes has been at the center of the self-help literature more or less since the beginning of its existence. The whole self-help genre, however, has always been lacking empirical back up, hence was never taken seriously by the psychologists from the academic community who have been more preoccupied with curing mental illness.

However, since the late 90s, there has been a shift in the focus of psychologists and an increasing academic interest in positive psychological capacities virtues and strengths (Peterson & Seligman, 2004). Currently, questions like "How important are personal positive characteristics for one's quality of life and wellbeing?" are regularly tackled in academic research and the interest in evidence-based interventions for developing such characteristics is rising for both academics and professionals in the area of work and organizational psychology.

The current chapter explains how this shift in the focus of psychologists took place over time, and how it translated into the area of work and organizational psychology. It introduces the construct Psychological Capital that resulted from this shift. Psychological Capital is a comprehensive construct which englobes four positive personal characteristics: hope, self-efficacy, resilience and optimism. Each one of them is reviewed and defined in the current chapter.

It also reviews the antecedents and outcomes of PsyCap which have been found in previous literature, and the existing measurement scales for PsyCap, paying special attention to the primary tool developed by the PsyCap authorship team- the PCQ.

There is an analysis of the issues and criticisms that have been pointed out by authors in the process of research development.

Finally, the chapter presents the main and specific objectives of the present dissertation.

1.1. Background of Psychological Capital: Positive Psychology and Positive Organizational Behavior

The construct Psychological Capital was developed during a time when a major shift in the psychological sciences was taking place. Around the year 2000, a new subfield of psychology began to emerge, called Positive Psychology. This shift was brought on by various factors in the field of psychology. In order to understand better the context, and the origins of Psychological Capital, it is important to first contextualize and to understand more about the Positive Psychology movement, which provided the basis for the development of the construct Psychological Capital.

The Positive Psychology movement

Positive Psychology emerged in the late 90s and is commonly linked to Dr. Martin Seligman. Seligman was elected for President of the American Psychological Association (APA) in 1998 and in his presidential address from the APA's Annual report urges fellow psychologists toward a shift in the overall approach that psychology undertakes. Before World War II, Psychology had three main missions: curing mental illness, bettering the lives of people, and developing human talent and potential. Since the endindg of the War II, however, Seligman argued that psychology had become almost entirely pathology-oriented, with a focus solely on healing mental illnes. This resulted in the psychological profession operating under a disease model and neglecting its other two missions- bettering the lives of others and developing human potential.

Although the disease model resulted in great advances in terms of curing mental illness, it also had some negative side effects. For instance, it contributed to the acquirement of a perspective where patients were seen as victims, as non-active agent in their own life, to whom disease ´´happens´´ (for example in approaches such as psychoanalysis and behaviorism). More importantly, the adoption of a disease model

within the psychological practices diverted the attention of psychologists away from improving the lives and mental states of people who do not have an apparent psychological issue, the mission of developing people´s potential and improving normal people´s lives (Schueller & Seligman, 2010). The focus on weakness was overwhelming to the point that the enhancement of already existing strengths in people was not even considered as a way to improve their wellbeing.

Positive Psychology emerges as a response to all this and calls for a shift in the focus towards "a psychology of positive human functioning" (Seligman & Csikszentmihalyi, 2000, p.13). It is important to note that the ideas that helped form this new science were present within psychology long before Seligman´s presidential address, predominantly in the field of humanistic psychology which took shape in the 50s. The term Positive Psychology dates back to Maslow and his book Motivation and Personality, first published in 1954, where Maslow explores human fulfillment, personal potential and subjective wellbeing, and argues that self-actualization plays a major role in pursuing them. He emphasized the importance of positive human qualities and resources. Similar ideas have been explored by William James who was interested in optimal human functioning and healthy mindedness, defined by him as "the tendency which looks on all things and sees that they are good" (James, 1985). Authors like Carl Rogers, John Dewey, Viktor Frankl, Erich Fromm, Stanley Hall and others, have expressed in different ways the view that looking at the positive aspects of human functioning will contribute to a better understanding of human lives. Such humanistic notions have paved the way for Positive Psychology to emerge as a science.What Martin Seligman did was to refocus the attention of psychologist to this view, marking the beginning of this new scientific field, Positive Psychology.

Positive Psychology encompasses the study of positive emotions and subjective experiences, positive psychological traits and states, as well as positive interventions to enhance them (Seligman & Csikszentmihalyi, 2000). Contemporary positive psychologists recognize the immense importance and contribution of humanistic psychology, yet point out that there is a significant lack of empirical evidence to support it. Furthermore, humanistic psycholgy was the movement that spawned, accidentally or not, a self-help culture which was rather often based on wishful thinking and unfunded claims with no scientific base. In contrast, Positive Psychology´s objective is to accumulate empirical evidence and design interventions "to build thriving in

individuals, families, and communities" (Seligman & Csikszentmihalyi, 2000, p.13). The movement aims to promote research on topics of Positive Psychology, and disseminate it, as well as implement training and education in Positive Psychology with a continuos use of scientific rigor.

A crucial contribution of Positive Psychology is putting the emphasis on human strenght and virtue as a way to prevent negative outcomes and events and enhance overall wellbeing (Seligman, 2002; Seligman, Steen, Park, & Peterson, 2005). Focal points of Positive Psychology are subjective experiences such as wellbeing, fullfillment, satisfaction, hope, optimism, flow, happiness, interpersonal skill, perseverance, forgiveness, gratitude, talent and wisdom, responsibility, nurturance, altruism, and tolerance. According to Seligman, these qualities and virtues can be looked at on an individual, as well as societal level. A fundamental notion in Positive psycholgy, known as the Nikki principle, states that identifying and amplifying strengths rather than repairing weaknesses is more effective in preventing pathology. Contemporary research within the field has backed up the idea that some positive personal characteristics serve as buffers for anxiety and depression, and that reinforcing them can contribute to long-term wellbeing in individuals and communities (e.g. Bolier et al., 2013; Joyce et al., 2017; Meyers, van Woerkom, & Bakker, 2013; Weiss, Westerhof, & Bohlmeijer, 2016).

"The skills of becoming happy turn out to be almost entirely different from the skills of not being sad, not being anxious, or not being angry."

— Martin E.P. Seligman, Learned Optimism: How to Change Your Mind and Your Life (2006, p.9)

Overall, from the start, the positive approach was very well received by academia, especially in the United States: in the year 2000, the APA journal the American Psychologist dedicated a special issue to happiness, excellence, and optimal human functioning. This issue contained the very noteworthy editorial titeled "Positive Psychology: An introduction" by Seligman & Csikszentmihalyi (2000), as well as fifteen articles organized around the three main pillars of Positive Psychology: positive

experiences, positive personality and positive communities/ institutions. The following year, the March issue of the American Psychologist was again dedicated to Positive Psychology and included works on positive emotions (Fredrickson, 2001), resilience (Masten, 2001), realistic optimism (Schneider, 2001), as well as the cognitive and motivational processes in wellbeing (Lyubomirsky, 2001).

The research interest in the field of Positive Psychology has grown exponentialy since then. The First International Conference in Positive Psychology took place in 2002. In 2006, Harvard University developed a course based on the framework of Positive Psychology, bringing significantly more popularity to the discipline (Ben-Shahar, 2007). And in 2007, the International Positive Psychology Association (IPPA) was established and currently has members from over 80 countries. IPPA is devoted to the development, responsible application and fostering education in Positive Psychology. After that, the First World Congress on Positive Psychology was held in 2009 at the University of Pennsylvania.

As a consequence of its popularity, the positive approach has also been incorporated into other areas of research, for example, education (Gilman, Furlong & Huebner, 2009; Liesveld & Miller, 2005), social services (Radey & Figley, 2007), political science (Linley & Joseph, 2004), neuroscience (Burgdorf, 2001), leadership (e.g. Avolio, Gardner, Walumbwa, Luthans, & May, 2004), and others. One area of psychology which quickly identified the added value of the Positive Psychology movement was Work, Organizational and Personnel Psychology.

From Positive Psychology to Positive Organizational Behavior

The incorporation of Positive Psychology into Work, Organizational and Personnel Psychology was pionnered by Fred Luthans, a professor of organizational behavior in the Department of Management at the University of Nebraska. In an essay published in the Journal of Organizational behavior in 2002, Luthans outlines his “new found enthusiasm” about the potential application of Positive Psychology to the field of work and organizations (Luthans, 2002b). Luthans (2002) explains that organizational behavior has largely followed into the tradition on trying to fix what does not work in

organizations, e.g. improve motivation, manage conflict, improve employees' skills and mitigate losses. Strenghts and positive characteristics, both at the individual and the organizational level, have been largely ignored.

In addition to this, traditional approaches in Organizational Psychology which focused on tangible and "hard" measures to identify the state of an organization, such as financial gain, physical resources, technological advantage, became insufficient in the multifaceted reality of modern workplaces (Luthans, Luthans, Luthans, & Brett, 2004). As technology and globalization developed at snowballing speed, work places and communication channels became more and more complex, and the rapid deregulation compelled companies to value flexibility, speed, adaptability and innovation over physical and financial resources. The value of developing, improving and/or maintaining intangible organizational resources became evident and it requiered managing employees' skills, knowledge, experiences and expertise (jointly considered as "human capital") (Luthans et al., 2004).

Incorporating Positive Psychology approches to organizational behavior was further stimulated by the Gallup organization: a research-based, performance-management consultancy at a global level, which uses data analytics to provide counseling and predictions for organizations. Gallup aims at optimizing workplaces through human development, providing data on the attitudes and behaviors of employees from different countries all around the world, mostly through polls Gallup also sponsored the First Positive Psychology International Conference in 2002, since its consulting activities are based on Positive Psychology approaches, and specifically in identifying and enhancing strenghts. Luthans' collaboration with Gallup as a senior researcher is what first brought his attention to Positive Psychology, since the consultancy was already applying some aspects of Positive Psychology in the workplace, even before it officialy emerged as a field.

This was partly due to the existence of a significant body of non-scientific literature, in the form of management books and motivational books, the majority of which were based on positive messages and optimisitc orientation towards life. This positively focused literature has been largely successful and sought after in the business (and not only) world, however, it differs to a large degree from what was being produced in academia at the time, which was still more oriented towards mending what

doesn't work (Luthans, 2002). The Positive Psychology movement offered the opportunity to align academic studies and approaches with the practicle and applicable knowledge which was used in actual organizations. It also allowed to build bridges between the popular business best-sellers and the academic Organizational Behavior field (Luthans, 2002). Within research, the incoproration of Positive Psychology into the area of work and organizations is evidenced by the formation of two separate movements: Positive Organzational Scholarship and Positive Organizational Behavior.

Positive Organizational Scholarship (POS) is defined as "the study of especially positive outcomes, processes and attributes of organizations and their members" (Cameron, Dutton & Quinn, 2003, p.4). POS explores that which goes right in organizations, and emphasizes human strengths, developing perseverance and stress-management, and overall aiming to identify what makes individuals excellent at their jobs (Cameron et al., 2003). An important element of POS is "positive deviance", meaning the processes which foster extraordinary flourishing and prosperity within individuals and organizations (L. M. Roberts, 2006). POS takes a rather broad view at positive functioning of organizations, including a variety of perspectives and research agendas within the field. A long-term goal of POS is to achieve a more balanced approach to organizational research where the positive and negative are both considered equally, so as to establish POS within organizational behavior (Diener, 2003).

Positive Organizational Behavior (POB), although tackling similar matters as POS, differs in that it is more specific and more oriented towards the development of human positive qualities and capacities. POB is defined 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" (Luthans, 2002). POB is considered the application of the Positive Psychology paradigm in the work area and its main aim is to build human strengths with an approach based in scientific theory, accurate measurement and empirical evidence, which is the added value that POB brings to the table (Luthans, 2002a, 2000b).

In order to distinguish POB from other positive approaches, the authoring team considered it necessary to establish specific criteria, based on which to create the framework within which to develop POB research and practice (Luthans & Youssef, 2007; Youssef & Luthans, 2007). They are referred to as inclusion criteria because they

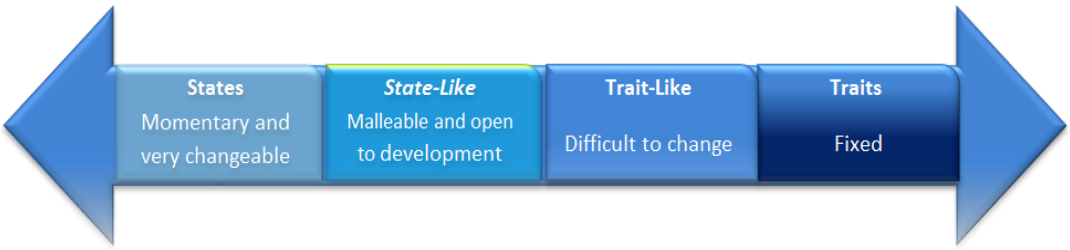
set the boundaries that distinguish POB from other areas, clarify the domain of study and decide what particular psychological capacities should be included in the POB framework. Four criteria for inclusion were established.

First, constructs should be based in theory and research, with empirical evidence demonstrating their validity. As POB prides itself on scientific rigor, the constructs included in it should be based on sound psychological theory that has been tested within a significant body of research.

Second, constructs should be measurable with valid, reliable and tested scales, the psychometric qualities of which have been previously tested in various studies.

Third, the constructs must be "state-like: a key aspect of POB is that researchers and practitioners view psychological strengths as state-like constructs (Luthans, 2002). This is perhaps the most important criterion of the four which distinguishes POB from Positive Psychology and from POS as well (Luthans, 2002). In order to clarify what state-like means, it is helpful to look at the state-trait continuum (see Figure 1), described by Luthans, Avolio, Avey, & Norman, (2007). They point out that although traits and states are often seen as independent from one another, it is more appropriate to think of them on a continuum, as it is more reflective of reality. They outline four points of this continuum of positive psychological strengths: 1) positive states, which are momentary and easily changeable (e.g. moods, feelings); 2) state-like constructs: relatively malleable and open to development (e.g. self-efficacy, hope resilience, optimism, gratitude, wisdom); 3) trait-like constructs—relatively stable and difficult to change (e.g. Big Five personality dimensions, core self-evaluations); 4) positive traits—fixed, stable, and very difficult to change (e.g. intelligence, heritable characteristics). The capacities that are object of study of POB should be state-like constructs- not as unstable as moods, but still malleable, and not as fixed as traits, as traits give little room for improvement.

*Figure 1. State-trait continuum (*Luthans, Avolio, Avey, & Norman, 2007)



Fourth, and last, constructs should have an empirically demonstrated impact on performance (Luthans, 2002a, 2002b; Luthans, Youssef, et al., 2007). This criterion of contributing to performance was mainly established in order to distinguish POB from the existing non-scientific literature focused on self-improvement, and really point in the direction of organizations and improving their functioning through personal improvement and development of positive psychological capacities.

After the establishment of the four criteria, various psychological capacities were reviewed and initially the constructs included in POB were hope, confidence (or self-efficacy), optimism, subjective well-being (or happiness), and emotional intelligence (Luthans, 2002a). However, as POB research progressed, so did the comparing and exploring of constructs in order to establish those that fit best the four POB criteria. From the initial set of capacities only hope, self-efficacy, and optimism remained (Avey, Wernsing, & Luthans, 2008). Resilience was added shortly after, as a key capacity in contemporary work life where downsizing, organizational change, mergers and takeovers are increasingly common and resilience taps into adaptation and flexibility, which makes it an indispensable resource in fast-changing environments (Luthans, Vogelgesang, & Lester, 2006).

Thus, the four psychological constructs that best meet the four POB criteria for inclusion were definitively established as hope, self-efficacy, resilience and optimism. These constructs have been distinguished in the psychological literature as independent constructs and there is empirical evidence of their discriminant validity across different samples (e.g. Bryant & Cvengros, 2004; Carifio & Rhodes, 2002; Magaletta & Oliver, 1999).

At the same time, as Luthans et al. (2007) point out, there is a significant theoretical overlap and communalities between them, and can be considered as a second-order construct. The authors call this second-order construct as Psychological Capital. This construct will be described in the following section.

1.2. Psychological capital

As mentioned previously, hope, self-efficacy, resilience and optimism are combined in the second-order construct Psychological Capital or PsyCap. PsyCap is defined as "an individual's positive psychological state of development and is characterized by: (1) having confidence (self-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 (resilience) to attain success" (Luthans et al., 2007, p. 3). Luthans (2012) used the HERO acronym to refer to the four first-order constructs: hope (H), self-efficacy (E), resilience (R) and optimism (O).

The following pages take a deeper look at the theoretical background of each construct, how it fits into POB and PsyCap respectively. In addition, the communality between them will be commented.

1.2.1. Hope

Constructs similar to hope began appearing in research in the 50s, predominantly in the nursing and psychiatric literature (Schrank, Stanghellini, & Slade, 2008). It emerged mostly as a part of a wider research line regarding expectancies. Expectancies relate to the psychological anticipation of the future and one´s beliefs about future outcomes and how they would occur (Magaletta & Oliver, 1999).

In Positive Psychology, the hope construct was established mostly based on Charles Snyder's work and his development of Hope theory. Snyder explored hope

within a goal-setting framework, because he identified the desire to seek goals as a repetitive element in the psychological literature on motivation from 60s and 70s. Snyder came to view goals as the engine that drives people's lives and actions even when these goals are not explicitly stated or even conscious. In this sense, goal-directedness is the central cognitive element of Snyder's Hope theory.

Although Snyder recognizes that goals differ for the different individuals and life situations, he outlines two general types of goals in terms of importance and mental representations (Snyder, 2015). The first type is positive or "approach" goals, meaning goals that are set with the expectancy of a positive outcome for the individual (they can be long-term or short-term goals, or can refer to sustaining a current positive goal that has already been achieved). The second type of goals is negatively oriented goals that are focused on preventing negative outcomes or deter an undesirable event from happening.

In the beginning of the development of Hope theory, it was assumed that hope emerges when there is a level of uncertainty of whether or not the goal can be achieved, and hopeful thinking did not arise when the probability of reaching an objective was very high or very low. Very high probability goals did not spur hopeful ways of thinking because achievement was automatic, and very low chances of achieving a goal were seen as not inspiring to persevere towards achievement, because the goal is perceived as unattainable (Snyder, 2015). Later on, however, Snyder changed his view as research and experience with subjects demonstrated that those with hopeful ways of thinking are able to ´stretch´ the high-probability goals to include more elements and to require more abilities from them, thus infusing a degree of uncertainty in the goal achievement process. On the other hand, when dealing with extremely difficult goals, those with hopeful ways of thinking are able to reframe seemingly unattainable goals in a way that allows them to perceive them as attainable (Snyder, 2015). Thus, the current Hope theory looks at certain, as well as uncertain goals as influenced by one's hope levels.

In addition to the central cognitive element of goal-setting, Snyder views hope as a two-dimensional construct, unlike previous one-dimensional theories (e.g. Erickson, Post, & Page, 1975; Frank, 1968). In hope theory, hope is comprised of two interconnected elements: agency and pathways (Snyder et al., 1991). Agency refers to an individuals´ determination towards the pursuit of a goal in the past, present and future. In this sense, agency is the motivational aspect, or the ´will´ component of hope.

Agency is what provides the mental energy to embark on a goal, to come up with a plausible way of achieving it, as well as to continue moving forward. This motivational component is especially important when one is facing difficulties on the way to achieving a goal. According to hope theory, it is agency which empowers people to direct and redirect their energy in the ways which eventually bring them closer to their goal (Luthans & Jensen, 2002b; Snyder et al., 1996).

The other component of hope, pathway thinking, refers to an individual´s ability to generate pathways and make plans to achieve a certain outcome (Snyder, 2015). For Snyder this ability of generating alternatives in the pursuit of a goal was the ´way´ component of Hope. When pursuing a goal, it is clearly necessary to have an initial plan or route of how to achieve it, as well as to be fairly confident in its effectiveness. However, pathway thinking implies that apart from this primary option, one should have the capacity to come up with alternatives, additional routes which can lead to the desired outcome, and overall to be flexible in the process of pursuing goals. People high in hope are often able to generate alternate routes to a goal, and are even very effective at it when they are impeded (Snyder et al., 1996). Those low in hope often take much longer to come up with new ways to achieve goals, show less flexibility when facing obstacles and are generally less convinced that the alternatives they generate can work (Luthans & Jensen, 2002b; Magaletta & Oliver, 1999; Snyder, 2015).

The two components of hope interact in different ways in the different individuals and feed into each other. Hope theory refers to a "full high-hope" person, meaning one who possess high levels of agency and high levels of pathway thinking which manifest in goal pursuit as high energy, flexibility and speed when it is necessary to create new paths to obtain a desired result (Snyder, 2015). A full "low-hope" person who has low pathways and low agency will have slower and hindering or less operative though processes within the goal pursuit sequence. There also are mixed patterns of hope: individuals who are low on one component but high on the other, and vice versa. On the one hand, people with high pathways but low agency would manifest an iterative ability to plan a route towards the achievement of a goal but the goal-pursuit would be hindered by a lower motivational energy that is needed to persevere in one's efforts to obtain the desired outcome. On the other hand, the mixed pattern of high agency but low pathway thinking implies that a person would be active and motivated to pursue a goal, however the process of achieving it would be hindered by a low capacity to generate pathways and to come up with new strategies on the way towards the goal. In both

mixed patterns of hope, the component which is weaker will lead to a slower iterative thinking and would obstruct the cognitive cycles and processes which are involved in goal pursuit (Snyder, 2015).

As can be seen, Snyder emphasizes the cognitive elements and processes of hope, unlike other researchers who have conceptualized hope in terms of emotions (see Farina, Hearth & Popovich, 1995). Snyder proposes that positive or negative emotions are a consequence from one's perceptions and past experiences about the achievement of goals. Thus, the emotions felt throughout the goal pursuit process serve as indicators to how one is doing in the goal pursuit (Snyder, 2015). Positive emotions stem from the successful achievement of a desired outcome that could result from a problem-free movement towards the goal or from the successful overcoming of barriers on the way towards the goal. On the contrary, negative emotions follow from a failure to achieve a goal, for instance because of an inability to overcome an external difficulty.

These past memories of the goal pursuit process are stored and "aggregated into positive and negative emotions" (Snyder, 2015, p.6). The accumulation of these past positive and/or negative experiences and emotions throughout childhood (and later) affect the dispositional level of hope one has in terms of goal pursuit. These dispositional levels are referred to as trait-hope: a fixed personality characteristic that is exhibited across situations: a person with high trait hope would exhibit hopeful, proactive behaviors and cognitions, and the opposite applies to a person with low trait-hope. In addition, high levels of dispositional hope are accompanied by a set of iterative positive emotions and moods directed towards new goals, while low levels of dispositional hope are accompanied by more negative and unpleasant emotions when pursuing an objective (Snyder, 2015). The dispositional hope one has is also likely to affect cognitive appraisal: for those high on dispositional hope, barriers and stressors on the way to achieving a goal will be interpreted as challenges and will elicit a lower amount of stress in people high on trait-hope, in comparison to people with lower trait-hope. Trait-hope is seen as a range, meaning that for different people there are different lower and upper limits of the dispositional hope they experience (Snyder, 2000).

Within this range of dispositional hope, however, there are variations across individuals depending on specific circumstances and situations. For example, a person high on trait-hope may become overwhelmed by a barrier that is impossible to overcome. This can lead to depleted agency and lowered ability to come up with new pathways towards the goal. Thus, temporarily, this individual´s hope will be

approximating the lower limit of his/her particular trait-hope range. Hope theory refers to the temporary variations in one's hope levels as state-hope: a less permanent construct than trait-hope, more malleable and influenced by the ongoing context. State-hope is manifested in relation to concrete circumstances and events: it depicts the momentary hope levels within one's current goal-directed thinking. State-hope levels usually stay within the range of an individual's trait-hope and the two are highly correlated but independent (Snyder et al., 1996). Currently, hope is referred to as both a trait and a state, as evidenced by the validation of two specific scales- one measuring dispositional hope (Snyder et al., 1991) and one measuring state hope (Snyder et al., 1996).

PsyCap hope is based on state-hope because it reflects the learning component of hope, the one that can be developed and enhanced through interventions. In PsyCap hope is defined as "persevering toward goals and, when necessary, redirecting paths to goals in order to succeed" (Luthans et al., 2007, p.2). The state-like quality of hope is backed up by various studies that implement training interventions effectively for enhancing hope (see Snyder, Ilardi, Michael, & Cheavans, 2000).

Apart from its malleability, there are also evidence of the impact of hope on performance that has been researched in various areas, such as academia, sports, health and well-being, coping skills (Curry, Snyder, Cook, Ruby, & Rehm, 1997; Kwon, 2000; Onwuegbuzie & Snyder, 2000; Range & Pentin, 1994; Snyder, 2000). The impact of hope in the work context, has been predominantly researched within the POB framework where hope has been found to influence performance outcomes and attitudes (Youssef-Morgan & Luthans, 2007), supervisor-rated performance (Luthans et al., 2005), an organization's bottom line and employee commitment (Adams et al., 2002). A relationship was also found between entrepreneurs' hope and their satisfaction with business ownership (Jensen & Luthans, 2002). People who are in managerial positions and exhibit higher levels of hope tend to have higher retention rates and more satisfied employees (Peterson & Luthans, 2003).

Despite similar findings, hope's application in the organizational world is still rather limited. POB and PsyCap emphasize the strong theoretical background of the hope construct and its malleability as reasons why hope should be included in Human Resource development and management, as a potential way to positively influence organizational and employee outcomes.

1.2.2. Self-efficacy

Out of all the PsyCap constructs, self-efficacy has the longest theoretical and research history. It was introduced by Albert Bandura (1977, 1986) as the central concept of his well-known socio-cognitive theory. Socio-cognitive theory underlines the importance of social learning and observational experience as a way to develop the self, and the belief in one´s own capabilities.

Bandura defined self-efficacy as "the belief in one's capabilities to organize and execute the courses of action required to manage a prospective situation" (Bandura, 1995, p.2). Self-efficacy beliefs are tightly linked to four fundamental human aspects: thought processes, motivation, affectivity and selection (Bandura, 1993).

Self-efficacy beliefs influence *cognitive or thought processes* as they are embedded in one´s perceptions about the outside environment, which includes goals and abilities. On the one hand, the way a goal is approached or chosen is determined by self-efficacy (Bandura, 1982). Those with high self-appraisal of their capabilities would aim higher when choosing a goal, in comparison to people more doubtful of their capabilities. This is because self-efficacy beliefs affect the anticipatory processes in one's mind, for example when approaching a new goal, those higher in self-efficacy are more likely to hold encouraging and positive images of how the pursuit of this goal will unfold, while those with lower self-efficacy beliefs focus on all that could go wrong in the process (Bandura, 1982; Bandura, 1993).

On the other hand, Bandura (1982) postulated that although capabilities are important for achieving a goal successfully, they are often not sufficient. The way one thinks about their competencies determines how well tasks are carried out, or in other words, "a capability is only as good as its execution" (Bandura, 1982, p. 9). Self-efficacy beliefs help to translate capabilities into real actions towards a desired outcome. The higher people judge their abilities to perform the necessary tasks, the more their behavior aligns with the pursuit of desired results.

In terms of *motivation,* self-efficacy affects most strongly the willingness one has to persevere in the pursuit of a goal even when faced with obstacles and difficulties.

When faced with difficulties and challenges people with higher levels of self-efficacy tend to persevere in their efforts, while those lower on self-efficacy beliefs tend to get easily discouraged and seize their effort sooner (Schwarzer & Warner, 2013). This is because challenges are perceived differently, depending on how one judges his ability to perform: people who believe in their capabilities to deal with difficulties view them as challenges that need to be overcome, while people who are more doubtful of whether or not they can handle these same difficulties, perceive them as threats and tend to avoid dealing with them (Bandura & Wessels, 1994; Edwin & Bandura, 1997).

Apart from the cognitive evaluations of obstacles, future expectancies also play a role in one's motivation to pursue goals. When an individual can form a positive expectation that his/her efforts can lead to the achievement of a valued goal, he or she is more likely to exert more effort in carrying out the necessary tasks to achieve it. In contrast, people low on self-efficacy may shy away from difficult goals or from putting in the necessary effort to achieve them, since they hold negative outcome expectancies, based on their doubts in their capabilities (Bandura, 1993).

In addition to expectancies, self-efficacy beliefs also influence the attributions one makes when faced with difficulties of failures. Those with high efficacy tend to attribute setbacks or failures to an insufficient effort on their part, and are therefore willing to continue working towards obtaining the desired outcome by investing more effort. Conversely, low efficacy individuals attribute failures to their incapacity or insufficient competence to achieve a goal (Bandura, 1993).

In terms of *affectivity*, there is also a difference in the emotional states that follow a setback or difficulty depending on people's self-efficacy beliefs. The way personal capabilities are judged affects the emotional experiences one has before and during a goal pursuit sequence (Bandura, 1997). For example, inefficacious individuals experience difficulties as more stressful and anxiety- inducing due to their lack of belief that they can handle them. At times, the importance of difficulties can even be exaggerated and overestimated which consequently hinders motivation, performance and effort (Bandura, 1993).

The reason for these fallacies has to do with the extent to which individuals believe they can control their environment. Bandura refers to this as coping self-efficacy: the belief that one has control over stressors and can manage difficulties in their environment (Edwin & Bandura, 1997; Schwarzer & Warner, 2013). Coping self-efficacy is negatively linked to anxiety, since those who believe themselves to have

more control would experience less disturbing thoughts and emotions than those who feel they cannot manage threats, regardless of the effort they invest (Bandura, 1993). Less perceived control also implies more focus on one's inadequacies and lack of coping abilities (Bandura, 1993).

Self-efficacy beliefs are also highly ingrained in the *selection processes* throughout one's life: the choice of activities, environments and surroundings is influenced by self-efficacy, as the majority of people tend towards context where they already have a certain level of efficacy and stray away from activities and places which exceed their assumed capabilities (Bandura, 1982, 1993; Wu, Tang, & Kwok, 2004). These selections, in turn, results in acquiring and/or strengthening the capacities, knowledge, interest and social contacts that correspond to the selected context. The social environment within this context will continue to reinforce certain competencies, values and interest and reward them according to the socially excepted norms. Individuals who experience self-efficacy in more areas will logically have a broader spectrum of environments where they are able to develop and apply themselves. This process demonstrates how big of an influence self-efficacy beliefs may have on a person's life course.

Overall, socio-cognitive theory posits that self-efficacy beliefs determine to a large extent an individual's approach to a goal, the effort one is willing to put into achieving it and how long this effort can be sustained (Bandura, 1997).

Furthermore, self-efficacy can vary on three dimensions: strength, which refers to how confident one is in their abilities to perform necessary tasks; magnitude, which refers to the level of task difficulty and generality, which refers to the extent to which self-efficacy beliefs apply across tasks and situations. Even though some studies have explored the notion of general self-efficacy which refers to the beliefs in one's overall competence across a variety of achievement situations (e.g. Chen, Gully & Eden, 2001), within Bandura's theory, self-efficacy is predominantly understood as a domain-specific capacity, which is more of a state, contingent on context. That is, a person could have high self-efficacy in one area on life, for instance relationships, and low self-efficacy in another domain, for example professional career. Self-efficacy can also differ across tasks, that is, self-efficacy beliefs can be high for some particular tasks and low for others.

This context-dependent characteristic of self-efficacy is also what makes it such a good fit for the POB criteria, as it can be molded and influenced by social

environment (Luthans, 2002b). Bandura's theory posits that self-efficacy beliefs can be developed and clearly outlines how. According to the social cognitive theory, there are four key factors or sources of self-efficacy: enactive mastery, vicarious experience, social persuasion, and physiological and affective arousal

The first and most important of these factors is **Enactive Mastery** (or past successes). Prior successful experiences within a certain task or towards a goal can enhance beliefs that one is able to do what is required to keep having these successes in the future (Bandura & Essels, 1994). In turn, prior failures in the pursuit of a goal can lower self-efficacy beliefs. However, past success have to be experienced as genuine in order to enhance self-efficacy, for instance, a goal that was too easily achieved or did not really require effort does not increase self-efficacy even if it was praised and recognized externally. A lasting self-efficacy belief is obtained by repeated experiences and overcoming obstacles through effort (as long as these obstacles do not surpass one's abilities greatly). Past successes and focusing on them, rather than focusing on past failures is key for the enhancement of self-efficacy beliefs.

The second factor that influences self-efficacy is called Modeling or **Vicarious Experience**. Modeling refers to learning from the vicarious experiences of social models, from those around us and from their capacity to achieve desired goals. One´s perceptions of their capabilities to succeed can be influenced by seeing another person (or people) succeed through investing and sustaining effort (Bandura & Wessels, 1994). Individuals within our social circle that we perceive as competent or knowledgeable in a certain area can transmit their abilities to observers, providing them with effective skills and strategies to deal with comparable tasks. In this way, one is able to learn in a social way from other people's behaviors and attitudes, and thus acquire competencies and additional means for their own lives which in turn enhances personal self-efficacy (Bandura & Essels, 1994).

An important element of modeling is that one has to identify with the person being modeled and assume that the model is in some way similar to them. The more similarity one perceives between themselves and their social model, the more effective learning will be, and the higher the effects on self-efficacy. In contrast, when there is too much assumed difference, the observer's self-efficacy is usually not affected. Vicarious learning has been found to be especially effective for people with very low self-efficacy.

The third factor that influences self-efficacy is **Social persuasion**. Social persuasion refers mainly to communication with others, which can directly or indirectly persuade a person of his or her capacity to do a task. These include stated or implied encouragement (or discouragement), feedback on a task and reinforcement (positive or negative). Although on its own, social persuasion is unlikely to create self-efficacy, it can often increase it, especially in combination with personal or vicarious successful experience. In addition, the source of the persuasion is also important: when the persuasion comes from a social model or an authority figure, it has a stronger effect on one's self-efficacy beliefs (Goddard, Hoy, & Hoy, 2004). A positive verbal persuasion leads to a willingness to mobilize one's resource and exert more sustained effort to obtain the outcome, and it also shifts one's focus from personal deficiencies to personal strengths within a given situation.

However, undermining self-efficacy beliefs can also be a consequence of the social persuasion when it is unrealistic or incongruent with the results obtained. Furthermore, negative social persuasion- or convincing someone that they lack the capabilities to perform can lead to a narrowing the activities one is willing to take on and to lead to avoidance of challenges (Bandura, 1982, 1993).

The best way for social persuasion to have a lasting effect is if positive feedback and reinforcement are combined with situations where people are likely to succeed and slowly elevating the difficulty with which success is achieved.

The fourth and final factor that affects self-efficacy beliefs is related to **Physiological and affective arousal**. Emotional and somatic states form part of one's internal evaluations of their capabilities. The physical or emotional reaction one has to a difficult or stressful situation, and most importantly, one's interpretation of this reaction has an effect on perceived self-efficacy (Bandura & Essels, 1994). One person can interpret stress reactions such as anxiety, accelerated heartbeat, aches, fatigue, tension, as signs of weakness and antecedents of poor performance. A second person can have a completely different interpretation of the same distress symptoms, for example, they might interpret them as excitement, rather than stress or dread. The former are likely to have low self-efficacy in the particular situation when they are experiencing these symptoms, while the latter are likely to have elevated self-efficacy. Those higher in self-efficacy beliefs tend to interpret physical responses in a more functional way, as non-related to their performance or as enhancers of it (Bandura & Essels, 1994).

Thus, it is not the intensity of the physical symptom or emotion, but rather the mental interpretation one gives to them that has the potential to enhance or decrease self-efficacy beliefs. Therefore, a plausible way to augment self-efficacy is to alter the negative interpretations that people usually give to their physical states in demanding or stressful situations (Bandura, 1993).

These four sources of self-efficacy are considered by POB psychologists as a testament to self-efficacy's malleability (Luthans, 2002b). In POB, self-efficacy is described as the construct that best fits the four criteria for inclusion because of this malleability and state-like characteristics. In addition, it is the best known and the most researched of the four PsyCap constructs, with the largest body of empirical evidence on it, and furthermore, there are various measurement scales that have been developed and tested. Finally, the number of studies that link self-efficacy beliefs to productivity is higher than for the other constructs.

Within POB, self-efficacy is usually used interchangeably with confidence. Even though Bandura´s theory distinguished between the two, considering confidence to be a colloquial and not very specific term compared to self-efficacy, Luthans et al. (2007) use the term confidence, because within the PsyCap framework it is clear that it is referring to the domain of work where confidence is the more common and known term (Luthans, Vogelgesang, & Lester, 2006). POB also adopts a more comprehensive definition of self-efficacy as follows: "Self-efficacy refers to an individual's conviction (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" (Luthans, 2002, p.6; Stajkovic & Luthans, 1998, p.66). This definition was later shortened for convenience to "having confidence (self-efficacy) to take on and put in the necessary effort to succeed at challenging tasks" (Luthans et al., 2007, p,16).

Given the previously described effects of self-efficacy on cognitive, regulatory and motivational functioning it is not surprising that it is related to high performance (Cherian & Jacob, 2013; Judge, Jackson, Shaw, Scott, & Rich, 2007). Self-efficacy´s effects on job performance and satisfaction has been widely researched and supported (see Judge & Bono, 2001), as it is a generally accepted notion in Organizational Psychology that the higher the self-efficacy in a certain domain or task, the better the performance (Bandura, 1997).

1.2.3. Resilience

The study of resilience as a construct emerged in the 70s, and was initially done predominantly in a clinical context, with children who experienced extremely adverse circumstances, such as living with schizophrenic or alcoholic parents (Garmezy, 1973; Garmezy & Streitman, 1974; Werner, 1971). Early on clinical researchers found that while the majority of these children were not able to overcome their extremely disadvantaged backgrounds and went on to have developmental and social problems throughout their lives, a part of them were able to overcome their past and to lead satisfactory lives in terms of academic professional and personal development (Werner, 1971). Researchers focused on finding the personal characteristics and protective factors (for instance, social support from other sources, guidance, etc.) which allowed for such successful development.

The sequence of research on the topic can be seen in Richardson's (2002) meta-theory of resilience, where he identified three waves of analysis of the construct. The first wave was focused on identifying resilient qualities: individual qualities and protective factors that predict social and personal success when facing adversity. The second wave was more about the process of coping with adversity and change, in a way that such coping would result in identification and fortification of the protective factors. The third wave explored the motivational aspects of resilience; it focused on the innate processes within individuals and groups that nurture resilient recuperation from adversity (Richardson, 2002). A conclusion from this meta-theory is that resiliency is a process relevant to every person´s life, and the adversities along the way create an opportunity to grow and nurture one´s resilient qualities further.

As research developed and evolved, the view on resilience changed from a rare personality trait that some individuals inherently possess in larger quantities than others to a more malleable and context-dependent construct (Masten, Best, & Garmezy, 1990). This view of resilience as a developable process has been supported by various authors and their work. For example, in a conceptual analysis of resilience, Gillespie, Chaboyer & Wallis (2007) describe resilience as a process that can be developed at any time during the life of a person, rather than being an inherent individual characteristic. Further, Thies (2006) posits that it is a dynamic quality that may vary greatly in an individual depending on their circumstances. Furthermore, clinical studies have shown

resilience is dependent on both external and internal factors and characteristics of the concrete context and individuality (e.g. Luthar, Cicchetti, & Becker, 2000; Masten et al., 1990).

Positive Psychology assumes a similar view of resilience as a malleable internal characteristic that also makes resilience a good fit within the criteria for inclusion in POB (Luthans et al., 2006). This is reflected in the definition of PsyCap resilience "the developable capacity to rebound or bounce back from adversity, conflict, failure or even positive events, progress, and increased responsibility" (Luthans et al., 2006), which was then reformulated and shortened for convenience to "when beset by problems and adversity, sustaining and bouncing back and even beyond to attain success" (Luthans et al., 2007, p.2). We take a more in-depth look at PsyCap resilience in the following paragraphs.

When resilience was introduced in the organizational behavior literature, it was conceptualized based on a multi-disciplinary approach, drawing on previous knowledge about the construct and identifying common themes among the different understandings of resilience across various contexts and applying them to the work setting (Luthans, 2002). A work that stands out for its relevance is Ann Masten´s (2001) *Ordinary Magic: Resilience Process in Development*. Masten (2001) defined resilience as "a class of phenomena characterized by patterns of positive adaptation in the context of significant adversity or risk". The author refers to resilience as "ordinary magic" because she sees it as "arising from ordinary human adaptive processes" (Masten, 2001, p. 8).

Luthans et al. (2006) adapted some notions from Masten´s (2001) work to the realm of organizational behavior to develop the theory of PsyCap resilience. Specifically, PsyCap resilience refers to the ideas of risk-focused, asset-focused and process-focused strategies described by Masten, Reed, Snyder, & Lopez, (2002). By building on previous findings, Masten & Reed (2002) identified assets (resources or protective factors) which enhance resilience, and they also identified risk factors that hinder the overcoming of difficulties. Based on these, they delineated three types of strategies for developing resilience: asset-focused, risk-focused and process-focused (Masten, Reed, Snyder & Lopez, 2002).

Asset-focused strategies are based on the assets one has at their disposal, in order to increase the likelihood of success in an adverse situation. Risk-focused strategies, on the other hand, are aimed at reducing or eliminating the risk factors that might lead to a negative outcome, thus decreasing the probability of failure. Process-

focused strategies are more related to the cognitive and adaptation processes through which one identifies the most valuable assets and the most threatening risks and how to manage both, as well as how to interpret and experience events in a more functional way (Masten & Reed, 2002).

Luthans et al., (2006) adapted these notions to the workplace and proposed that "PsyCap resilience focuses on the proactive assessment of risks and personal assets that affect employee outcomes" (p. 4). Examples of assets relevant to the work domain are skills, knowledge, abilities, social relationships and social support, etc. in the realm of work. Asset-focused strategies for increasing resilience include providing employees with opportunities for training and professional development, investing in the employability of their employees, by providing them with continuous education and fostering their personal growth (Luthans, Vogelgesang, et al., 2006).

Examples of risks factors include job stress, role conflict, ineffective communication, toxic leadership, etc. Risk-focused strategies in the workplace prepare employees to deal with such risks through risk-management, coaching or mentoring from other individuals who have experience similar events at work (Burke & Page, 2017). Another key factor for managing risk well is organizational culture- a main guideline for enhancing employee resilience is to generate a culture of trust and ethics (Luthans, Vogelgesang, et al., 2006).

The third type of strategy, process-focused strategy, emphasizes the complexity of the resilience process. In addition to assessment of risks and assets, PsyCap resilience consists of the incorporation of adaptation processes that include both risks and assets in an interactive manner (Luthans et al., 2006). It also depends on the way one interprets adversity and its place in reality, and how quickly one can identify assets or predict risks. Resilience involves emotional, cognitive, and behavioral mechanisms that are mobilized in the face of adversity in order to restore well-being (Luthans, Avey, & Patera, 2008). Such mechanisms include having a firm acceptance of reality, an ability to find meaning in difficulties, and a high capacity for improvisation and flexibility (Coutu, 2002). Process-focused strategies aim to enhance the mechanisms that can lead to increased resilience. In this sense, the other three PsyCap constructs self-efficacy, optimism and hope can all contribute to the development of resilience, especially self-efficacy which stands out as the most likely mechanism for enhancing it (Luthans, Vogelgesang, et al., 2006). Hence, using the four factors that influence self-efficacy (see

p. 32) within trainings and interventions is also a process-focused strategy to enhance resilience.

In addition to identification and management of risks and assets, PsyCap resilience has another important aspect: the overcoming of adversity and challenges can serve as a way to encourage personal growth and go beyond one´s condition prior to the adversity (Luthans, 2002a; Luthans, Vogelgesang, et al., 2006; Youssef & Luthans, 2005). The PsyCap literature explains this by describing two sides of resilience: reactive elements and proactive elements of resilience (Luthans & Youssef, 2007).

Reactive resilience refers to recognizing the challenges and allotting time, awareness and energy to them and to the possible outcomes from them. Proactive resilience means viewing difficulties as challenges for learning as potential "springboards or opportunities for growth beyond that equilibrium point" (Youssef & Luthans, 2007, p. 8). In this sense, PsyCap resilience views threats and risk factors as opportunities for growth and positive development. Often referred to as the "performance boundary of resilience" the concept of bouncing back and beyond, means that after overcoming a setback or a difficulty on the way to achieving a goal, it is possible that for some people performance is improved beyond what it was prior to that difficulty (Luthans et al., 2006; Luthar, Cicchetti, & Becker, 2000).

Although the way the resilience process unfolds is contingent on the severity of the adversity and on the resources one has, more and more attention from both researchers and practitioners is paid to resilience and its benefits for organizations. As it is an adaptation mechanism, it facilitates dealing with big problems, as well as every day obstacles at the workplace that makes useful for performing well in a hectic environment. Empirical evidence has shown that resilience is linked to improved employee performance (Luthans, Avolio, Walumbwa, & Li, 2005), as well as to the flexibility and adaptation to change of organizations as a whole (e.g., see Luthar & Cicchetti, 2000; Masten, 1994; Youssef & Luthans, 2005).

Despite these evidence, the introduction of resilience to Organizational Behavior took place rather late in comparison to other psychology disciplines, and among the PsyCap constructs it is the least researched within work domain, so there is still a lot more to find out about how resilience functions (Luthans et al., 2006).

1.2.4. Optimism

¨Your explanatory style stems directly from your view of your place in the world- whether you think you are valuable and deserving, or worthless and hopeless. It is the hallmark of whether you are an optimist or a pessimist¨.

Martin Seligman, Learned Optimism: How to Change Your Mind and Your Life (2006, p. 61).

Research evidence on the nature of optimism began emerging in the 60s and 70s, even though it was a very discussed topic by philosophers and psychologists long before (Peterson, 2000). Early studies regarding optimism were carried out in the field of cognitive therapy, where depression was seen as a cognitive disorder, mainly caused by distorted negative views of the self, as well as extreme pessimism (Beck, 1967). As with hope and resilience, optimism was initially viewed as a fixed personality trait, and many authors considered it an inherent human mechanism (e.g. Tiger, 1979; Lazarus, 1983; Beck, 1967).

Among them were Scheier and Carver (1985) whose conceptualization of optimism is one of the most commonly used in research. Their theory focused on dispositional optimism: a generalized expectancy that the future holds more good things than bad (Scheier & Carver, 1985). Scheier and Carver pointed out that research in personality prior to theirs has largely neglected studying the individual differences in terms of optimism, and even when similar constructs were researched, they were always considered as outcome variables.

Initially, within their theory, optimism was viewed as a personality trait that exists on a continuum with pessimism on one extreme, and optimism on the other. Scheier and Carver (1985), much like Snyder, construct their theory of optimism around goal-directed behavior and outcome expectancies- subjective evaluations of how probable it is to achieve a certain goal/meet a certain standard. If the outcome expectancy is negative, the behavioral results is decreased effort, while if chances of achieving the goal are perceived as favorable, the individual makes an effort to advance, and renews effort when met with a difficulty or negative feedback (Scheier & Carver, 1985). Hence, more optimistic people tend to have more motivation and self-regulation

because even when facing difficulties on their way to achieving a goal, they continue believing that it can be achieved, unlike pessimists who tend to give up faster.

Despite the popularity of Scheier and Carver's dispositional optimism theory there is debate to this day around whether or not optimism and pessimism are truly two opposing constructs, or rather, they are parallel to each other (Peterson, 2000). There is evidence that they are unrelated, or that they are two separate factors, that is, for example, a person can have both negative and positive expectancies of the future simultaneously (Bryant, 2004; Peterson, 2000). This debate begs the question whether optimism is the absence of pessimism or something beyond (Peterson, 2000).

Positive Psychology partially addresses this question by looking at optimism through a different frame. Out of the four PsyCap constructs, optimism is most tightly linked to Positive Psychology and has been researched by Seligman. Seligman draws on attribution theory and explanatory styles to explain optimism (Peterson, 2000; Seligman et al., 2005). Attribution theory posits that different individuals have a different way to explain their reality, and they attribute different causes to events in their lives to make sense of them (Fiske & Taylor, 1991). Explanatory styles differ across people and situations. An optimistic explanatory style means attributing negative events to external, temporary and situation-specific causes, while a pessimistic style implies attributing negative events to stable, pervasive and global causes (Peterson & Steen, 2002; Seligman, 1998).

For example, in the case of a demotion at work, an optimist would attribute the reasons to the bad economy or bad luck, and would consider this a one-time or temporary situation that is not reflective of their capabilities or value. A person with a pessimistic explanatory style in the same situation would view the demotion as permanent and caused by their overall ineptitude and lack of capacity, and overall detrimental to their lives.

This process of attribution works vice-versa for positive events, for instance, in the case of a promotion a person with an optimistic explanatory style would recognize his or her own personal contribution to the positive event and would perceive it as evidence of his/her innate worthiness. In the same situation, a person with a negative explanatory style would interpret the promotion as a one- time event and would attribute the success to external events, such as luck or good timing.

The optimistic explanatory style has a positive impact on motivation and goal pursuit as it fosters positive emotions, enhances worthiness, and most importantly,

makes it easier for people to create positive expectancies that future goals can be achieved (Carver & Scheier, 2002). In line with all this, PsyCap optimism is defined as "making a positive attribution about succeeding now and in the future (Luthans et al., 2007) ".

The relationship between dispositional optimism and optimistic explanatory style is not entirely clear, as the few studies which have tested it find inconsistent results (e.g. Scheier & Carver, 1992; Schueller & Seligman, 2008). Generally, however, dispositional optimism and state-like attributive optimism are considered distinct theoretical constructs and are both recognized within the literature. Similarly to hope, there is a margin of dispositional optimism to each individual, and state-like optimism can be developed and changed within this range (Luthans & Youssef-Morgan, 2007). In term of meeting the POB criteria for malleability, there is evidence that PsyCap optimism and positive explanatory style can be learned and developed through interventions and exercises (Meyers et al., 2013; Seligman et al., 2005).

Although optimism has been linked to various positive outcomes, especially performance in the workplace (Luthans et al., 2005; Seligman, 1998), it is important to remark here that optimistic explanatory style is not always the most effective way to approach all situations. There are specific times when having predominantly positive expectations and making positive attributions is ill-advised, particularly in contexts where extra carefulness, contingency planning, and preventing possible problems are the goal. Seligman refers to this as 'flexible optimism" and underlines that optimism, as understood in Positive Psychology is one more internal resource which people can chose when to use, or when they should count on other ones (Seligman, 1991). This notion is echoed throughout the POB literature on optimism; for example, Luthans & Youssef, (2007) point out that in an organizational setting at times there is a need to able to adapt one's explanatory style, alternating between optimistic and pessimistic. The PsyCap optimism is referred to as realistic optimism that recognizes personal achievements and talents but also involves personal responsibility, as well as acceptance of the fact that difficulties will arise (Bakker, Rodríguez-Muñoz, & Derks, 2012). In this sense, PsyCap optimism does not mean unrealistic and overly positive evaluations of reality, but rather a state of mind which can be learned, developed and applied through focused attention (Luthans, Avey, et al., 2006; Luthans, Avey, et al., 2007). It is dynamic and depends on one's evaluations of the past and the levels of acceptant of it,

one's ability to appreciate present, as well as to recognize opportunities for the future (Schneider, 2001).

1.2.5. Relationships between the four PsyCap dimensions

As pointed previously, hope, self-efficacy, resilience and optimism have been considered as independent constructs and there is empirical evidence of their discriminant validity (e.g. Bryant & Cvengros, 2004; Carifio & Rhodes, 2002; Magaletta & Oliver, 1999). At the same time, as can be seen from the previous descriptions, there is a significant theoretical overlap between them and the communalities among the four PysCap dimensions have been emphasized conceptually before PsyCap was established as a construct.

Firstly, all four of them refer to goals and objectives and describe positive attitudes, beliefs, perceptions and attributions that are applied in the goal pursuit process. Secondly, there are more specific similarities between them, for example, in terms of self-efficacy, from the beginning of the development of his theory, Bandura made references to hope, as well as to resilience (Bandura, 1997). Self-efficacy is future-oriented, focused on the self and goal-directed just like hope; it is also linked to one's interpretation and perception of difficulties and obstacles, just like resilience, and a higher self-efficacy is likely to go hand in hand with an ability to cope better with adversity (Bandura, 1997).

The POB framework also explains that self-efficacy, hope and resilience share certain elements. Specifically, self-efficacy is seen as similar to the agency component of hope: both of them affect the way one approaches and chooses goals and they also provide the cognitive energy to pursue it, as well as the positive motivational beliefs to engage with a task. At the same time, self-efficacy and agency also refer to one´s ability to persevere longer in the face of difficulties and continue trying after failed attempts. In this sense, self-efficacy and agency share a characteristic with resilience.

The pathway component of hope is also intertwined with resilience, as it allows one to deal with difficulties in a functional, flexible manner by expanding the repertoire of possible courses of action one can take when facing an obstacle. Empirically, Snyder (2000) found hope to be linked to resilience and to an overall confidence of one's ability

to achieve objectives (self-efficacy). In addition, hope, self-efficacy, and optimism are all considered mechanisms for increasing resilience (Luthans et al., 2006).

As for optimism, its characteristics are close to those of hope and self-efficacy, since all of them are based on a generalized positive expectancy that a goal can be achieved. Bryant (2004) discovered that dispositional hope and optimism share about 64% of variance but also underlined that as separate constructs they have higher predictive power. Optimism is also linked to resilience because it offers the mechanism of positive interpretation (positive attribution style) as a copying strategy in the face of adversity (Bryant, 2004; Scheier & Carver, 1985).

Because of these and more connections between the constructs, Luthans et.al (2007) propose that there is an underlying, common thread which links hope, self-efficacy, resilience, and optimism together. There seems to be a shared motivational and attitudinal mechanism manifested across the four capacities. This shared mechanism is termed Psychological Capital and it is defined as "one's positive appraisal of circumstances and probability for success based on motivated effort and perseverance" (p. 550).

PsyCap is a second order core construct that taps into the commonalities between hope, self-efficacy, resilience and optimism, and the way they influence and reinforce each other. In statistical terms, the underlying core factor consists in the variance that is shared between the four first-order factors. The use of such multidimensional constructs has been emphasized by some researchers who value the simplification they bring to empirical testing as well as the fact that they are more reflective of reality (see Edwards, 2001). Furthermore, it has been argued that personality characteristics that correlated very highly can be in fact considered as parts of the same construct (Watson & Clark, 1984). Luthans (2007) compares PsyCap to similar widely used multidimensional constructs in organizational behavior which comprise of separate dimensions and a latent factor, for example core self-evaluations which consist of self-esteem, generalized efficacy, locus of control, and emotional stability (Judge & Bono, 2001).

The POB literature is full of practical examples of how the interaction between the four PsyCap dimensions unfolds in the workplace, for instance: "if an efficacious employee is a good performer because of accepting significant challenges and expending the necessary effort to achieve goals, then an efficacious and hopeful employee (who not only accepts challenges and puts out effort to achieve goals, but also

identifies subgoals and pathways to achieve those goals, forecasts obstacles, and has contingency plans to overcome such obstacles by pursuing multiple pathways), should perform even better and have higher satisfaction" (Luthans et al., 2007, p.10).

This line of reasoning for the combined effect of PsyCap capacities is also supported by Hobfoll´s Conservation of Resources theory (CoR) which posits that social, organizational, physical or psychological resources are almost always interconnected and reinforce one another (Avey, Reichard, Luthans, & Mhatre, 2011; Hobfoll, 2002). They accumulate into "resource caravans" aggregating both in a short-term and long term fashion, and one resource attracts and reinforces others (Hobfoll, 2002; Cozzarelli 1993). In CoR theory, this accumulation is referred to as a positive spiral where more and more resources are gained thus contributing to desirable outcomes (Hobfoll, 1989). Such resource accumulation is especially important when one is facing high job demands, change or adversity in the workplace they provide a complex mechanism, supported by various cognitive and affective characteristics to deal effectively with the issues.

Since the four PsyCap dimensions are considered personal positive resources, in line with CoR theory, the interaction between them would produce a higher impact on employee outcomes like performance and wellbeing than each one of them separately (Luthans, Avolio, & Avey, 2007). The added value of the PsyCap construct stems precisely from the synergy between the four positive capacitates which leads to a higher predictive power of the core construct (Avey, Reichard, et al., 2011; Luthans, Avolio, & Avey, 2007). This synergy effect has been emphasized heavily in the POB literature and has been tested empirically, showing evidence that the core PsyCap factor correlates more strongly with performance and satisfaction measures than the PsyCap dimensions separately (Luthans, Avolio, & Avey, 2007).

However, there have been suggestions in the literature that this unitary configuration of the four PsyCap elements has not been tested thoroughly and rigorously enough from an empirical point of view (Dawkins, 2010). Because of the common thread of motivation and positivity between the PsyCap dimensions, the underlying assumption about the relationship between them is that people score similarly across the four, for example, a person who has high levels of self-efficacy and hope, is also likely to have high levels of resilience and optimism since they are mutually reinforcing and share communalities. However, as explained previously, the four PsyCap capacities are considered independent constructs which consist of different

components, and it is possible for some individuals to be lacking in certain components and possess more of others, hence, having low levels of one or more PsyCap dimension/s but high levels of the others.

In addition, the establishing of PsyCap as a unitary second-order construct was predominantly based on studies carried out by the PsyCap authorship team. Some authors have pointed out that this leads to confirmation biases and a tendency to ignore alternatives to studying the construct in different ways which may contradict the established paradigm (Dawkins, 2014; Hackman, 2009).

Thus, the notion of PsyCap as a synergistic construct does not take into account the possibility of within-person variations across the four dimensions, and such variations cannot be accounted for statistically if we consider only the total PsyCap level. A way to tackle this issue would be to take a person-centered approach to PsyCap and to test if individual PsyCap profiles exist, where people score high on some PsyCap capacities but low on others or vice versa (Dawkins, 2014). This aspect is addressed in the current dissertation (see Chapter 3).

Furthermore, to understand better the functioning of PsyCap, not only the relationship between the dimensions is important. As pointed out by some authors, two fundamental criteria need to be fulfilled: 1) the PsyCap capacities can and should be developed, and therefore, it is important to investigate the factors which contribute to their development, in other words, the antecedents of these capacities; and 2) the PsyCap capacities should have an empirically demonstrated impact on performance (Luthans, 2002a, 2002b; Luthans, Youssef, et al., 2007). In addition to performance, the literature has also emphasized wellbeing outcomes and their importance for sustainability in organizations (Peiró, Ayala, Tordera, Lorente & Rodíguez, 2014).

Therefore, the following section reviews both the antecedents, as well as the main outcomes of PsyCap.

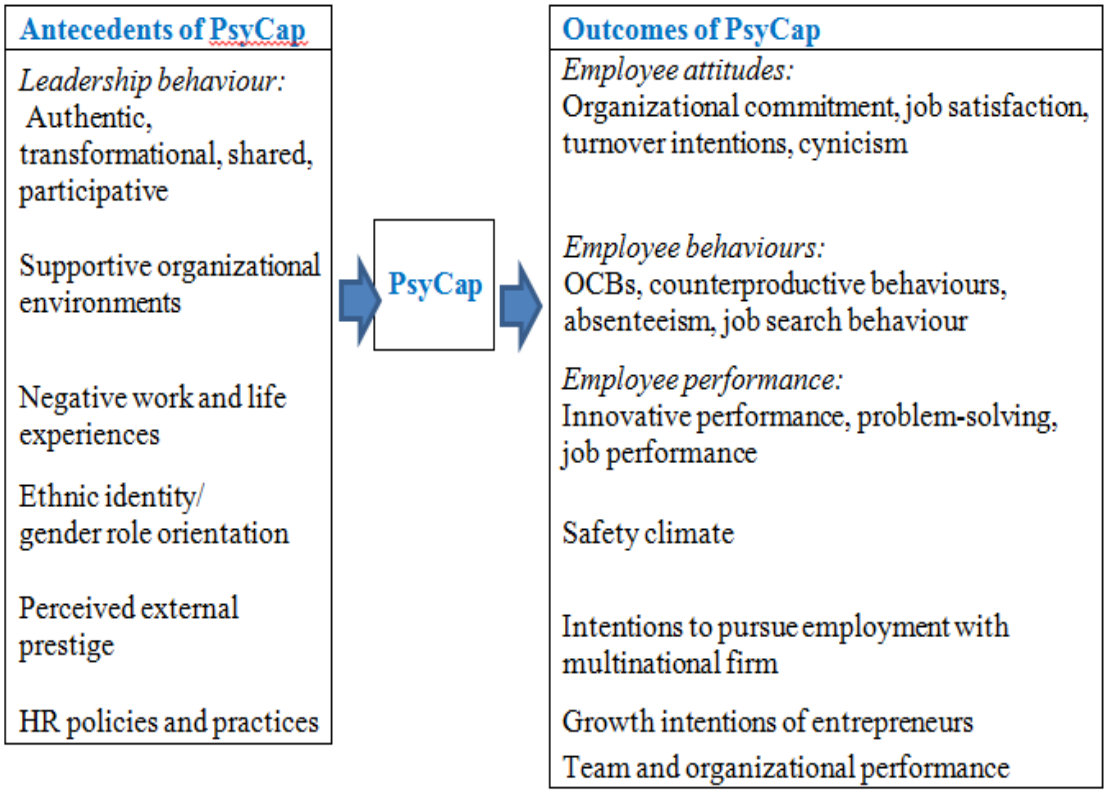
1.2.6. Antecedent and Outcomes of PsyCap

The majority of studies on PsyCap have focused on the outcomes but there is evidence regarding the antecedents as well. As previously mentioned, each one of the PsyCap states has a trait baseline which to some degree determines how much these positive states can be developed (Luthans & Youssef-Morgan, 2017). However,

evidence exists that the PsyCap states can be influenced by external or organizational factors as well, for example, leadership styles and practices, perceived organizational prestige, work-life experiences, organizational climate, HR policies and practices and organizational support (see Newman et al., 2014).

Figure 2 illustrates some of the empirically researched antecedents and outcomes of PsyCap and the following paragraphs describe them in more detail by emphasizing the ones that are particularly relevant to this doctoral thesis.

Figure 2. Antecedents and Outcome of PsyCap



Note: *Adapted from Newman, Ucbasaran, Zhu, & Hirst (2014)*

Avey (2014) explored three categories of antecedents: trait-like characteristics, leadership behaviors, job design and demographic variables.

The results from the review show that self-esteem is the best predictor of the traits category and authentic leadership of the leadership category. Moreover, authentic

and ethical leadership had a positive impact on employees' PsyCap while abusive leadership has a negative impact on it. Furthermore, task complexity was the strongest PsyCap predictor of the job design category and although age from the demographics category had a significant impact on PsyCap, it did not contribute unique variance to PsyCap (Avey, 2014). The author mentions that demographic variables are often controlled for in PsyCap studies but rarely related to PsyCap, or show weak relationships (Avey 2014). However, perhaps the relationship between PsyCap and demographics deserves more attention, given that some of the PsyCap dimensions have been known to vary with age or gender. For example, self-efficacy is built through past experience so it makes sense that it might grow with age in a work context (Schwarzer & Warner, 2013) and in addition there is evidence that women tend to score lower on general self-efficacy than men (Kocalevent, Klapp, Albani, & Brahler, 2014).

Although each of the three categories of antecedents reviewed by Avey (2014) have their importance, we consider leadership to be an especially important antecedent which holds a lot of potential to influence the four PsyCap capacities. Previous literature has consistently linked effective leadership styles to increased employee psychological resources and capacities, as well as positive states and attitudes (e.g. Avey, Avolio, & Luthans, 2011; Garbowski, 2011; Graen & Hui, 2011; Harland, Harrison, Jones, & Reiter-Palmon, 2005; Nielsen & Munir, 2009).

In terms of the outcomes of PsyCap, a significant body of research that is still growing demonstrates that PsyCap has an important impact on various employee and organizational outcomes (Luthans & Youssef-Morgan, 2017). Three main literature reviews on PsyCap have outlined the positive outcomes of PsyCap in terms of performance (Avey, Reichard, et al., 2011; Luthans & Youssef-Morgan, 2017; Newman et al., 2014). PsyCap has been linked to higher individual, team-level and organizational level performance (see Avey, Reichard, et al. 2011), financial and manager-rated performance, as well as individual and team-level creative performance (see Luthans & Youssef-morgan, 2017; Newman, Ucbasaran, Zhu, & Hirst, 2014).

PsyCap was also found to be linked to individual attitudes, such as higher organizational commitment and lower turnover intentions, as well as desirable work behaviors, like organizational citizenship behavior (both at the individual and team levels), lower counterproductive behaviors, deviance, absenteeism and cynicism (see Avey, Reichard, et al., 2011; Luthans & Youssef-Morgan, 2017; Newman et al., 2014).

As we mentioned previously, the construct was developed for application within the business world, the POB criteria have emphasized performance outcomes as fundamental for the value of the construct. However, the literature has also underlined the importance of employee wellbeing and job satisfaction since they are crucial factors for sustainability in organizations (Peiró, Ayala, Tordera, Lorente & Rodíguez, 2014). Outcomes related to wellbeing are just as important as performance because they contribute in various ways to organizational life: more content employees tend to show more positive and constructive work attitudes and behaviors (Thomas, Philip, & Gary, 2002; Zelenski, Murphy, & Jenkins, 2008).

Various studies have shown that PsyCap is also linked to higher wellbeing of employees and organizations (Luthans & Youssef-Morgan, 2017). Lyubomksky, Sheldon, & Schkade, (2005) established that about 50% of our wellbeing stems from a fixed genetic set point and only 10% is determined by our circumstances in terms of economic, social and physical resources. However, 40% of our wellbeing and happiness comes from intentional activity, which refers to person-activity fit, optimal timing, sustained effort and positive habits. This 40% is where PsyCap makes its contribution-beyond the fixed traits and the disposal of resources and defends the notion that positivity leads to wellbeing, rather than wellbeing to positivity (Luthans & Youssef-Morgan, 2017).

For example, PsyCap levels have been linked to well-being indicators such as higher job satisfaction and lower work stress and anxiety (see Newman et al., 2014). PsyCap has also been found to affect the well-being of employees over time (Avey, Luthans, Smith, & Palmer, 2010; Culbertson, Fullagar, & Mills, 2010; Luthans et al., 2013), as well as to mitigate the effects of unemployment on well-being (Cole, Daly, & Mak, 2009).

It is worth noting here two issues pointed out in the literature regarding the research on PsyCap capacities. Firstly, although the most recent review points out that there is evidence of the effects of PsyCap on performance and wellbeing in cultures other than North America (Luthans & Youssef-Morgan, 2017), studies in different contexts, especially European are significantly fewer than American ones (Dawkins, 2014). It is therefore important to carry out more studies in theses contexts.

Secondly, the state-like nature of the four PsyCap dimensions means that they can be affected by external organizational factors while simultaneously influencing organizational outcomes. However, there is insufficient consideration of the contextual

factors surrounding the individual and how these factors affect individuals' hope, self-efficacy, resilience and optimism (Hackman, 2009). The current dissertation addresses both of these concerns, studying two of the PsyCap capacities, self-efficacy and resilience, within an organizational process, and looks at the overall dynamic in which they function in a Spanish work context (see Chapter 4).

Apart from tackling these aspects related to the malleability and influence of PsyCap, another one of the established criteria is that the PsyCap and its dimensions must have a valid and reliable measurement scale (Luthans, Avolio, Avey, et al., 2007). The following section provides a summary of the existing measures.

1.3. Measurement of PsyCap

The most widely applied questionnaire for measuring PsyCap is the Psychological Capital Questionnaire. The authorship team of POB and PsyCap designed the Psychological Capital Questionnaire (PCQ24) by choosing from a pool of items from previously existing scales for the four dimensions as follows: hope items are based on the State Hope Scale by Snyder et al. (1996); self-efficacy items are based on the Role Breadth Self-Efficacy scale by Parker (1998); optimism items are based on Scheier & Carver´ s Dispositional Optimism scale (Scheier & Carver, 1985); and resilience items are based on Wagnild & Young (1993) ´s Resilience Scale.

These scales were chosen because 1) there is evidence of their validity and reliability in the literature, 2) they are relevant to the workplace, and 3) there is evidence they can measure state-like constructs (Luthans, Avolio, Avey, et al., 2007). Although Scheier & Carver (1985)'s scale was originally designed to measure dispositional optimism, there is evidence that it can also serve as a state optimism instrument (Luthans et al., 2007).

The authorship team agreed on six items from each scale that would reflect their corresponding dimension of the PCQ scale, thus resulting in a 24-item Psychological Capital Questionnaire (PCQ24). A sample items for hope is: "There are lots of ways to get around any problem" and "At the present time I am energetically pursuing my work goals"; for self-efficacy are "I feel confident analyzing a long-term problem to find a solution" and "I feel confident helping to set targets in my work area"; for resilience are "I usually manage difficulties one way or another" and "I usually take stressful things at work in stride"; and for optimism are "I am optimistic about what will happen to me in

the future as it pertains to work" and "I always look on the bright side of things regarding my job". To ensure that the state-like nature of PsyCap would be understood by the respondents, the PCQ clarifies that the items refer to the perception of one´s self *right now* (Luthans et al., 2007). The items are rated on a six-point Lykert-type scale from 1 (Strongly disagree) to 6 (Strongly agree).

The PCQ24 was validated by Luthans et al., (2007) in two studies, the first of which used two separate samples of management students (sample 1 had 167 student and sample 2 had 404) and the two completed the PCQ24 within a time lag of 5 months. The second study used a sample of 115 professionals working in high-tech manufacturing. Using confirmatory factor analysis in both studies, the results demonstrated a good fit of the second-order model where the four dimensions are fitted to a latent PsyCap factor. In addition, competing models were tested: the expected second-order PsyCap structure was compared to a one-factor structure (all items load on one PsyCap factor), and three other models with three factors where different PsyCap dimensions were merged (in one model hope and optimism were merged into one dimension, in a second model hope and resilience were merged; and in a third model optimism and resilience).

The fit indices for all models show that in both study samples the second-order factor structure of PsyCap fits the data better than all competing models (Luthans, Avolio, Avey, et al., 2007). This second-order structure has been modeled in a number of following studies where CFAs replicated the finding that the second-order model where hope, efficacy, resilience, and optimism load on the latent factor PsyCap is a better fit to the data than other structures (e.g., Avey, Luthans, & Jensen, 2009; Avey, Luthans, & Youssef, 2010; Gooty, Gavin, Johnson, Frazier, & Snow, 2009; Luthans, Avey, Smith, & Li, 2008). Nonetheless, it has been noted by Dawkins (2013) that the majority of studies which confirm the PsyCap structure were carried out in a North American context, and were predominantly authored by the POB team whereas validations of the PCQ24 in other countries and cultures have not always yielded the same results and have found alternative models to fit their data better than the expected second-order model. This issue is still to be researched and more studies on validation of the PCQ24 are necessary in order to accumulate a body of evidence regarding the factorial validity of the PCQ.

As for discriminant and convergent validity, the PCQ scale was tested in relation to two other multidimensional constructs- the previously mentioned core self-

evaluations construct (Judge & Bono, 2001) and the Big 5 personality traits which include openness to experience, conscientiousness, extraversion, neuroticism and extraversion (Goldberg, 1993; Costa & McCrea, 1992). The initial validation of the PCQ finds moderate to high correlations between PsyCap and CSE, and two of the Big 5 dimensions (conscientiousness and extraversion) which is considered evidence of convergent validity. Regression analyses were also used to see if PsyCap predicts performance and job satisfaction above CSE and conscientiousness and extraversion and provide preliminary evidence the PsyCap does explain variance above and beyond personality traits (Luthans, Avolio, & Avey, 2007).

The reliability of the PCQ24 was reported using Chronbach's Alpha and obtained good results regarding the overall reliability of the PsyCap scale, although there were some issues with the reliability of the subscales for resilience and for optimism that did not reach the necessary reliability criteria in all samples. This finding was reported in other studies carried out afterwards, and overall the resilience and optimism subscale consistently seem to show lower reliability compared to the hope and self-efficacy subscales, probably due to the fact that those two scales contain reversed scored items which can often lower the reliability of a scale, because they can be more difficult to interpret (for example not being pessimistic does not necessarily mean that one is optimistic), or subjects can answer by inertia as if the item was not reversed (Weijters, Baumgartner, & Schillewaet, 2013).

As research on PsyCap expanded very rapidly, other versions of the PCQ appeared in the literature. Firstly, a short version of the PCQ was developed with 12 items which were selected from the PCQ24 (Avey et al., 2011). It was considered a necessary and practical version of the PCQ24 that is more applicable and pragmatic in work context application. The choice of items from the PCQ24 was based primarily on factor loadings (authors chose the items with the highest loadings on their corresponding factor) and the items´ contribution to the internal reliability of the scale. To address the issues previously mentioned with the reliability of the resilience and optimism scale, reverse-scored items were not included in the short version of the PCQ.

Thus, the PCQ12 consists of three items measuring self-efficacy, 4 items measuring hope, 3 items measuring resilience and 2 items measuring optimism (Avey et al., 2011). Although the authors describe the criteria they used to select the items for the

short version, an actual detailed validation process of the original PCQ12 was not elaborated. In addition, the process of choosing the optimal set of items from the PCQ24 to be included in the PCQ 12 was carried out with the use of a single sample in a single study, and mostly for reasons of convenience (Avey et al., 2011). This approach is risky because the optimal set of items may differ across samples and there is not enough evidence to support the existing short version as the optimal one (Widaman et al., 2011). This issue will be thoroughly explored further in Chapter 2 where we revise literature about the short version of the PCQ.

In addition to the short PCQ, in an effort to address the social desirability bias of the scale, which is recurrent issue with scales measuring positive constructs, the Implicit Psychological Capital Questionnaire (I-PCQ) was developed. The I-PCQ uses a semi-projective technique (Harms & Luthans, 2012) where participants have to develop a story for a character, based on a one-line prompt which could be related to a positive, negative or an ambiguous event, for example ´Someone has a new job´ or ´Someone makes a mistake at work´. Afterwards they answer questions for each story they created, assessing the levels of psychological capital of this character on the four dimensions. The assumption is that people will project their own levels of hope, self-efficacy, resilience and optimism onto this character indirectly, the same way that earlier projective tests work (Harms & Luthans, 2012). In this way, their levels of hope, self-efficacy, resilience and optimism can be evaluated in an indirect manner, allowing for a more objective score.

Although this was a promising approach to minimizing social desirability bias, the I-PCQ has not been applied in a significant and sufficient manner in organizational research, partially because it takes more time and effort to both administer the questionnaire, as well as to evaluate results (Luthans & Youssef-Morgan, 2017). Although the I-PCQ has the potential to minimize social desirability, it is still a self-report measure, and therefore does not account for common method variance (CMV), which is often an issue with self-report questionnaires (Podsakoff, Mackenzie, Lee, & Podsakoff, 2003). A way to control for CMV was suggested by Demerouti et al. (2011) who proposed that individual PsyCap should be measured by other raters such as peers, supervisors and other acquaintances. In addition, it has been proposed that more objective measures of PsyCap such as physical or biological markers would be useful, since there is evidence that people high in PsyCap also show lower levels of cholesterol

and better cardiovascular recovery after adverse events and better immune system functioning (Cohen et al., 1999; Luthans, Youssef, Sweetman, & Harms, 2013; Steptoe, Dockray, & Wardle, 2009). Implicit measures and measures that include a physical element to evaluate PsyCap are still in the beginning of their development, and a lot more research is required to validate their usage and functioning. So far, Luthans, Avolio, and Avey's (2007) full PCQ and the short version developed by Avey, Avolio, et al. (2011) remain the most commonly applied instruments for measuring PsyCap despite some of the shortcomings we described.

Overall, their reliability and validity was tested across various studies and a factor which contributed to their growing use is that they were assembled from a pool of items from already established scales based on accepted theories for each of the four PsyCap dimensions (Luthans, Avolio, & Avey, 2007). Although there is sufficient evidence to support their use, the PCQ scales have been created in the USA which is a highly individualistic culture, and in this sense may relate differently to the constructs of PsyCap in comparison to more collectivistic cultures (Avey, 2014). Avey (2014) points out that the PsyCap construct in itself contains an element of "subtle self-promotion" (p. 7) which is a desirable characteristic in the context of the United Stated but which can also skew and inflate the scores of the PCQ due to social desirability. In fact, some validations of the PCQ in other countries yield contradictory results in terms of the PCQ's factor structure and item functioning. like for example Portugal (Rego, Marques, Leal, Sousa, & Pina e Cunha, 2010), where the optimal PsyCap structure does not include a second-order PsyCap factor (e.g. Rego, Marques, Leal, Sousa, & Pina e Cunha, 2010), but rather four interrelated construct.

Although the current doctoral thesis does not aim to compare empirically between different cultures and how the PCQ functions in them, these issues are important to keep in mind when using the PCQ instrument in a context different from a North American one. As we said in the introduction, one of the specific objectives of the thesis is to adapt and validate the short version of the PCQ to a Spanish context. To do that in the most accurate way, it is useful to be aware of the points mentioned in the previous paragraphs (see Chapter 2).

As can be seen from what was presented so far, POB, and the research on PsyCap in particular, has grown too fast, thus leaving unanswered questions regarding

the construct (Dawkins, Martin, Scott, & Sanderson, 2013, 2015). Although PsyCap is now established in the work and organizational literature, significant effort still needs to be dedicated to untangling issues of its measurement and functioning. The necessity to keep studying how it operates hasn´t gone unnoticed by the authorship team of PsyCap, who pointed out in their latest review that ¨PsyCap continues to take an inquiry rather than an advocacy perspective¨ (Luthans & Youssef-Morgan, 2017, p.13). The current thesis goes in line with this notion, as can be seen from the general and specific objectives, presented in the following paragraphs.

1.4. Objectives of the dissertation

We designed the objectives of this thesis based on the literature we reviewed, with the aim to identify unexplored issues of the construct as well as recommendations by authors for advancing the research on PsyCap. One author in particular that stands out is Sarah Dawkins, and her team from the University of Tasmania, Australia, because they have made significant effort to encourage better understanding of the structure, functioning, measurement and utility of PsyCap (Dawkins, 2010, 2014; Dawkins, Martin, Scott, & Sanderson, 2015). Dawkins et al. (2013) carried out a thorough psychometric review and outlined a number of issues of the PsyCap construct in their critical analysis, and they also offered concrete future research directions. More recently, these directives were revised and expanded with further recommendations by the authorship team of PsyCap (see Luthans & Youssef-Morgan, 2017; Youssef-Morgan, 2014).

The current dissertation aims to address some of them and answer questions that emerge from them, thus contributing to the existing knowledge on PsyCap. The full list of research recommendations we refer to can be found in Luthans & Youssef-Morgan (2017)´s review on PsyCap. The recommendations of particular interest to this doctoral dissertation are addressed in the following brief list:

- Utilize Confirmatory Factor Analysis and Structural Equation Modelling when analyzing PsyCap as these analyses add rigor when working with a multidimensional constructs, such as PsyCap;
- Take a person-centered approach to PsyCap (rather than the traditional variable-centered one) and explore cases of individuals who may score particularly low

on one or more PsyCap subcomponent and high on other/s; investigate the existence of individual PsyCap profiles;

- Investigate the relationships between PsyCap's dimensions and whether and how PsyCap profiles may yield differential outcomes;
- Use more longitudinal data in PsyCap research which take into account the state-like nature of PsyCap, thus using time lags of six months or less (Luthans & Youssef-Morgan, 2017, p.14).

We aimed to integrate these recommendations into the general and specific objectives of the doctoral thesis, and their implementation. The objectives are presented and explained in the following paragraphs.

General objective

The general objective of the dissertation is to explore the construct Psychological Capital and its four dimensions in the context of Spain, by adapting and validating a measurement tool, testing for individual PsyCap profiles, and testing some of the components of PsyCap as mediating mechanisms between organizational antecedents and individual wellbeing.

This general objective is further divided into three specific objectives, each of them addressing more accurately a part of the general one. The objectives are achieved through three studies which are included in Chapters 2, 3 and 4.

1.5. Specific objectives

Objective 1) To adapt and validate the short Psychological Capital Questionnaire with 12-items to a Spanish context

This objective provides us with the necessary instrument to measure the construct in a valid, reliable and context-relevant way. It also incorporates the recommendation to use Confirmatory Factor Analysis when assessing PsyCap, in order to clarify some aspects around the factorial structure of the constructs and how it functions in a Spanish sample. In this way, we contribute to the psychometric literature

on PsyCap by providing more evidence regarding its measurement and evaluation in the context of Spain. The objective is achieved through study 1: *"Validation of a modified version of the Psychological Capital Questionnaire (PCQ12) in Spain".*

As we mentioned in the literature review, the Psychological Capital Questionnaire or the PCQ (Luthans, Avolio, Avey, et al., 2007) has two versions- a full one with 24 items and a short one with 12 items. At the time the development of the research plan for the thesis, only the full version of the PCQ with 24 items was validated in Spain (Azanza, Domínguez, & Molero, 2014) but there was no validation of the short version with 12 items (Avey, Avolio, & Luthans, 2011). We chose to adapt and validate the reduced version of the PCQ because we wanted to have a practical questionnaire, which can be easily applied in different kinds of work settings, where overly long questionnaires can spawn resistance and dissatisfaction within participants.

To carry out the validation and adaptation of the scale, we revised literature that included other validations of the PCQ24 and PCQ12 in different countries, in order to identify if there are specific issues of which we should be aware. After revising some validations, for example, in Romania, South Africa and Portugal, we concluded that the original version of the PCQ12 by Avey, Avolio, & Luthans (2011) shows inconsistencies in its functioning and structure across different cultural contexts. In addition, a validation of the PCQ12 in Spain was published around the time Study 1 was being prepared. However, we identified some limitation of the study and some questions which were raised by the results in terms of the factorial structure and the functioning of the scale in Spain (León-Pérez, Antino, & León-Rubio, 2017). Hence, accumulating more evidence from a Spanish context regarding the psychometric qualities of the scale will contribute to the overall existing psychometric literature on the PCQ12.

Furthermore, the literature review and results we obtained from preliminary analyses led us to make certain modifications to the original version of the PCQ12, which are explained in detail in Chapter 2. Thus, apart from the process of back-translation, validation and testing of the psychometric qualities of the PCQ12 in Spain, we also made some changes in the scale´s structure and items and obtained an improved version for Spain. Thus, Study 1's final outcome would be an adapted and valid instrument in Spanish language that we consider a good measurement tool for PsyCap.

Objective 2) To explore if the relationships between the dimensions of PsyCap result in individual profiles; to test which sociodemographic characteristics are linked to belonging to a certain profile; to see how different individual profiles relate to employee outcome variables.

This objective responds to the recommendation to adopt a person-centered approach to PsyCap and to tests for individual PsyCap profiles. We aim to see how people score across the four PsyCap dimensions: if some individuals show a variation across them, for instance, scoring low on one or more PsyCap subcomponent and high on other/s. By testing for profiles we also explore whether there are particular configurations among the four PsyCap dimensions- if certain PsyCap capacities have more communalities than others, and therefore go together in a configuration or typology of PsyCap. For instance, if scores on optimism and hope are similar for some individuals but at the same time differ from their scores on the other components.

In this sense, this objective contributes to the understanding of the PsyCap construct from the perspective of the individual, and it also sheds light on how the PsyCap dimensions relate to one another. Furthermore, we aim to see if certain socio-demographics are linked to particular PsyCap profiles, as well as how people in the different profiles score on job satisfaction and performance. This objective is implemented through study 2, titled *"Individual Profiles of Psychological Capital in a Spanish sample".*

Study 2 is presented in Chapter 3 and answers three main questions. First, are there individual PsyCap profiles across the four dimensions? Second, what socio-demographic variables are related to belonging to a certain PsyCap profile? Third, how are PsyCap profiles related to employees' job satisfaction and performance at work?

The added value of this study is that it positions PsyCap in the perspective of a an on-going debate regarding the use of multidimensional constructs and their utility for research (Edwards, 2001). The conventional approach to such constructs is to focus on the communalities and interrelatedness between the dimensions (which is usually operationalized as latent factor, overarching the dimensions). There is however, an alternative way of viewing multidimensional constructs which is equally valid where conditional independence is assumed between the dimensions of the overarching construct, and the heterogeneity in the population distribution is emphasized (Hagenaars & McCutcheon, 2002; Muthen, 2003).

Particularly in the PsyCap literature, the communalities between the dimensions have always been pointed out as well as the fact that hope, self-efficacy, resilience and optimism reinforce each other (Luthans, Avolio, & Avey, 2007). However, they are also independent constructs and there are differences between them. Although the theoretical differences are sometimes explained in studies on PsyCap, they are commonly not taken into account empirically. In addition, the overwhelming part of studies on PsyCap use the total PsyCap score which is composite of all four dimensions, thus not accounting for any variation across the dimensions (Dawkins, Martin, Scott, & Sanderson, 2013).

The main value of PsyCap profiling is to shed light on whether or not the use of the composite PsyCap score is justified and to test empirically if PsyCap is as unitary as theory behind it posits.

In addition, this study explores if and how the profiles are defined by the socio-demographic characteristics of the individuals. Demographic variables are often controlled for in PsyCap studies but rarely related to PsyCap, and we consider that the relationship between PsyCap and demographics deserves more attention, given that some of the PsyCap dimensions have been known to vary with age or gender. For example, self-efficacy is built through past experience so it makes sense that it might grow with age in a work context (Schwarzer & Warner, 2013) and in addition there is evidence that women tend to score lower on general self-efficacy than men (Kocalevent, Klapp, Albani, & Brahler, 2014).

Moreover, study 3 also explores how the different PsyCap profiles relate to job satisfaction and performance, and whether or not there are differences across profiles, which enables a person-centered analysis of the relationships between PsyCap and organizational outcomes. This matter is investigated further in Study 2 (Chapter 3)

Additionally, apart from profiling, it is also interesting to explore the possible relationships between the PsyCap dimensions in a more direct way, which is addressed in the next specific objective 3. In this way, we can gain more empirical knowledge of the process of how the synergy between the four PsyCap dimensions takes place. The next objective (and study) looks at the relationship between self-efficacy and resilience and places it in the context of a larger organizational process.

Objective 3) To test the relationship between two of the PsyCap elements (self-efficacy and resilience) and their role as mediators between organizational antecedents and individual wellbeing

The third objective positions self-efficacy and resilience, and the relationship between them, within an organizational process where they serve as mediators between organizational antecedents and outcomes. Studying the direct relationship between PsyCap capacities adds empirical knowledge to how the capacities relate to and reinforce one another. Specifically, the relationship between self-efficacy and resilience has been highlighted both in the PsyCap literature (Fontes & Azzi, 2012; Luthans, Vogelgesang, et al., 2006), as well as in Socio-Cognitive theory (Bandura, 1995).

The PsyCap literature posits that self-efficacy is an important building block for resilience, and socio-cognitive theory also highlights that self-efficacy beliefs are what drives people to withstand adversities. In general, adjectives such as flexible, persistent in the face of obstacles, adaptable, in control, and determined are usually used in the literature to describe being self-efficacious as well as being resilient (e.g., Bandura, 1997; Stajkovic & Luthans, 2003; Wagnild & Young, 1993). Overall, the relationship between self-efficacy and resilience has been looked at more often from a theoretical perspective but few studies have tested it empirically, therefore, this is what we focus on with specific objective 3.

Furthermore, this objective analyzes how the self-efficacy-resilience relationship fits in with other factors that contribute to employee outcomes. In this way, we explore the underlying processes through which PsyCap components lead to beneficial outcomes in organizations.

Objective 3 corresponds to the third study of the dissertation which is presented in Chapter 4. The study analyzes the relationship between self-efficacy and resilience and their mediator role between organizational antecedents, concretely the transformational leadership dimensions, and individual wellbeing.

In Study 3 we use a sample of social workers in Spain, for whom self-efficacy and resilience are two indispensable psychological capacities for coping with the emotional and relational load of their profession. Social workers have the difficult task of accompanying and supporting individuals, families, and whole communities in problematic and demanding situations, that require coping strategies and methods beyond the everyday struggles of individuals (Cintora, 2001; Pedrazza, Trifiletti, Berlanda, & Bernardo, 2013). In addition to an environment defined by adversity and

hardship, the system within which social workers operate rarely provides them with the necessary tools, support and structure (Lázaro, 2004). Various studies have shown that social workers in Spain experience high stress, elevated responsibility, large administrative and bureaucratic workloads and emotional labour, and consequently, are one of the populations where burnout is particularly common and problematic (Carlin & Garcés de los Fayos, 2010; Hombrados-Mendieta & Cosano-Rivas, 2011; Lázaro, 2004).

In this context, resilience and self-efficacy are necessary to deal with the stresses of their day-to-day, and there is empirical evidence to back this up (e.g. Villalba, 2004; Quintero Velásquez, 2013). Optimism and hope can also contribute to social workers´ wellbeing in a way which mitigates and buffers the psychologically harmful aspects of their job (Collins, 2007a). However, the perseverance component of self-efficacy and resilience is directly linked to their state of wellbeing and their ability to do their work in an adverse context since both of them include elements of emotional regulation, perceptions of control, adaptation, flexibility, determination and agency (Fontes & Azzi, 2012; Hamill, 2001; Malik, 2013; Schwarzer & Warner, 2013). In the area of social work, especially in Spain, interest has been higher for resilience than self-efficacy, and they are generally studied separately (e.g. Pedrazza et al., 2013; Quintero Velásquez, 2013). Our study, however, includes both self-efficacy and resilience and explores the relationship between them theoretically and empirically based on Socio-Cognitive theory and PsyCap theory.

Secondly, the study looks at the antecedent and outcomes of self-efficacy and resilience study, or in other words, it places self-efficacy and resilience within a mediation process where organizational factors (leadership style) lead to increased personal resources (self-efficacy and resilience), which in turn lead to employee wellbeing outcomes. Leadership has been found to be an important antecedent of PsyCap components in previous studies, as the literature review in the next chapter describes, and in Study 3 we explore how the specific components of Transformational leadership relate to self-efficacy and resilience, and consequently to employee wellbeing at the workplace.

We chose to look at transformational leadership as an antecedent since it has been consistently linked with some of the PsyCap components, particularly self-efficacy because some of the ways for developing self-efficacy include positive reinforcement, modeling another person, and social learning, all of which can be provided by an

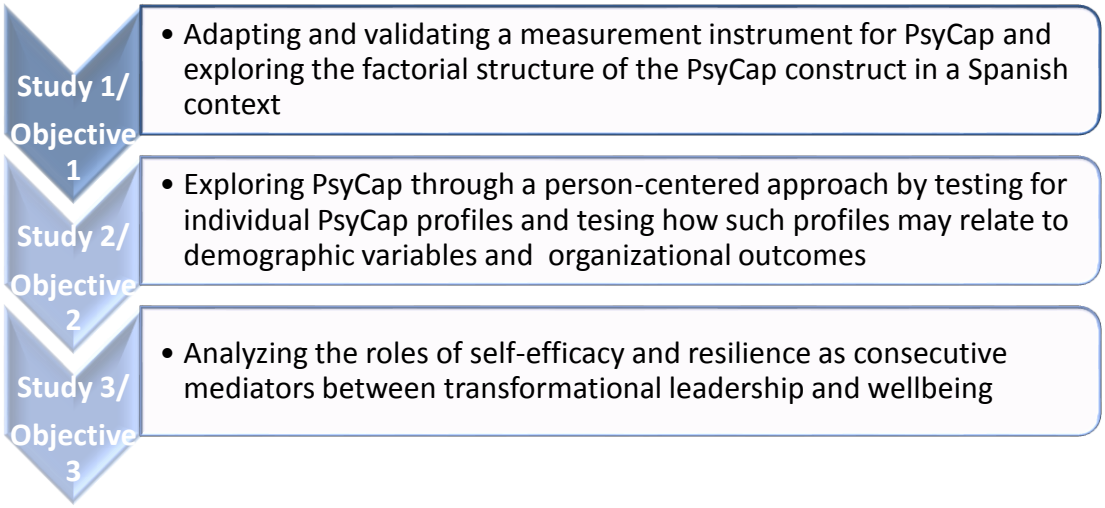
effective supervisor (Graen & Hui, 2011). However, in previous research Transformational leadership is commonly studies as a core construct but in Study 3 we look at the effects of each of the components which make up this style and see how they act as antecedents of self-efficacy, and consequently, resilience. Hence, in Chapter 4, Study 3, we explore the effects of leadership behaviors, particularly the four components of transformational leadership on self-efficacy and resilience.

Thirdly, this study looks at wellbeing as an outcome variable and uses two indicators to assess the wellbeing of social workers, namely psychosomatic complaints and psychological distress. We chose those indicators because they allow for a global approach to wellbeing which includes the physical as well as the psychological aspects, while previous studies connecting psychological resources to wellbeing were primarily focused either on the physical or the psychological alone. The levels of distress and psychosomatic complaints people experience are dependent on their internal psychological resources. This has been shown in previous studies for self-efficacy but we propose that resilience is an additional step in the process. In addition, both psychological distress and psychosomatic complaints are commonly experienced by social workers (Cintora, 2001; Collins, 2007b; Lázaro, 2004).

Thus, study 3 looks at the roles of self-efficacy and resilience as consecutive mediators between the components of transformational leadership and employee wellbeing (operationalized as psychosomatic complaints and psychological distress).

In summary, the overall structure of the thesis is built around these three studies, as can be seen in Figure 3.

Figure 3. Summary of the three studies included in the dissertation



1.6. Chapter Overview

This chapter introduced the Positive Psychology movement and how it was applied into the field of Work and Organizational Psychology, manifested in the emerging of Positive Organizational Behavior. It also outlined the four criteria which were used to decide which positive psychological capacities can be included into POB: 1) they should be based in theory and research in terms of their validity; 2) they should be measurable with valid, reliable and previously tested scales; 3) they must be "state-like"- malleable and open to development; 4) the constructs should predict performance outcomes.

The chapter also provided a comprehensive review of each one of the positive personal capacities that constitute PsyCap- hope, self-efficacy, resilience and optimism, by outlining their origins, theoretical background and PsyCap definitions. We also pointed out some aspects of the relationship between the four dimensions, the communalities between them and the components they share. At the same time, we

highlighted the fact that they are considered independent constructs that can have separate contributions to organizational outcomes. We also reviewed the antecedents and outcomes of PsyCap which have been found in previous literature. Finally, we reviewed the existing measurement scales for PsyCap, paying special attention to the primary tool developed by the PsyCap authorship team- the PCQ.

Throughout our literature review, we emphasized certain challenging aspects that have emerged in the PsyCap literature. Firstly, we discussed the debate which problematizes the unitary structure of the PsyCap construct and proposes that the use of the composite PsyCap score needs to be further explored as it omits information regarding individual variations across the hope, self-efficacy, resilience and optimism. This dissertation investigates the matter in Chapter 3, Study 2, by taking a person-centered approach to PsyCap and testing if there are individual profiles of PsyCap.

Secondly, there is a proportional lack of studies of PsyCap and how it relates to organizational antecedents and employee outcomes in a European context and therefore a need to find out more about how the construct functions in them. This is addressed in Study 2 (Chapter 3) and Study 3 (Chapter 4).

Thirdly, there is a necessity to take into account the contextual work factors and how they affect individuals' PsyCap. The current dissertation places emphasis on leadership behaviors as organizational antecedents and wellbeing as an outcome. We thoroughly discuss this process in Chapter 4, Study 3. This study adds additional value to PsyCap research by using longitudinal data and a relatively short time lag, as recommended by (Luthans & Youssef-Morgan, 2017)

Finally, within our revision of the most commonly used scales for PsyCap, we outlined some of the limitations of the measurement tool of choice for validation in this doctoral thesis: the short version of the PCQ with 12 items. For instance, a detailed validation of the short version was not carried out even though it is recommended when shortening scales (Widaman et al., 2011). Also, the elaboration of the short scale was mostly motivated by convenience and the optimal set of items included was only confirmed in one particular sample (Avey et al., 2011).

Further questions about the PCQ12 and especially how it functions in Spain are addressed in the next chapter where we revise literature about the short version of the PCQ, including validation studies in other countries and carry out an adaptation and validation of the scale for the context of Spain. The validation of the PCQ12 scale is presented in Chapter 2, where we pay special attention to the factorial validity of the

scale in Spain, thus addressing the recommendation of using Confirmatory Factor Analysis when analyzing PsyCap to add rigor and to contribute more evidence to how the scale functions in the setting of Spain

CHAPTER 2

VALIDATION OF A MODIFIED VERSION OF THE PSYCHOLOGICAL CAPITAL QUESTIONNAIRE (PCQ12) IN SPAIN

2.1. Abstract

Previous studies have found some limitations and inconsistencies in the functioning of the short Psychological Capital Questionnaire (PCQ12), suggesting the need to improve it. The objective of the current study is to validate a modified version of the PCQ12 in Spain.

The sample consists of 792 employees from 42 Spanish organizations. A cross-validation was carried out to test the factorial validity of the modified scale. Reliability and convergent, discriminant, and criterion validity were also tested.

The modified PCQ12 showed good psychometric qualities. A four-factor structure showed a better fit to the data than the original second-order structure.

Overall, our study supports the modified PCQ12 as an improved instrument for measuring Psychological Capital in the Spanish context.

Keywords: scale, validation, Psychological Capital, questionnaire

2.2. Introduction

Positive Psychology has emphasized the role of PsyCap as an important resource to organizations, because it offers competitive advantage and predicts key work outcomes. For instance, it can predict financial and manager-rated performance (Avey, Nimnicht, & Graber Pigeon, 2010) and it is positively linked to creative performance (Sweetman, Luthans, Avey, Luthans, & Sweetman, 2010), job commitment and satisfaction (Luthans, Avolio, Avey, et al., 2007), organizational politics and dealing with job stress (Abbas & Raja, 2015; S. Roberts, Scherer, & Bowyer, 2011).

These beneficial outcomes of PsyCap are important for the context of Spain, where organizations are dealing with socio-economic uncertainty, a legacy of the 2008 economic crisis. Hence, it is vital to have a reliable and valid tool for measuring PsyCap that could help to create evidence-based interventions in Spanish organizations. This study focuses on the short version of the Psychological Capital Questionnaire (the PCQ12) (Avey, Avolio, & Luthans, 2011), which was derived from the longer 24 item version of the PCQ (Luthans, Avolio, Avey, et al., 2007).

Although there is one previous validation of the PCQ12 in Spain (León-Pérez et al., 2017), which shows initial support for a Spanish version of the scale, we have identified some limitations of the study (e.g. there is still a need to test discriminant and convergent validity of the scale, as well as to address problematic items). The current work extends the existing analysis and aims to overcome some of these limitations, as we outline further on.

Simultaneously, we also identified some problems of the original PCQ12. For instance, the process of choosing the items from the PCQ24 to be included in the PCQ 12 was carried out with the use of a single sample in a single study (Avey, Avolio, et al., 2011), however, it is likely that the optimal set of items may differ across samples (Widaman, Little, Preacher, & Sawalani, 2011). In fact, to our knowledge, the authoring team of PsyCap did not provide a thorough description of the development process for the PCQ12. In addition to overcoming limitations of a previous validation, our study also identifies aspects of the original PCQ12 that can be improved. Thus, our objective is to validate a modified version of the PCQ12 in the context of Spain.

In order to do that, firstly, we carried out a literature review of previous validations and articles using the PCQ scale, which to our knowledge has not been done in the existing Spanish validation. We discovered some inconsistencies in terms of the factor structure of the scale- some studies support the original factor structure of the PCQ, some do not find sufficient evidence for it, and some find alternative factor structures to have a better fit. These inconsistencies emphasize the need to test thoroughly the factorial validity of the PCQ in Spain and to contribute more evidence to the overall research body on PsyCap structure.

Our literature review also revealed some issues with cross-loadings of items in studies using the PCQ12, including the previous Spanish validation. Cross loadings may indicate issues with the discriminant and/or convergent validity of the scale and it appears that they haven't been tested in the validation by León-Pérez et al. (2017). Given the theoretical overlap between the dimensions of PsyCap, it is important to provide more evidence on discriminant and convergent validity of the PCQ12.

Secondly, we made modifications to the original PCQ12 to obtain an improved version. For example, having an equal number of items for each of the four PsyCap constructs was emphasized by the authoring team of PsyCap, and is reflected in full version of the PCQ24 (Luthans et al., 2007, p.14). However, this is not the case for the PCQ12 that does not contain the same number of indicators per factor. Also, there is one factor (optimism) with only 2 items which could be problematic (Kline, 2010). Accordingly, we made modifications to obtain an equal number of items per dimension, as we believe this would result in a more balanced measurement scale. At the same time, we preserved the original scale as much as possible to avoid proliferation.

Thirdly, we tested our modified version of the scale in a sample from 42 companies in different regions of Spain, in both the service sector and the primary and secondary sector. Unlike the sample used in the previous PCQ validation in Spain which was constrained to a single company in a single region of Spain (Andalucía), this study contributes a more heterogeneous sample which represents the socio-economic work context of Spain. We analyzed factorial validity of our modified PCQ by carrying out a cross-validation with an exploratory and a confirmatory factor analysis. We also tested reliability, convergent, discriminant and criterion validity.

To sum up, we expand the previous validation study by analyzing both theoretically and empirically the factorial validity of the PCQ 12, by providing evidence of convergent and discriminant validity and by using a more representative Spanish sample. We also make improvements to the PCQ12 through which we hope to provide a context-relevant instrument that adds value to any further application of PsyCap in the country and will bring scientists and practitioners one step closer to evidence-based PsyCap interventions.

2.3. PsyCap Measurement

The most common PsyCap measure is the 24-item PsyCap Questionnaire (PCQ24), where each dimension is represented by six items. The short version is composed of twelve items: three items for self-efficacy, 4 for hope, 3 for resilience, and 2 for optimism (Avey et al., 2011).

As mentioned in Chapter 1, the process of choosing the items from the PCQ24 to be included in the PCQ12 was problematic. In addition, we reviewed previous validations and studies that have used the PCQ12, and we identified two problematic areas: factor structure and item functioning.

Factor structure

The original factor structure of the PCQ consists of four factors (hope, self-efficacy, resilience and optimism) and a second-order latent factor PsyCap, in line with the theory behind the construct (Luthans et al., 2007). In order to provide evidence for factorial validity, it is recommended to compare this original second-order structure to alternative models, and to test which one best fits the data from the concrete sample. Most previous PCQ validation articles compare the second-order model to a one-factor model (all items load on a single PsyCap dimension), and to a four-factor model (four inter-correlated first-order factors).

A number of studies have found support for the original second-order structure, (e.g. Avey, Patera, & West, 2006; Peterson, Luthans, Avolio, Walumbwa, & Zhang, 2011) and reported no issues with item cross-loadings and error covariances (e.g. Avey

et al., 2008; Fu, Sun, Wang, Yang, & Wang, 2013; Luthans, Avey, Avolio, & Peterson, 2010; Luthans, Avey, Clapp-Smith, & Li, 2008).

However, some of the studies endorsing a second-order model did not compare it to alternative models or omitted some possible alternatives (e.g. Azanza, Domínguez, & Molero, 2014; León-Pérez, Antino, & León-Rubio, 2017; Luthans, Avey, Avolio, & Peterson, 2010; Woolley, Caza, & Levy, 2011).. A commonly omitted alternative model is a four-factor model that does not contain a latent PsyCap factor. For example, the previous Spanish validation of the PCQ12 does not mention a four-factor model (León-Pérez et al., 2017), and the same applies for the Spanish validation of the full PCQ24 version (Azanza et al., 2014).

There are also some PCQ validations where authors directly found that alternative models fit their data better than the original factor structure, and were unable to support the latter. For instance, one study from South Africa did not find satisfactory evidence to support the original second order structure of PCQ-24 (Görgens-Ekermans & Herbert, 2013), and another study from that context revealed that a three-factor model, where self-efficacy and hope are joined into one-factor fits the data best (Du Plessis & Barkhuizen, 2012). In Portugal, Rego, Marques, Leal, Sousa, & Pina e Cunha, (2010) discovered that both a four-factor, and a five-factor model (where the hope dimension is split in two: willpower and waypower) fit their data better than the original model. Another study from Portugal discovered that the four-factor model fits their data better than the second-order one (Viseu, Jesus, Rus, Nunes, & Lobo, 2012).

These inconsistencies across studies point to the necessity to provide more evidence of the factorial validity of the PCQ. In the context of Spain, we believe it is important to extend and build on earlier Spanish validations by testing a four-factor model as an alternative model, which, as we mentioned, has not been done previously (e.g. León-Pérez et al., 2017). The evidence from Portugal, a country similar to Spain both in terms of linguistics and socio-economic context, show that a four-factor model is an equal or better fit than a second-order one (Rego et al., 2010; Viseu et al., 2012). Therefore exploring the four-factor model, along with other alternatives would be an important contribution to understanding the functioning of the scale in a Spanish context.

Item analysis

In addition to factor structure, our revision also focused on item functioning and aimed to identify items which appear to be problematic (with low factor loading or cross loadings) in more than one study. This would enable us to have more precision in the process of wording and translation of items, so that that they reflect the nuances of each PsyCap dimension optimally, which is important given the degree of conceptual overlap between them (Bryant, 2004; Carifio & Rhodes, 2002). As we previously mentioned, the problematic items from the PCQ24 (almost all of them were reversed scored items) were not incorporated into the PCQ12 (Avey et al., 2011). Even so, there have been issues with some items within the PCQ12 as well; most commonly items 4 and 9.

Item 4 from hope (If I should find myself in a jam at work, I could think of many ways to get out of it) has been found to be problematic in the psychometric analysis of Rus et al.(2012), as it was cross loading on self-efficacy. In addition, item 4 was cross loading on resilience in the Spanish validation by León-Pérez et al., (2017). In another study that aimed to create a PCQ scale for international use, item 4 had to be eliminated to improve model fit (Wernsing, 2014).

Item 9 from resilience (I usually take stressful things at work in stride) was also problematic, as it was cross loading with a higher loading on optimism instead of resilience in the previous validation of the PCQ in Spain (León-Pérez et al., 2017). The same item had a low factor loading (.32) in Viseu et al., ´s validation for Portugal (2012).

Both these items contain an idiomatic expression that may be the reason for the cross-loadings, because it makes the accurate translation of the item more difficult (Dawkins, Martin, Scott, & Sanderson, 2013). A question raised by the cross loading has to do with discriminant validity- the relevance of the construct can differ across samples or countries, or an items' meaning can be altered or understood differently (as an indicator of another PsyCap dimension) when it is translated into a different language (Rus et al., 2012). Therefore, testing for discriminant and convergent validity will provide additional evidence for the psychometric properties of the scale.

2.4. Modifications of the PCQ12

In addition to exploring the factorial validity and item functioning in previous works, we considered it necessary to make certain modifications to the original scale, as mentioned in the introduction. The authoring team of PsyCap places emphasis on having an equal number of items for the four dimensions. When constructing the PCQ24, they ´proposed that each of the four constructs would have equal weight´ and chose an equal number of items per dimension (Luthans et al., 2007, p.14). However, this approach was not taken into account in the construction of the PCQ12 (Avey, Avolio, et al., 2011) which has four items in the hope dimension and two in the optimism one. We believe having an equal number of items per dimension could add value to the PCQ12 as it would result in a more balanced measurement scale. At the same time we want to maintain the original short version´s characteristic of having 12 items, in order to count on the use of the PCQ12, so it was important to keep the overall number at 12. The modifications were in line with this logic.

Firstly, the optimism dimension of the original PCQ12 has only two items and there is evidence that only two-items for a factor could lead to inflated factor loadings, overestimated inter-factor correlations and model fit (Marsh, Hau, Balla, & Grayson, 1998). The minimum recommended by Kline (2010) is three items per factor, therefore we decided to add one more item to the optimism dimension. To choose which item to add, we turned to the optimism scale from the PCQ-24. One of the items contained an idiomatic expression ("… every cloud has a silver lining") and two other items were reversed. Reverse-scored items can often lower the reliability of a scale, because they can be more difficult to interpret (for example not being pessimistic does not necessarily mean that one is optimistic), or subject can answer by inertia as if the item was not reversed (Weijters, Baumgartner, & Schillewaet, 2013). Therefore we decided to use the remaining item (item 19) from the PCQ24 ("When things are uncertain for me at work, I usually expect the best"). This item was added to our version of the PCQ as item 13 in the present article. For the purpose of clarity, we maintained the numbering of the items as they are in the original PCQ12 in order to avoid confusion.

Secondly, the hope dimension in the original PCQ12 has four items, and in order to obtain our balanced version of the scale it was necessary to eliminate one of them, which would leave three items per each PsyCap dimension. Although item 4 had

been problematic in previous studies, we decided not to eliminate it right away, but instead, to analyze it along with the other hope items and based on the results, eliminate the item that is least representative of hope. Hence, we initially administered a questionnaire that had a total of 13 items, even though our final aim is to obtain a final version of 12 items.

We expected to obtain an improved version of the PCQ instrument and went on to test its psychometric qualities further in a representative sample from Spain. We applied the standard translation/back-translation procedure by Brislin (1970).

2.5. Method

Sample and Procedure

We applied the standard translation/back-translation procedure by Brislin, (1970). The modified PCQ scale was a part of larger questionnaire including other variables.

Members of the research team reached out to various companies to ask for their participation in the research, and a meeting was held to clarify the goals and the logistical aspects of the study. Questionnaires were administered at the workplace of participants, with three options of implementation: 1) paper questionnaires, 2) a digital questionnaire which was filled with the use of tablets or 3) an online link, sent via email. Confidentiality of the data was guaranteed and any questions about the scale were resolved and clarified.

The sample consisted of 792 employees from 43 organizations in Spain (Barcelona, Almeria, Valencia and Palma de Mallorca). Subjects who had over 30% missing data were eliminated from the samples. Little´s MCAR test was implemented to check if data was missing completely at random (Little & Rublin, 2014). Although the results showed that data was not missing completely at random, the MCAR assumption is rarely met in practical research (Múthen et. al, 1997), and we had less than 5% missing data in the total database which allows for imputation of data (Schafer, 1999).

We therefore imputed the missing data using Maximum Likelihood estimation with 25 iterations (Enders, 2001). Maximum Likelihood imputation is considered more

accurate and efficient than listwise deletion, pairwise deletion and, by some authors, even multiple imputation (Allison, 2012), because it yields consistent result within a given set of data and with just five iterations one can obtain 90% efficiency in data replacement (Rubin, 1987). Hence, Maximum Likelihood imputation was performed for all items, except those pertaining to demographic variables. Descriptive statistics of the variables did not change substantially after the imputation.

69.3% from the service sector, and 30.7% from the secondary sector. The organizations carried out different activities: public administration, finance, chemistry, consultancies, leisure, logistics, personal image services, health, social and sports activities, hostelry, real estate development, cleanliness. 53.2%were women, 44.3% men, 2.5% did not identify their gender. Age was measured via a three-category variable that reflected age groups: 24% are younger than 35, 56.7% are between 35-50 years old and 13.6% are over 50. 63.6% had a University degree, 13.6% had vocational education, 10.1% had a high school degree, 8.5% had middle school degree, and 3% had no studies.

Measurement

Psychological Capital was measured with the short 12-item version of the PCQ which consists of three items measuring self-efficacy, based on the Role Breadth Self-Efficacy scale by Parker (1998); 4 items measuring hope, based on the State Hope Scale by Snyder et al. (1996); 3 items measuring resilience, based on Wagnild & Young (1993) ´s Resilience Scale; and 2 items measuring optimism (Avey et al., 2011), based on Scheier & Carver´ s Dispositional Optimism scale (Scheier & Carver, 1985). Sample items are "I feel confident in representing my work area in meetings with management" (self-efficacy); "I can think of many ways to achieve my current work goals" (hope); "I can get through difficult times at work because I've experienced difficulty before" (resilience); "When things are uncertain for me at work, I usually expect the best" (optimism). The items are evaluated on a Lykert scale from 1 (Completely disagree) to 6 (Completely agree).

In line with the identified necessity to improve the PCQ12 scale, we included one additional item to the optimism dimension because the original version only has

two items as indicators of optimism, and the minimum required to avoid model identification problems and inflated factor loadings is three (Kline, 2010). More thorough explanation of the process can be seen in Study 1.

Criteria variables:

Job satisfaction was measured with 9 items from the reduced version of the Job Satisfaction Scale (JSS by Warr, Cook, & Wall, 1979). The scale was reduced and validated by Cooper, Rout & Faragher (1989) and translated by Pérez & Fidalgo, (1995). Five of the items measure intrinsic job satisfaction and four measure extrinsic job satisfaction. An example of an item for intrinsic job satisfaction is "To what extent do you feel satisfied with the freedom to choose your own method of working?", and an example for extrinsic job satisfaction is "To what extent you feel satisfied with your hours of work?". Subject rate the items on a Lykert scale from 1 (very dissatisfied) to 7 (very satisfied). One last item measured overall job satisfaction: "What is your level of satisfaction with your job as a whole?". This item taps into the affective component of job satisfaction, as it uses a Smiley face rating scale (Stange, Barry, Smyth, & Olson, 2016). We calculated Cronbach's Alpha based on the 9 items from the job satisfaction scale and it was .86.

In-role performance was measured with 3 items from Williams & Anderson´s scale (1991) on in-role performance. A sample item is "I adequately complete assigned duties". Agreement with the items was rated on a Lykert scale from 1 (strongly agree) to 7 (strongly disagree). Cronbach's Alpha for this scale was .85.

Organizational citizenship behaviour was measured with 3 items based on MacKenzie, Podsakoff & Podsakoff (2011). A sample item is "I willingly share expertise, knowledge, and information to help improve the effectiveness of others in my work group". Agreement with the items was rated on a Lykert scale from 1 (strongly agree) to 7 (strongly disagree). Cronbach's Alpha for this scale was .72.

Creative performance was measured with 3 items from the measure by Oldham & Cummings (1996). Agreement with the items was rated on a scale ranging from 1 (not at all) to 7 (to a very great extent). A simple item is "How creative is my work?" this item is followed by a brief explanation that creativity refers to the extent to which the employee develops ideas, methods, or products that are both original and useful to the organization. Cronbach's α was .81.

Data Analysis

We carried out a cross-validation by randomly splitting the sample (Sample A) in two samples, and applying exploratory factor analysis to one, and confirmatory factor analysis to the other to test the factorial validity.

Exploratory Factor Analysis (EFA) is a technique used to explore how the items group in relation to an underlying latent factor, or in other words, EFA explores an underlying factor model that best fits the data. For the exploratory factor analysis in study 1 we used principal axis method of extraction and Promax rotation (Jarvis, MacKenzie, & Podsakoff, 2003). We considered factor loadings over .40 as recommended by Costello & Osborne, (2005).

Confirmatory factor analysis (CFA) is used to confirm a structural model evaluating its power to explain the data. It differs from EFA in that rather than exploring what is the latent structure of the model which would best fit the data, CFA allows for testing the fit of an already established structure which was previously expected (Bryant y Yarnold, 2003). The confirmatory factor analyses (CFAs) for study 1 were carried out in Mplus version 6.12, where we used the Robust Maximum Likelihood (MLR) estimator as our data did not have multivariate normality, as indicated by Mardia's coefficient (> 1.96) (Mardia, 1980) and MLR corrects estimates for non-normality (López De Castro, Gracia, Peiró, Pietrantoni, & Hernández, 2013).

Following recommendations to use different fit indices for evaluating model fit (Kline, 2005), we used Root Mean Square Error of Approximation (RMSEA), Standardized Root Mean Square Residual (SRMR), Tucker-Lewis Index (TLI) and Comparative Fit Index (CFI). The guidelines we followed for assessing the models were: RMSEA≤ .06 to .08 with confidence interval indicates good fit (Schreiber, Nora, Stage, Barlow, & King, 2006); SRMR≤ .08; TLI and CFI ≥ 0.90 are indicators of acceptable fit; TLI and CFI ≥ 0.95 are indicators of good fit (Hu & Bentler, 1999).

To compare between the different models, we used the Bayesian information criterion or BIC. Robust ML estimation in Mplus does not allow for χ^2 difference testing, and the BIC index has been shown to be very reliable (Kuha, 2004). A lower BIC value indicates better fit of the model, and a difference of 10 units is sufficient evidence to prefer a model with a lower BIC over one with a higher BIC (Raftery, 1995).

Reliability Analysis

Reliability or internal consistency was tested via Chronbach's α and Rho (Composite Reliability coefficient). Composite reliability is similar to Cronbach´ s α but it takes into account the relations between the constructs, or in other words, the influence of the other constructs on the reliability. For Chronbach's α and RhO, the minimum value that indicates acceptable reliability is .70 (Bernstein & Nunnally, 1994; Raykov, 2001).

Convergent and discriminant validity

Convergent and discriminant validity were tested with the use of the AVE index (Average Variance Extracted) (Devon et al., 2007; Kane, 2001). AVE refers to the variance captured by a latent factor in relation to the variance caused by the measurement error. AVE can be used both as a measure of reliability as well as convergent validity, and it requires a value higher than .50 (Bagozzi & Yi, 1988). The square root of AVE is used to test for discriminant validity- the square root of each construct's AVE should have a greater value than the correlations between the factors (Alarcón, Sánchez, & Olavide, 2015).

Criterion validity

To test the criterion validity of the PCQ scale in Spain, we measured some criterion variables. As PsyCap has been consistently related to positive employee attitudes, desirable employee behaviors and performance (Avey, Reichard, Luthans & Mhatre, 2011), we chose one criteria variable to represent each of these categories. Therefore, we used job satisfaction, organizational citizenship behavior (OCB), and performance (both in-role and creative performance). We used Pearson´s correlations to explore the relationship between the items of the PCQ12 scale, as well as to test criterion validity by relating the adapted scale to outcome variables. The other analyses specific to each study are described below.

2.6. Results

Table 1 shows the descriptive statistics and inter-item correlations for the total sample. All the items were significantly and positively correlated, ranging between .24 and .69.

Table 1. Inter-item correlations (N=792)

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
SE														
Item 1	4.5	1.0												
Item 2	4.7	.81	.65**											
Item 3	4.8	.93	.60**	.62**										
HOPE														
Item 4	4.7	.81	.44**	.54**	.47**									
Item 5	4.4	.88	.38**	.44**	.37**	.44**								
Item 6	4.5	.85	.43**	.50**	.45**	.54**	.58**							
Item 7	4.6	1.0	.36**	.42**	.36**	.34**	.57**	.62**						
RES.														
Item 8	4.7	1.0	.27**	.30**	.27**	.36**	.27**	.34**	.25**					
Item 9	4.5	1.1	.25**	.30**	.33**	.36**	.36**	.38**	.30**	.43**				
Item 10	4.8	.93	.34**	.35**	.40**	.45**	.37**	.41**	.32**	.55**	.69**			
OPT.														
Item 11	4.8	.93	.27**	.28**	.30**	.40**	.39**	.47**	.33**	.27**	.51**	.50**		
Item 12	4.8	1.0	.27**	.31**	.29**	.31**	.49**	.46**	.57**	.22**	.40**	.40**	.58**	
Item 13	4.4	.98	.29**	.29**	.24**	.35**	.37**	.46**	.40**	.24**	.42**	.39**	.58**	.61**

**. The correlations are significant at the 0.01 level (2-tailed).

EFA

First, we carried out an EFA with the 13 items we included in the PCQ. All the items loaded on their respective factors, with the exception of item 4, which loaded on self-efficacy instead of hope (.41). This issue is consistent with findings from previous studies where item 4 was also found to be problematic; therefore, we decided to eliminate it and repeat the EFA without it. The results from both EFAs can be seen in Table 2.

Table 2. EFA Factor loadings

	First EFA				*Second EFA*			
	F 1	**F2**	**F3**	**F4**	**F1**	**F2**	**F3**	**F4**
SELF-EFFICACY								
1. I feel confident in representing my work area in meetings with management	.87					.87		
2. I feel confident contributing to discussions about the company's strategy	.76					.72		
3. I feel confident presenting information to a group of colleagues	.77					.72		
HOPE								
4. If I should find myself in a jam at work, I could think of many ways to get out of it	*.41*							
5. Right now I see myself as being pretty successful at work		.70			.68			
6. I can think of many ways to reach my current work goals		.73			.70			
7. At this time, I am meeting the work goals that I have set for myself		.84			.85			
RESILIENCE								
8. I can be "on my own" so to speak at work if I have to			.61				.59	
9. I usually take stressful things at work in stride			.65				.64	
10. I can get through difficult times at work because I've experienced difficulty before			.92				.92	
OPTIMISM								
11. I always look on the bright side of things regarding my job				.84				.85
12. I'm optimistic about what will happen to me in the future as it pertains to work				.62				.61
13. When things are uncertain for me at work, I usually expect the best				.57				.58

In the second EFA, all the items loaded on their corresponding factors. Hope explained the most variance in the data, with 47%; self-efficacy explained 12%, resilience 10%, and optimism 7%. The four factors together explained 63% of the common variance.

CFA

We proceeded to test these results with CFA using the other half of the sample. Table 3 shows the factor loadings.

Table 3. CFA factor loadings of the modified PCQ12

	Four-factor model		Second-order model	
Factors	Items	λ	Items	λ
Self-efficacy	PsyCap1	.80	PsyCap1	.80
	PsyCap2	.84	PsyCap2	.84
	PsyCap3	.76	PsyCap3	.76
Hope	PsyCap5	.69	PsyCap5	.69
	PsyCap6	.78	PsyCap6	.80
	PsyCap7	.74	PsyCap7	.74
Resilience	PsyCap8	.61	PsyCap8	.62
	PsyCap9	.80	PsyCap9	.79
	PsyCap10	.85	PsyCap10	.86
Optimism	PsyCap11	.76	PsyCap11	.75
	PsyCap12	.77	PsyCap12	.77
	PsyCap13	.76	PsyCap13	.77
PsyCap	-		Efficacy	.74
	-		Hope	.90
	-		Resilience	.70
	-		Optimism	.75

Within the CFA we tested our modified version of the scale (with item 4 excluded and item 13 included) by comparing three factor models: a second-order model, a one-factor model. Then, we also compared our modified PCQ and the original PCQ, comparing the same factor models. Table 4 shows fit indices for all the models.

Table 4. Model fit for the modified and original PCQ12.

Scale version	*Model type*	*RMSEA (90% CI)*	*SRMR*	*TLI*	*CFI*	*BIC*
Original PCQ	Second-order	.08 (.07 - .09)	.06	.88	.91	**10972**
	Four-factor	.07 (.06 - .09)	.05	.90	.93	**10942**
	One-factor	.13 (.12 - .15)	.09	.67	.73	**11313**
Modified PCQ	Second-order	.08 (.06 - .09)	.06	.90	.92	**11043**
	Four-factor	.07 (.05 - .08)	.04	.92	.94	**11011**
	One-factor	.15 (.14 - .16)	.10	.62	.69	**11409**

CFA results indicated a slightly better fit for our modified version than for the original. RMSEA confidence intervals contain lower values, and TLI and CFI are higher. In addition, the modified version does not contain the problematic item 4.

In terms of factor structure, the one-factor model demonstrated poor fit and was therefore rejected. Both the second-order and four-factor models showed good fit to our data. However, the BIC index demonstrated significant differences between the two models in favor of the four-factor model (Table 4).

Internal consistency, convergent and discriminant validity

Table 5 contains Cronbach's α, Rho, and AVE, as well as the mean of the factor loadings for each dimension of our modified scale.

Table 5. Factor loadings (λ), AVE, Rho and Cronbach's α

	Mean λ	AVE	RhO	α
Self-efficacy	.80	.64	.84	.83
Hope	.74	.55	.78	.78
Resilience	.76	.58	.80	.79
Optimism	.76	.58	.81	.81

Note. AVE- Average Variance Extracted. RhO- Composite Reliability Index.

Cronbach's alpha for the overall PsyCap scale was .89. For the self-efficacy subscale, it was .83, for hope .78, for resilience .79, and for optimism .81. Rho was also above the .70 threshold for all the PsyCap dimensions, indicating acceptable reliability.

Good convergent validity was indicated by factor loadings greater than .60 and the AVE, which was higher than .50 for all four subscales.

As for discriminant validity, Table 6 contains the correlations between the PsyCap factors and, diagonally, the square root of the AVE. The square root of the AVE has a greater value than the correlations for all the dimensions, indicating good discriminant validity.

Table 6. Correlations between factors and √AVE

	M	*SD*	Range	1	2	3	4
1. Self-efficacy	4.69	0.79	1- 6	**0.80**			
2. Hope	4.46	0.77	1- 6	.57**	**0.74**		
3. Resilience	4.65	0.87	1- 6	.46**	.44**	**0.76**	
4. Optimism	4.67	0.83	1- 6	.35**	.55**	.51**	**0.76**

Note. N=792. Diagonally: Square Root of AVE (Average Variance extracted). **p<.01

Criterion validity

We correlated the modified PCQ12 measure with the criterion measures- job satisfaction, performance, and organizational citizenship behavior, using Pearson's correlations to test the strength of the relationships (Table 7).

Table 7. Correlations with criterion variables

	Hope	Self-efficacy	Res.	Opt.	PsyCap	Job Sat.	OCB	In-role Perf.
Hope	-							
Self-efficacy	.55**							
Resilience	.46**	.43**						
Optimism	.60**	.38**	.52**					
PsyCap	.83**	.75**	.77**	.80**				
Job Satisfaction	.56**	.32**	.24**	.49**	.51**			
OCB	.42**	.55**	.27**	.34**	.50**	.30**		
In-role performance	.33**	.29**	.32**	.26**	.38**	.22**	.83**	

Creative performance	.50**	.52**	.36**	.37**	.54**	.33**	.41**	.26**

Note. **p<.01

All the criterion variables correlated significantly with the composite PsyCap score. The highest correlation was with creative performance (.54), and the lowest with in-role performance. In terms of the separate dimensions, hope and optimism correlated the most with job satisfaction (respectively .56 and .49), self-efficacy with citizenship behavior (.55), and resilience with creative performance (.36).

2.7. Discussion

The objective of the current study was to validate a modified version of the PCQ12 in Spain by testing its psychometric properties in a heterogeneous socioeconomic sample. We performed a cross-validation to test for factorial validity and refine our scale. We then tested the reliability and discriminant, convergent, and criterion validity of the modified PCQ12.

The results obtained from the EFA revealed that item 4 from hope (If I should find myself in a jam at work, I could think of many ways to get out of it) was a better indicator of self-efficacy than hope. This result is similar to those from previous validations, including the one in Spain, where item 4 also cross-loaded, but on resilience. Because the item contains the idiomatic expression ”in a jam”, it is difficult to achieve idiomatic equivalence to transmit the underlying concept of hope accurately. Our decision to eliminate the item increases the validity of the Spanish scale.

Furthermore, the rest of the psychometric properties of the modified version were satisfactory: reliability and discriminant, convergent, and criterion validity obtained good results, providing evidence for the quality of the instrument. In addition, when compared to the original PCQ12, the results favored our modified version.

In the CFAs, we compared the original second-order PsyCap model to a four-factor model, and although both models fit our data well, the four-factor model demonstrated a better fit than the original one. This finding agrees with evidence from Portugal (Viseu et al., 2012), where the four-factor model for the PCQ12 also showed better fit.

Thus, the main implication of our results has to do with the structure of the scale. Although our data showed the four-factor model to be preferable, the second-order model also had good fit. Therefore, our results provide evidence that both PCQ12 structures can be used flexibly by researchers depending on their objectives and theoretical perspectives.

From a practical point of view, a multidimensional concept is more useful because it allows generalizability and simplifies empirical and practical work. In fact, as a second-order factor, PsyCap has been shown to be a better predictor of employees' work performance and wellbeing than its constitutive elements (Avey, Luthans, & Youssef, 2010). In this regard, prediction-oriented research should examine the overall PsyCap construct because it is more parsimonious and simplifies statistical analyses.

However, PsyCap elements can also operate somewhat independently from each other; individuals could score higher on some PsyCap dimensions and lower on others. Researchers might want to analyze whether some of the four dimensions are more strongly related to certain outcomes than others. In this case, using the four-factor model is more appropriate because the overall PsyCap score does not reflect differences in scores across dimensions.

Future research should analyze PsyCap functioning in greater depth and detail. Future studies should also explore the predictive validity of the modified PCQ12 and use informants from different sources to prevent common-method variance, which is a limitation of this work. Nevertheless, this is a common practice in studies that analyze and validate these types of variables.

In sum, this study expands the existing evidence for the PCQ12 in Spain by testing a modified version in a heterogeneous sample and analyzing a four-factor structure as a possible alternative to the original second-order structure. Overall, our results support the modified PCQ12 as an improved context-relevant instrument that adds value to further applications of PsyCap in Spanish-speaking countries.

CHAPTER 3

INDIVIDUAL PROFILES OF PSYCHOLOGICAL CAPITAL IN A SPANISH SAMPLE

3.1. Abstract

Psychological Capital (PsyCap) consists of hope, self-efficacy, resilience and optimism. It is usually assumed that individuals score similarly across these four components, however, there have been suggestions in the literature that in some cases, people can score high on some dimensions and low on others, and that it is necessary to explore the matter further (Dawkins, 2014). Hence, the main objective of this article is to explore if the relationship between the dimensions of PsyCap results in individual profiles; to see which sociodemographic characteristics they have, and how the profiles relate to job satisfaction and performance.

The sample consists of 1752 employees from different companies in Spain. We used Latent Profile Analysis and the results revealed that a four-profile model is the best fit for our data, where Profile 1 was characterized by low self-efficacy and hope, and high resilience and optimism; Profile 2 by high self-efficacy and hope, and low resilience and optimism; Profile 3 by low self-efficacy and high hope, resilience and optimism; and Profile 4 by high scores on all PsyCap constructs.

The majority of the sample was classified in Profile 4, showing support for the unitary structure of PsyCap. However, for some individuals scores differed across the four PsyCap dimensions. Furthermore, there were high-low and low-high configurations for hope and self-efficacy on the one hand, and resilience and optimism on the other. Lastly, our results emphasize the combination of hope and self-efficacy as important contributors to employee outcomes.

Keywords: profiles, psychological capital, hope, self-efficacy, resilience, optimism

3.2. Introduction

Psychological Capital (PsyCap) is currently a widely researched construct which originated from Positive Psychology and Positive Organizational Behavior: the application of positive personal capacities in the workplace (Avey, Reichard, et al., 2011; Imam et al., 2017; Luthans & Youssef-Morgan, 2017; Newman et al., 2014). PsyCap is a second-order construct, which consists of four sub-dimensions: 1) self-efficacy: having confidence to take on and put in the necessary effort to succeed at challenging tasks; 2) hope: persevering toward goals and, when necessary, redirecting paths to goals in order to succeed; 3) resilience: when beset by problems and adversity, sustaining and bouncing back and even beyond to attain success; and 4) optimism: making a positive attribution about succeeding now and in the future (Luthans et al., 2007, p. 3).

The four PsyCap dimensions share many characteristics and PsyCap represents the underlying connection between them. PsyCap is defined as "one's positive appraisal of circumstances and probability for success based on motivated effort and perseverance" (Luthans, Avolio, Avey, & Norman, 2007, p.10). Although the PsyCap dimensions are inter-correlated, they are independent, distinct variables which have been empirically shown to have discriminant validity (see Luthans, Avolio, & Avey, 2007; Luthans & Youssef-Morgan, 2007). In this sense, the four can be sufficiently independent, so that people can have different levels of hope, self-efficacy, resilience and optimism even though they are considered indicators of the same multidimensional construct.

One of the main contributions of the PsyCap construct, which has been underlined by the authorship team is that as a multidimensional construct, PsyCap explains variance in outcome variables beyond the four dimensions that constitute it. However, this has not always been the case and in some instances the predictive power of PsyCap varies across samples (Luthans & Youssef-Morgan, 2017).

In relation to this, Dawkins (2013) advocated the use of the four components separately to increase the understanding of how they work and relate to one another. Furthermore, Dawkins (2014) stresses the limitations of using a composite PsyCap score because it omits any information about the variance across the four dimensions, and points out the necessity ´´to further validate the use of a composite PCQ score" (p. 16). Her work lays emphasis on the possibility that the PsyCap components do not go in

synchrony in all cases, and it is possible for some people to score high on some elements but low on others.

One way to address these concerns is through exploring whether individual PsyCap profiles exist, meaning profiles of individuals who score high on certain PsyCap dimensions but low on others. The most recent review on PsyCap by Luthans & Youssef-Morgan, (2017) also recommends for future research should explore the ´´individuals who may be particularly low on one or more subcomponents and high on others´´ (p. 14).

It is also likely that certain profiles are linked to demographic variables, such as tenure (Dawkins, 2014). This is because some of the PsyCap dimensions, like self-efficacy, are built through previous experience, so it is likely that a more tenured employee will feel more highly efficacious in their job than a less experienced one. In this vein, it is useful to consider if people with certain demographics are more likely to have a certain PsyCap profile/typology. In addition, the value of testing for PsyCap profiles that differ across the four dimensions stems from the possibility that these profiles relate differently to employee outcomes (Dawkins, 2014). However, to our knowledge, none has explored this issue.

In line with all of the above, the first and primary objective of this article is to test whether individual profiles across the four PsyCap dimensions exist. Secondly, we explore how such profiles are related to demographics, particularly, gender, age, educational level, tenure and seniority. Thirdly, we relate these profiles to outcome variables of performance and satisfaction, specifically intrinsic satisfaction, in-role performance and OCB, as they are variables known to be influenced by PsyCap and its dimensions, but have not been tested previously in relation to specific PsyCap variation.

3.3. Theoretical Background

Multidimensional or superordinate constructs englobe a combination of specific dimensions (see Edwards, 2001 for a review), as is the case of PsyCap. They are defined by their dimensions; in other words, the dimensions are variables that function as specific indicators of a more general underlying construct (Edwards, 2001). Second-order constructs are often used in research on personality and personal capacities, for

example, core-self-evaluation (Judge & Bono, 2001) or transformational leadership (Bass, 1999).

The utility of such multidimensional constructs is a subject of debate in the organizational behavior literature (Edwards, 2001). The defenders of multidimensional constructs have argued that they are more useful from a theoretical standpoint because they allow the generalization of theories and connect comprehensive concepts to broad outcomes, which is more realistic, practical and likely to explain more variance than separate components alone. This argument has been put forwards by the authoring team of PsyCap who have shown in some studies that the composite variable PsyCap predicts variance above and beyond its four components (Luthans, Avolio, & Avey, 2007; Luthans & Youssef-Morgan, 2017).

On the other hand, a number of authors have criticized the utility of multidimensional constructs due to ambiguity and lack of precision. They argue that the relationships between the sub-dimensions and outcome variables remain unclear and that any variation within the overall construct could mean variation within one or more of the sub-dimensions that is not tapped. Relationships between multidimensional constructs and other variables are very difficult to develop with theoretical accuracy since different explanations for the relationship can be given for different sub-dimensions of the construct (Johns, 1998). In addition, the multidimensional construct may explain less variance in outcomes than the sub-dimensions taken collectively.

This perspective can also be applied to PsyCap, as there are studies that concluded that the overall PsyCap factor does not predict wellbeing and performance beyond the four dimensions, thus questioning the use a second order factor and a composite score. For instance, Kauko-Valli & Haapanen (2013) found that out of the four dimensions of PsyCap, only hope was positively related to the growth intentions of entrepreneurs. Rego, Marques, Leal, Sousa, & Pina e Cunha, (2010) used the four dimensions separately, as well as the composite PsyCap score in a regressions analysis to predict performance in Portuguese civil servants. They even split the hope dimension into its components waypower and willpower (Snyder, 2015) and found out that most variance in performance was explained when the separate dimensions were introduced to the regression after the overall PsyCap factor (Rego et al., 2010). If the order was reversed, no additional variance was explained by the PsyCap factor. In addition, in their analysis, optimism, resilience and the willpower dimension of hope were

significant predictors of performance, while self-efficacy and the waypower dimension were not.

Further questions regarding the multidimensional nature of PsyCap are raised by the use of its composite score. Superordinate constructs are often measured with subscales for each dimension and the composite score on their dimensions is what is utilized in statistical analysis. Although common, this approach is problematic because it does not tackle measurement error and ignores the unique contribution of each of the sub-dimensions, as well as the variance in each dimension which is not captured by the second-order factor (Bagozzi & Edwards, 1998). Using a composite score has been pointed out as a limitation of the PsyCap measure, as it fails to account for variations across self-efficacy, hope, resilience and optimism (Dawkins, 2014; Dawkins, Martin, Scott, & Sanderson, 2015).

Such variation is likely to exist because even though the four PsyCap dimensions share many characteristics, they are still separate constructs which are distinguished from one another. In terms of communalities, for example, hope and self-efficacy share a component of agency- the motivation and energy to pursue a goal (Luthans & Jensen, 2002b); resilience and self-efficacy share a characteristic of perseverance in the face of difficulties (Luthans, Vogelgesang, & Lester, 2006); optimism and hope share positive future expectancies (Luthans & Jensen, 2002b), and optimism and resilience share emotional components of positivity, flexibility and adjustment (Fredrickson, Tugade, Waugh, & Larkin, 2003; Peterson, 2000).

However, the PsyCap dimensions also differ in some ways and are generally considered to be independent constructs with discriminant validity (Carifio & Rhodes, 2002; Luthans, Avolio, Avey, et al., 2007; Luthans & Youssef-Morgan, 2007; Magaletta & Oliver, 1999). For instance, hope and optimism differ in the degree of generalizability of positive expectancies (Luthans & Jensen, 2002a). Self-efficacy and resilience differ in the type of perseverance that defines them: self-efficacy refers to maintaining motivation in the face of difficulties, while resilience refers to recuperating after difficulties have occurred (Luthans, Avolio, & Avey, 2007; Magaletta & Oliver, 1999). Thus, given that the PsyCap dimensions are unique and encompass different elements, they could be independent enough so that the same individual can have high levels of one or two dimensions, but low levels of the rest (Dawkins, 2014).

Dawkins (2014) gives an example of the issue: two employees could obtain the exact same total PsyCap score, however one could have scored high on self-efficacy and

hope, and lower on optimism and resilience, while the other could have scored similarly across all four dimensions. In this case, using a composite PsyCap score would only inform of the overall level of the four dimensions, but it does not account for different PsyCap profiles (Dawkins, 2014; Luthans & Youssef-Morgan, 2017). Dawkins (2014) further points out that it is important to determine if particular configurations or patterns emerge within the PsyCap dimensions and if there are individual typologies of PsyCap (Dawkins, 2014).

Such typologies may depend on variables like tenure, for instance, as is illustrated by Dawkins (2014): inexperienced employees on a new job are likely to exhibit more optimism and hope because they are starting something new, but less resilience and self-efficacy since those are built through past experiences of successfully dealing with specific work situations. A seasoned employee who has overcome work challenges in their previous experience is likely to have resilience and self-efficacy but may be lower on optimism and hope due to the predictability of the job they have been doing for a while (Dawkins,2014).

To extend this line of though, demographics such as age, gender or educational level can also be a determinant in one's PsyCap profile since they have been previously linked to some PsyCap dimensions. For instance, age has been found to influence hope-people over 55 years old score lower on hope compared to those under 55 (Bailey & Snyder, 2007). Age has also been linked to resilience and it has been found that different elements of resilience tend to emerge in the different ages (González-Arratia Fuentes & Valdez, 2015). Age has also been connected to optimism, for instance Wong, Gardiner, Lang, & Coulon, (2008) showed that optimism is higher for older generations (Baby Boomers) compared to younger ones (Generation Y).

Gender has been shown to influence self-efficacy: women tend to perceive themselves as less efficacious then men; and women also show higher levels of resilience compared to men (Busch, 1995; Pajares, 2002; Vaportzis, Clausen, & Gow, 2017). Educational level has been linked to hope, in that those with a higher education are less likely to experience high levels of hope (Waynor, Gao, & Dolce, 2012). Tenure and seniority in the organization are linked to self-efficacy and resilience, as explained in the example by Dawkins since more experience contributes to the belief of managing different situations and finding ways to handle difficulties (Bandura, 1993, 1995; Hamill, 2001).

Given these examples, we look at gender, age, educational level, tenure and seniority in the organization and test if they are related to PsyCap profiles or configurations.

Lastly, the usefulness of PsyCap profiles lays in the possibility to check how they relate to outcome variables. The theory behind PsyCap stresses its contribution to performance and financial gain while aligning them with positivity and fulfillment at work, thus allowing for "adequate resource allocation within the realities of today's competitive environment" (Avey et al., 2011, p.4). Having information about possible PsyCap profiles/types and how they relate to wellbeing or performance would provide knowledge about which elements of PsyCap need to be reinforced in what type of employees in order to boost performance or wellbeing (Dawkins et al., 2015).

Indeed, a significant amount of studies has researched the influence of PsyCap on performance and wellbeing variables (e.g. Larson, 2006; Luthans, Avey, Clapp-Smith, & Li, 2008; Luthans & Youssef-Morgan, 2007; Sweetman, Luthans, Avey, & Luthans, 2011; Youssef- Morgan & Luthans, 2015). Overall, PsyCap has most commonly been linked to individual performance and job satisfaction (see Luthans & Youssef-Morgan, 2017).

Various studies have looked at in-role performance as a crucial outcome of PsyCap, showing that higher levels of PsyCap are linked to higher in-role performance (e.g. Du Plessis & Barkhuizen, 2012; Luthans, Avey, Avolio, & Peterson, 2010; Luthans, Avey, Clapp-Smith, & Li, 2008; Peterson, Luthans, Avolio, Walumbwa, & Zhang, 2011). As for job satisfaction, it has been the most common way to operationalize wellbeing at work as an outcome of PsyCap, and many studies have shown a relationship between PsyCap and job satisfaction (e.g. Abbas, Raja, Darr, & Bouckenooghe, 2014; Bergheim, Nielsen, Mearns, & Eid, 2015; Fu, Sun, Wang, Yang, & Wang, 2013). High levels of PsyCap have also been connected to desirable work attitudes and behaviors because of PsyCap's elements of appreciation and motivation (Meyers, van Woerkom, de Reuver, Bakk, & Oberski, 2015; Siu, Bakker, & Jiang, 2014). Particularly, organizational citizenship behavior or OCB has often been associated with PsyCap (e.g. Cameron et al., 2003; Diener & Seligman, 2004).

Thus, since in-role performance, job satisfaction and OCB appear to be consistently related by PsyCap, we want to test how these three variables are linked to particular PsyCap profiles or configurations and not only to total PsyCap level.

3.4.Method

Sample and Procedure

The sample consists of 1752 employees from 45 Spanish organizations. The companies were approached by members of the research team, explaining the objectives and parameters of the study. Later on preliminary meetings were organized with management of the companies which agreed to participate where the logistics were specified. Questionnaires were filled out in the workplace of participants, either on paper, tablet or online via a link. Researchers were available for clarifications and confidentiality of the data was guaranteed.

Subjects who had over 30% missing data were eliminated from the samples. We had less than 5% missing data in the total database which allows for imputation of data (Schafer, 1999). Therefore, we imputed the missing data using Maximum Likelihood estimation with 25 iterations (Enders, 2001).

82.4% of the companies were from the tertiary sector-, and 17.6% were in the secondary. 52.6% of the participants were women, 43.8% were men and 3.5% did not specify their gender. 27.6% were younger than 35 years, 55.1% were between 35 and 55 years old, 15.4% were over 50, and 1.9% did not specify their age. Regarding education, 46.8% had a university degree, 19.1% had high school studies, 16.7% had occupational training, 11.6% had compulsory education, 1% had no studies and 4.8% did not specify their educational level. As for seniority in the organization, 9% have less than a year, 17.5% have between 1 and 5 years, 66.1 % have over 5 years and 7.4% did not specify their seniority. Finally, for job tenure, 15.6% had less than 1 year tenure at the same job, 25.9% had between 1 and 5 years, 51.5 % had over 5 years tenure and 6.9% did not specify.

Measurement

Psychological Capital was measured with a modified version of the short Psychological Capital Questionnaire with 12 items (PCQ-12) (Djourova, Rodríguez, Lorente, 2016). The scale measures the four PsyCap dimensions with three items per

dimension, based on previously developed and tested scales for self-efficacy (Parker, 1998), hope (Snyder et al., 1996), resilience (Wagnild, & Young, 1993) and optimism (Scheier & Carver, 1985). Sample items are "I feel confident in representing my work area in meetings with management" (self-efficacy); "I can think of many ways to achieve my current work goals" (hope); "I can get through difficult times at work because I've experienced difficulty before" (resilience); "When things are uncertain for me at work, I usually expect the best" (optimism). The items are evaluated on a Lykert scale from 1 (Completely disagree) to 6 (Completely agree). Reliability for the PsyCap scale was .86, for the self-efficacy subscale .83, for hope .78, for resilience .71 and for optimism .83.

Job satisfaction was measured with 9 items from Cooper, Rout, & Faragher (1989)'s job satisfaction scale, translated to Spanish by Pérez & Fidalgo, (1995). Five of the items measure intrinsic job satisfaction and four measure extrinsic job satisfaction. An example of an item for intrinsic job satisfaction is "To what extent do you feel satisfied with the freedom to choose your own method of working?", and an example for extrinsic job satisfaction is "To what extent you feel satisfied with your hours of work?". Subject rate the items on a Lykert scale from 1 (very dissatisfied) to 7 (very satisfied). Alpha Chronbach was .85.

In-role performance was measured with 3 items from Williams & Anderson´s scale (1991) on in-role performance. A sample item is "I adequately complete assigned duties". Agreement with the items was rated on a Lykert scale from 1 (strongly agree) to 7 (strongly disagree). Cronbach's Alpha for this scale was .77.

Organizational citizenship behaviour was measured with 3 items based on MacKenzie, Podsakoff & Podsakoff (2011). A sample item is "I willingly share expertise, knowledge, and information to help improve the effectiveness of others in my work group". Agreement with the items was rated on a Lykert scale from 1 (strongly agree) to 7 (strongly disagree). Cronbach's Alpha for this scale was .67.

Socio-demographic variables

Age was measured via a three-category variable which reflected age groups:

1) younger than 35 years old; 2) between 35 and 50; 3) over 50;

Gender was coded as a dummy variable with 2 categories, using 1 for men and 0 for women;

Educational level was measured with six categories: 1) no studies, 2) compulsory education, 3) occupational training, 4) high school, 5) university degree, and 6) others

Job tenure and seniority in the organization were both measured via 3 categories: 1) less than a year; 2) between 1 and 5 years; and 3) more than 5 years.

Data Analysis

Latent Profile Analysis

Latent profile analysis (LPA) is a technique through which homogenous groups of individuals are identified within the data based on indicator variables. The aim of this analysis is to distribute individuals in latent profiles so as to explain differences in the observed pattern of responses (Geiser, 2013). LPA differs from Latent Class Analysis in that the indicator variables are continuous, rather than binary or categorical (Vermunt & Magidson, 2002, p. 89).

Latent Profile Analysis was performed in Mplus 6. The analysis is done through testing models with a progressive number of classes to establish the most parsimonious one (with fewest classes) which can explain the data. Belonging to a certain profile is calculated based on probabilities, which makes this technique superior to cluster analysis (Geiser, 2013; Muthén & Muthén, 2008). Multiple starting values were used to estimate the model in order to avoid convergence on a local solution, as recommended by McLachlan & Peel, (2000).

To compare between the models with different number of classes we used several criteria: Akaike's information criterion (AIC); Bayesian information criterion (BIC); Lo-Mendell-Rubin Adjusted LRT Test (LMR); Vuong-Lo-Mendell-Rubin Likelihood Ratio Test (VLMR); and Bootstrap Likelihood Ratio Difference test (BLRT) (Nylund, Asparouhov, & Muthén, 2007). In terms of BIC and AIC indices, the model with lowest values is considered best fitting the data. LMR, VLMR and BLRT provide a p-value that if significant, means that the model with k classes is better fitting than a

model with k-1 classes (Nylund et al., 2007). A value of Entropy closer to 1 is considered an indicator of clearly delineated classes (Celeux & Soromenho, 1996).

Chi-square independence testing

We used a Chi-square test of independence to see if belonging to a certain profile is significantly associated with the demographic variables. Chi-square test of Independence assesses the association between categorical variables without inferring about causation. The analysis provides a contingency table that shows the distribution of the categorical variables (in our case, profile membership and demographic variables).

We analyzed the standardized residuals to test if a certain demographic was under-represented or over-represented in the actual sample (in each one of the profiles), compared to the expected frequency. We compared standardized residuals to the critical values that correspond to an alpha of .05 (+/-1.96) (MacDonald & Gardner, 2000). Standardized residuals with a positive value mean that there is over-representation and there are more subjects of a certain demographic than expected and standardized residuals with a negative value mean that the cell was under-represented in the actual sample, compared to the expected frequency, i.e. there were fewer subjects in this category than we expected.

One-way ANOVA

We used one-way ANOVA to see if there are significant differences in job satisfaction, in-role performance and OCB between the PsyCap profiles. When running the ANOVA, we used class membership as the factor and employee outcomes as dependent variables. We also carried out Tukey's HSD Post-hoc comparison to compare all possible pairs of means between profiles, and determine where exactly the differences lie.

3.5.Results

As mentioned, we used latent profile analysis to compare models with two, three, four and five classes. The comparison indices can be seen in Table 1.

Table 1. Model Comparison

		AIC	BIC	Entropy	LMR	VMLR	BLRT
M1	2 classes	15893	15997	0.85	0.00	0.00	0.00
M2	3 classes	15767	15898	0.90	0.00	0.00	0.00
M3	4 classes	15660	15818	0.88	0.05	0.05	0.00
M4	5 classes	15586	15772	0.86	0.29	0.28	0.00

Note: N= 1752; AIC = Akaike's information criterion; BIC = Bayesian information criterion. VLMR- Vuong-Lo-Mendell-Rubin Likelihood Ratio Test; LMR- Lo-Mendell- Rubin Adjusted LRT Test; BLRT-Bootstrap Likelihood Ratio Difference test

BIC and AIC indices continue to decrease with each new model with more classes, indicating that fit improves as more classes are tested within the models, and the BLRT p-value supports that. The p-values of the LMR and VMLR demonstrate that the 3-class solution is better than the 2-class solution; the 4-class solution is better than the 3-class solution, however the 5-class model is not a better fit than the 4-class model. All models have similar values of Entropy (between .85 and .90).

Although BLRT is considered the most robust information criterion, it can be inaccurate in model misspecification or non-normal distributions. Therefore, we considered LMR and VMLR´s values as most robust indicators and based on the results, we consider that the 4-class model is most likely to explain our data. This solution was chosen also because of parsimony and interpretability of the four profiles that emerged. Graph 1 shows a representation of the 4 profiles according to their mean scores on the four PsyCap dimensions. Table 2 shows the means and standard errors on the four PsyCap dimensions for each of the profiles.

Graph 1. Graphical Representation of the 4 latent profiles

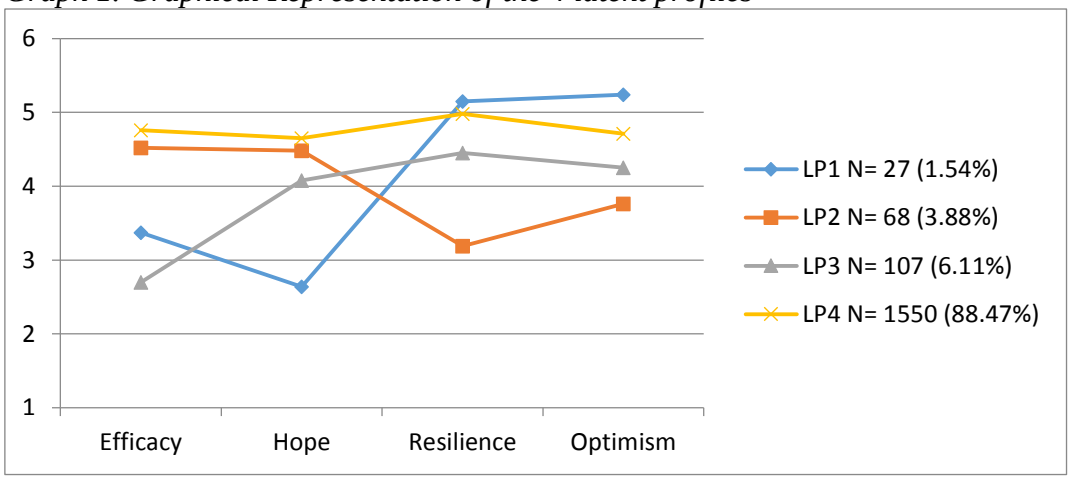


Table 2. Means and standard errors on the four PsyCap dimensions

	Profile 1 N= 27		Profile 2 N= 68		Profile 3 N= 107		Profile 4 N=1550	
	Mean	*SE*	*Mean*	*SE*	*Mean*	*SE*	*Mean*	*SE*
Efficacy	3.36	0.31	4.52	0.31	2.70	0.19	4.76	0.03
Hope	2.65	0.20	4.48	0.18	4.08	0.19	4.65	0.02
Resilience	5.15	0.14	3.19	0.17	4.45	0.21	4.98	0.03
Optimism	5.24	0.24	3.76	0.23	4.25	0.20	4.71	0.03

The analysis revealed that the overwhelming majority of the sample (1550 people) was classified in a profile (Profile 4) with high scores on all four PsyCap dimensions (means between 4.65 and 4.98). The lowest number of individuals, only 27 were classified in Profile 1 which showed lower results on efficacy and hope (3.36 and 2.65) and higher results on resilience and optimism (5.15 and 5.24). 68 people were classified in a mirroring profile, Profile 2, where the levels of efficacy and hope are comparatively higher than the levels of resilience and optimism (respectively 4.52 and 4.48 in comparison to 3.19 and 3.76). Finally, 107 people were classified in Profile 3 with lower results on self-efficacy (2.70) and relatively higher results on hope, resilience and optimism (respectively 4.08, 4.45 and 4.35).

We went on to check the specific demographics of the individuals distributed in each profile and performed a Chi-square test of independence to see if there is a significant association between the demographics and belonging to a certain profile. We also analyzed the standardized residuals and compared them to the critical values that correspond to an alpha of .05 (+/-1.96) (MacDonald & Gardner, 2000). Thus, we were able to see if the observed frequencies of the demographics differ from the expected frequency given the distribution of our data. The Chi square significance, the expected and actuals counts, and the standardized residuals can be seen in Table 3.

Table 3. Distribution of demographics according to profile

			Profile 1 ↓ SE ↓ Hope ↑Resil. ↑Opt.	Profile 2 ↑ SE ↑Hope ↓Res. ↓Opt.	Profile 3 ↓ SE ↑ Hope ↑Res. ↑Opt.	Profile 4 ↑SE ↑Hope ↑Res. ↑Opt.	Chi^2 p-value
Gender	Female	Count	8	39	54	821	0.07
		Expected Count	13.6	34.4	57.8	816.2	
		% in profile	32.0%	61.9%	50.9%	54.9%	
		St. Residual	-1.5	0.8	-0.5	0.2	
	Male	Count	17	24	52	675	
		Expected Count	11.4	28.6	48.2	679.8	
		% in profile	68.0%	38.1%	49.1%	45.1%	
		St. Residual	1.7	-0.9	0.6	-0.2	
Age	< 35 years old	Count	1	26	40	417	0.005*
		Expected Count	7.6	18.3	29.6	428.5	
		% in profile	3.7%	40.0%	38.1%	27.4%	
		St. Residual	**-2.4**	1.8	1.9	-0.6	
	35 to 50 years	Count	20	32	53	861	
		Expected Count	15.2	36.5	59.0	855.3	
		% in profile	74.1%	49.2%	50.5%	56.6%	
		St. Residual	1.2	-0.7	-0.8	0.2	
	>50	Count	6	7	12	244	
		Expected Count	4.2	10.2	16.4	238.2	
		% in profile	22.2%	10.8%	11.4%	16.0%	
		St. Residual	0.9	-1.0	-1.1	0.4	
Education	No studies	Count	1	1	1	14	0.001*
		Expected Count	0.3	0.7	1.0	15.0	
		% in profile	3.7%	1.5%	1.0%	0.9%	
		St. Residual	1.4	0.4	0.0	-0.3	
	Compulsory education	Count	14	5	24	160	
		Expected Count	3.3	7.9	12.4	179.5	
		% in profile	51.9%	7.7%	23.5%	10.8%	
		St. Residual	**5.9**	-1.0	**3.3**	-1.5	
	Occupational training	Count	6	12	27	247	
		Expected Count	4.7	11.3	17.8	258.2	
		% in profile	22.2%	18.5%	26.5%	16.7%	
		Residual	1.3	0.7	9.2	-11.2	
		St. Residual	0.6	0.2	2.2	-0.7	
	High school	Count	3	11	24	296	
		Expected Count	5.4	13.0	20.3	295.3	
		% in profile	11.1%	16.9%	23.5%	20.0%	

		St. Residual	-1.0	-0.5	0.8	0.0	
	University degree	Count	3	36	26	755	
		Expected Count	13.2	31.8	49.9	725.0	
		% in profile	11.1%	55.4%	25.5%	51.0%	
		St. Residual	**-2.8**	0.7	**-3.4**	1.1	
	Others	Count	0	0	0	9	
		Expected Count	0.1	0.3	0.5	8.0	
		% in profile	0.0%	0.0%	0.0%	0.6%	
		St. Residual	-0.4	-0.6	-0.7	0.4	
Seniority in the organization	< 1 year	Count	2.0	7.0	24.0	125.0	0.001*
		Expected Count	2.4	6.2	10.0	139.3	
		% in profile	0.1	0.1	0.2	0.1	
		St. Residual	-0.3	0.3	**4.4**	-1.2	
	Between 1 and 5 years	Count	2.0	14.0	19.0	272.0	
		Expected Count	4.7	12.1	19.5	270.7	
		% in profile	8.0%	21.9%	18.4%	19.0%	
		St. Residual	-1.3	0.5	-0.1	0.1	
	> 5 years	Count	21.0	43.0	60.0	1034.0	
		Expected Count	17.8	45.7	73.5	1021.0	
		% in profile	84.0%	67.2%	58.3%	72.3%	
		St. Residual	0.7	-0.4	-1.6	0.4	
Job Tenure	< 1 year	Count	3.0	13	30	228	0.028*
		Expected Count	4.4	10.8	16.6	242.2	
		% in profile	11.5%	20.3%	30.3%	15.8%	
		St. Residual	-0.7	0.7	**3.3**	-0.9	
	Between 1 and 5 years	Count	4.0	20	23	406	
		Expected Count	7.2	17.8	27.5	400.5	
		% in profile	15.4%	31.3%	23.2%	28.2%	
		St. Residual	-1.2	0.5	-0.9	0.3	
	> 5 years	Count	19	31	46	808	
		Expected Count	14.4	35.4	54.8	798.4	
		% in profile	73.1%	48.4%	46.5%	56.0%	
		St. Residual	1.2	-0.7	-1.2	0.3	

According to the Chi-square significance values, age, education, tenure and seniority in the organization are all significantly associated with belonging to a certain profile, while gender was not. However, the results from the standardized residuals showed that in profiles 2 and 4 the demographics were in line with what is expected given the distribution of the overall sample. In profiles 1 and 3, there were deviations from the expected count on certain demographics.

Specifically, for Profile 1 (low hope and self-efficacy; high resilience and optimism), in terms of age, there were fewer people who were under 35 years old than expected (s. r. = -2.4< 1.96). In terms of education, there were more people than expected with a compulsory education (s. r. = 5.9 > 1.96) and fewer people with a university degree (s. r. = -2.8 < 1.96).

For Profile 3 (low self-efficacy; high hope, resilience and optimism, regarding education, there were more people than expected with a compulsory (s. r. =3.3 > 1.96) and an occupational education (s. r. = 2.2 > 1.96) and fewer people than expected with a university degree (s. r. = -3.4 < 1.96). Regarding tenure, there were more people than expected with less than a year job tenure (s. r. = 4.4 > 1.96); the same applies for seniority, there are more people than the expected who have been in the organization less than a year (s. r. = 4.4 > 1.96).

Thus, people with lower formal education and over 35 years old, were more likely to be classified in Profile 1: low hope and self-efficacy and high resilience and optimism. People with lower formal education and less than a year job tenure and seniority were more likely to be classified in Profile 3, low self-efficacy and high on the other three PsyCap constructs.

Apart from the association of the demographics to the profiles, we also tested if there are significant differences among the latent profiles in the levels of in-role performance, job satisfaction and OCB, through an analysis of variance. We tested the assumption for homogeneity of variances using Levine's test which is sensitive to large discrepancies in sample size of groups, as is our case, and the assumption held for intrinsic job satisfaction (p= .22), for OCB and (p= .65) for in-role performance (p=.71), but not for extrinsic job satisfaction (p< .05). Even though there are robust F-statistics (e.g. Brown-Forsythe test), which can account for the violation of the homogeneity of variances assumption, ANOVA's statistical power can be diminished by the violation and the results may be biased when the discrepancy between samples is very large (Keppel & Wickens, 2004). Therefore, we decided to only use intrinsic job satisfaction, instead of overall job satisfaction.

Thus, table 4 shows the results from the ANOVA comparison between the four profiles on intrinsic job satisfaction, OCB, and in-role performance.

Table 4. One-way ANOVA results for job sat., OCB and in-role performance

	Profile 1 ↓ SE ↓ Hope ↑Res. ↑Opt.	Profile 2 ↑ SE ↑Hope ↓Res. ↓Opt.	Profile 3 ↓ SE ↑ Hope ↑Res. ↑Opt.	Profile 4 ↑SE ↑Hope ↑Res. ↑Opt.			
	Mean (SD)				df	F	η2
Intrinsic satisfaction	4.19 (1.26)	4.86 (1.07)	4.78 (1.12)	5.26 (1.05)	3.00	18.06***	0.03
OCB	4.74 (1.10)	5.15 (1.06)	4.63 (1.05)	5.54 (0.93)	3.00	38.64***	0.062
In-role performance	6.35 (0.80)	6.25 (.69)	6.26 (.67)	6.38 (.66)	3.00	1.903	0.003

Note. *** = $p < .001$.

As the ANOVA table indicates, there were significant differences across profiles for intrinsic satisfaction [F (3; 1748) = 18.06, p< .0001] and OCB [F (3; 1748) = 38.64, p< .0001], but not for in-role performance [F (3; 1748) = 1.90, p= .127].

Tukey's Post Hoc comparison showed that Profile 1 and Profile 2 differ significantly on the mean of intrinsic job satisfaction ($p < .05$), thus, individuals with low self-efficacy and hope and high resilience and optimism tend to score lower on intrinsic job satisfaction compared to individuals with high self-efficacy and hope and low resilience and optimism.

There was also a significant difference in the mean of OCB between Profile 2 and Profile 3 meaning that individuals with high self-efficacy and hope and low resilience and optimism tend to score higher on OCB compared to individuals with low self-efficacy and high hope, resilience and optimism.

Profile 4 was significantly different from the other three profiles, showing that those who score high on all four PsyCap dimensions tend to experience higher levels of OCB and intrinsic job satisfaction than people in the other profiles who scored lower on one or more of the components.

3.6. Discussion

The objective of this paper was to verify if individual profiles exist across the four dimensions of PsyCap: self-efficacy, hope, resilience and optimism. A latent profile analysis was carried out where four models were compared and the model with 4-latent profiles was decided to be the best fit to our data. We explored the demographics of the individuals in each profile and discovered that gender had no significant relationship with profile membership, while age, education, seniority in the organization and job tenure did. We also found significant differences between some of the profiles in the way they related to intrinsic satisfaction and OCB.

The overwhelming majority of the sample showed a tendency to score high on all four PsyCap dimensions as illustrated by Profile 4 where 88.47% of the participants were classified. This result backs up the notion that the four components reinforce one another as indicators of the second-order construct and supports PsyCap as a multidimensional construct, in line with previous literature, which has emphasized the communalities between the four dimensions over the differences (Luthans, Avolio, Avey, et al., 2007; Luthans & Youssef-Morgan, 2017).

The multidimensional structure of the construct is further validated by the relationship of Profile 4 with the outcomes intrinsic job satisfaction and OCB. People who scored high on all four PsyCap dimensions also had significantly higher scores on OCB and intrinsic job satisfaction, compared to all other profiles. This finding goes to show that the combination of all four PsyCap dimensions does in fact relate more strongly to wellbeing and performance outcomes, and it provides evidentiary support for the synergy effect of the four dimensions. Furthermore, it provides evidence in favor of the composite PsyCap score thus responding to Dawkins (2014) ´s recommendation to further validate its use.

Although generally speaking, our study endorses the second-order structure of PsyCap, the exploratory Latent Profile Analysis revealed that there are also cases where the scores differ across the four PsyCap dimensions (Profile 1, Profile 2 and Profile 3).

Profile 1 revealed low scores on hope and self-efficacy and higher ones on resilience and optimism. Profile 2 is mirroring Profile 1 with high hope and self-efficacy and lower resilience and optimism. Thus, these two profiles show that there is a specific configuration where people tend to score similarly on optimism and resilience on the one hand, and on self-efficacy and hope on the other. Our results show that there

are communalities within these pairs of personal capacities, which are more pronounced for some individuals. We explain further these communalities in the following paragraphs, first for self-efficacy and hope, and then for resilience and optimism.

Out of the four PsyCap dimensions, self-efficacy and hope may have the most theoretical communality, since they are both cognitive sets which refer to expectancies for the future, individual goals and outcomes, and determine behaviour to a large degree (Magaletta & Oliver, 1999). Overall, both of them are based on a positive attitude towards the probability of achieving goal-related outcomes (Zhou & Kam, 2016). Moreover, self-efficacy and hope share the common component of agency: agency refers to the motivational energy necessary to pursue a goal and the self-referent beliefs about being able to achieve it (Snyder, 2000). Agency is a component of cognitive nature that enables one to take action in a desired direction and it is the central element that links self-efficacy and hope. The agency component was thus low in profile 1 (low self-efficacy and hope) and high in profile 2 (high self-efficacy and hope).

Given the results we obtained regarding the demographics, agency seems to be linked to age and educational level. People who were classified in the first profile (low self-efficacy and hope) were mostly over 35 years old with a compulsory education, and there were fewer than expected who had a university degree. Individuals with these characteristics are likely to perceive a lack of perspective and fewer goals in terms of career development, due to the socio-economic realities of the labour market that can be an explanation for a diminished agency. For example, there is evidence of an existing tendency on the Spanish labour market that favors the employability of younger workers over older ones (Benito Hernandez & Ramos Rodrigo, 2009). Also, the sample used in our study was predominantly from the service sector where more and more occupations nowadays require a university degree in order to ascend in position (Weller, 2006). This combination of factors somewhat limits the possibilities for professional development and progressing towards new goals, work positions or titles. This in turn, can inhibit goal-directed behaviour driven by future orientation that is the essence of agency.

The other PsyCap configuration revealed by profiles 1 and 2 is resilience and optimism. The well-known broaden-and-build theory by Fredrickson's (2001) offers some insight as to why these two capacities may go together. The broaden-and-build theory posits that positive emotions broaden people's repertoires of thoughts and actions when facing a difficult or stressful situation, thus leading to more endurance and

momentary resilience (Fredrickson et al., 2003). Although POB authors have underlined that self-efficacy, hope and optimism can all serve as pathways to resilience (Luthans, Vogelgesang, & Lester, 2006), hope and self-efficacy are more based on cognition and thought patterns, while optimism has an emotional component (Peterson, 2000). Thus, in accordance with broaden-and-build theory, optimism is most similar to resilience, as experiencing positive affect relates to a more active approach to difficulties, while negative affect is linked to passive copying and escape or avoidance strategies (Fredrickson, 2001; Fredrickson et al., 2003). Hence, one's level of optimism will also go hand in hand with one's resilience.

Regarding the demographics associated with this pair of capacities, higher resilience and optimism (Profile 1) were significantly associated with an age of over 35 years old. This finding is in line with some previous studies which have shown that older workers may have higher levels of optimism and resilience (Chopik, Kim, & Smith, 2015; Peña Vallejo, 2017; Wong et al., 2008). For example, there is evidence that older workers are more resilient and experience less strain and more positivity in the workplace than their younger colleagues who entered the job market later because they possess more social and personal resources accumulated throughout their experience (Rauschenbach & Hertel, 2011). In addition, younger workers tend to use more passive coping strategies compared to older workers who rely on problem-focused and active emotion-focused coping (Hertel, Rauschenbach, Thielgen, & Krumm, 2015).

In addition to the mirroring configurations of the PsyCap elements between Profile 1(low hope and self-efficacy and high resilience and optimism) and Profile 2 (high hope and self-efficacy and low resilience and optimism) there was also a significant difference in the scores on intrinsic job satisfaction between these two profiles. The people classified in Profile 2, high hope and self-efficacy, scored higher on job satisfaction than those in Profile 1 where hope and self-efficacy were lower. This result places emphasis on the agency component, as it shows that even with lower levels of resilience and optimism, those high in hope and self-efficacy (and thus agency) reported more intrinsic job satisfaction than those high on resilience and optimism. Thus, agency appears to be a unique contributor to intrinsic job satisfaction in our sample.

The final pattern that emerged from out data is shown in Profile 3 that had only one component where people would score lower self-efficacy, while the other three PsyCap dimensions were relatively high. In terms of demographics, belonging to this

profile was associated with having less formal education, and less than a year tenure and seniority. Having less experience in the workplace is clearly connected to lower levels of self-efficacy since self-efficacy is built through past successes (Bandura, 1995), and thorough the use of pre-existing cognitive skills to manage the current demands (Bandura, 1995). It is likely that employees with less tenure and seniority would feel less confident when dealing with their day-to-day tasks, since self-efficacy requires domain-specific and situation-specific experience. Successful accomplishment of specific tasks is more likely to happen with more time on the same job position or in the same company, so less work experience can be a viable explanation for the lower levels of self-efficacy in Profile 3.

Furthermore, those low on self-efficacy showed significantly lower levels of OCB than people in Profile 2 where self-efficacy and hope were high but resilience and optimism low. Again, this result makes the agency component stand out, since the combination of high self-efficacy and hope contributed more to OCB, compared to the combination of high hope, optimism and resilience.

Thus, our study shows that both in the case of OCB and intrinsic job satisfaction, the combination of high self-efficacy and hope appeared to be contributing to them, even when scores were lower on the other two PsyCap dimensions. Although the optimal configuration for reinforcing positive organizational outcomes is clearly high levels on all PsyCap dimensions, when this is not the case, agency, or having positive future expectancies and goal-directed motivation, is the next most important contributing factor.

Limitations

The first limitation has to do with the fact that we used a convenience sample and this does not allow us to generalize the results obtained regarding the configurations obtained for Profiles 1, 2 and 3. More analysis is needed in different samples to see if similar profiles emerge and if the configurations among the PsyCap components are consistent across other samples. Nevertheless, the demographic characteristics associated to the profiles help to provide reasonable explanations for the existence of the high-low and low-high configurations we obtained.

A second limitation of this work has to do with the statistical analysis used to test if there are differences between the profiles in terms of the outcome variables.

Although the use of ANOVA is warranted given that our main objective was to first test for the existence of profiles and then link them to outcome variables, this analysis obliges us to use and treat class membership as an observed variable (Clark & Muthén, 2009). This can be problematic because Latent Profile Analysis calculates the probability that individuals have to belong to a certain class. This means that there might be some cases of individuals who have much lower probability to belong to a certain profile than others, but when class membership is treated as an observed variable both are considered to have a 100% probability of belonging to that same profile. In other words the uncertainty of the classification is not accounted for when connecting them to distal outcomes, so it is a more narrow way of looking at the relationship between the profiles and the outcomes.

A third limitation has to do with the fact that we were not able to use the overall construct of job satisfaction, but only intrinsic job satisfaction to compare between profiles. However, this was done to ensure the statistical validity of the results from our analysis given the large discrepancies in the numbers of people across profiles.

Future studies that aim to do PsyCap profiling should test both types of job satisfaction, as well as include more outcome variables, such as supervisor-rated performance, turnover intentions, and different types of employee wellbeing to see how different PsyCap profiles relate to them. Such outcomes have been commonly linked to PsyCap and are important for the sustainability of organizations, so relating them to specific profiles would clarify which of the PsyCap dimensions contribute most to a particular outcome.

Furthermore, future works should explore causal relationships between the profiles with the use of longitudinal data. This approach would add great value to PsyCap profiling, especially if databases with more than 2 time points are used, as this allows for more sophisticated analyses, such as Latent Class Growth Modeling and Growth Mixture Modeling (Feingold, Tiberio, & Capaldi, 2014; Grimm, Castro-Schilo, & Davoudzadeh, 2013). In addition, we suggest that future studies should explore how PsyCap profiles may evolve over time through diary studies and exploring trajectories, to see in what way they affect organizational outcomes, which is important given the state-like nature of the PsyCap dimensions and the fact that they are not entirely stable over time, and consequently, the profiles they yield may also change over time.

Conclusions

To conclude, the general tendency revealed in this study is high scores across all four PsyCap components, which is in support of the unitary structure of PsyCap where its four dimensions converge into an underlying positive capacity and motivation. Yet, the existence of the smaller profiles is in line with Rego et al., (2010)' s proposal that future research should study simultaneously the effects of PsyCap as a second-order factor and the effects of each dimension separately, in order to obtain more detailed knowledge of how each component contributes (or not) to desirable outcomes.

There is also a need to replicate the profile analysis in different samples, including in ones that contain data from the primary sector, in order to check if the same profiles emerge, or there are other configurations for different samples or contexts. If a consistent tendency is discovered for profile emergence, it would be informative to use the individual PsyCap profiles as predictors of organizational outcomes, rather than the composite PsyCap score that tends to omit at least some information. That being said, in studies where PsyCap is not a central variable, the use of the composite PsyCap score is justified by a tendency for scoring in a similar way on all four dimensions.

CHAPTER 4

SELF-EFFICACY AND RESILIENCE: MEDIATING MECHANISMS IN THE RELATIONSHIP BETWEEN THE TRANSFORMATIONAL LEADERSHIP DIMENSIONS AND WELLBEING

4.1. Abstract

The objective of this article is to test the roles of self-efficacy and resilience as consecutive mediators in the relationship between the four dimensions of transformational leadership and wellbeing (operationalized as psychosomatic complaints and psychological distress). The sample consists of 225 social services employees in Spain. Data was gathered at two time points with a time lag of six months. We used path analysis to test the hypothesized model and Monte Carlo confidence intervals to check the significance of the indirect effects. Our results showed that only two of the four transformational leadership dimensions have a direct impact on self-efficacy: inspirational motivation and individualized consideration, although contrary to our hypothesis, the latter had a negative effect on self-efficacy. As for the indirect effects, self-efficacy did not mediate between the leadership dimensions and wellbeing, whilst resilience did mediate between self-efficacy and wellbeing. Self-efficacy and resilience did mediate consecutively between the leadership dimensions and wellbeing. Our findings emphasize the importance of the relationship between positive personal and organizational characteristics and the effect of these relationships on wellbeing at work.

Keywords: self-efficacy, resilience, transformational leadership, psychosomatic complaints, psychological distress

4.2.Introduction

Positive Organizational Behavior (POB), the study and application of positive psychological capacities in the workplace (Luthans, 2002), focuses on personal characteristics and how they can be used as helpful resources (Avey, Luthans, Smith, & Palmer, 2010; Luthans, Avey, Avolio, & Peterson, 2010). Self-efficacy and resilience are two such characteristics, emphasized by the POB literature as key adaptive mental mechanisms for both employees and managers. Self-efficacy is defined as "one's capabilities to organize and execute the courses of action required to manage a prospective situation" (Bandura, 1995, p.2), and resilience is defined as "the potential to exhibit resourcefulness by using available internal and external recourses in response to different contextual and developmental challenges" (Pooley & Cohen, 2010, p.1).

Self-efficacy and resilience have been linked theoretically and empirically to beneficial outcomes like performance and employee wellbeing (Cherian & Jacob, 2013; Youssef-Morgan & Luthans, 2007). At the same time, the POB literature considers self-efficacy and resilience to be state- like, developable constructs, which means that they can be influenced by factors of the organization, like for example leadership style (Avey, Hughes, Norman, & Luthans, 2008; Mazzetti, Guglielmi, Chiesa, & Mariani, 2016; Youssef & Luthans, 2007). In this sense, POB has underlined the role of self-efficacy and resilience as personal resources that could have an important mediating role between organizational factors and beneficial employee outcomes.

This study focuses on self-efficacy and resilience and their mediating role between transformational leadership (TL) as an organizational antecedent, and wellbeing as an outcome. Transformational leadership, a style based on follower development, has been found to influence followers' personal resources (Avey et al., 2008; Bass, 1999) and the importance of wellbeing in the workplace is quite apparent in today's fast-paced work life. We consider self-efficacy and resilience to be sequential mediating mechanisms between TL and wellbeing. First, we analyze the mediating role of self-efficacy between TL and wellbeing, by building on previous studies. Then we focus on resilience as an additional mediating mechanism, a role which is determined by resilience's relationship with self-efficacy. Our argumentation of self-efficacy and

resilience as serial mediators in the TL-WB relationship is based on Socio-Ccognitive theory, POB theory, as well as Conservation of Resources Theory (Hobfoll, 2002).

Different studies have provided evidence that the effects of TL on follower wellbeing are exerted through self-efficacy. For example, Nielsen, Yarker, Randall, & Munir, (2009) identified that self-efficacy fully mediates the relationship between TL and psychological wellbeing. Liu, Siu, & Shi, (2010) found that self-efficacy fully mediated the relationship between TL, and perceived work stress and stress symptoms. Nielsen & Munir (2009) found that followers' self-efficacy mediated the relationship between transformational leadership style and positive affective wellbeing.

These studies however, have measured TL as a molar construct even though it has four dimensions (Munir & Nielsen, 2009; Nielsen & Munir, 2009). Our work aims to address the recommendations of some authors, who argue in favor of using of the four dimensions separately, to explore the effects of each one (e.g. Deinert, Homan, Boer, Voelpel, & Gutermann, 2015; Hemsworth, Muterera, & Baregheh, 2013; van Knippenberg & Sitkin, 2013). Although the TL construct's structure has been questioned by some authors (e.g., Carless, 1998; Heinitz, Liepmann, & Felfe, 2005), there are other contributions that show sufficient support for the use of the four dimensions separately. For instance, the discriminant validity between the TL dimensions has been empirically confirmed in a large sample (Hemsworth et al., 2013) and some researchers have also found that each dimension has different correlates, for instance in terms of personality traits (Deinert et al., 2015).

Thus, research has found that the four dimensions have overall differentiated content and encompass different leader behaviors. In addition, various authors have put forward the notion that the precise cognitive and behavioral activities that occur in the leadership process have not been sufficiently researched (Hunter, 2016; Yukl & Michel, 2006). Although we expect that all the dimensions of TL will be related to self-efficacy, they may differ in the strength of that relationship, since we identify that some dimensions may have more potential to influence it than others. Therefore, we consider the four TL dimensions as separate antecedents, instead of the second-order construct, to extrapolate which ones have the strongest impact on followers' self-efficacy.

In addition to treating TL only as a core construct, different studies have considered different operationalizations of wellbeing, for example affective wellbeing

(Nielsen & Munir, 2009), job satisfaction (Nielsen et al., 2009), subjective wellbeing (Krishnan, 2012), stress symptoms (Liu et al., 2010). Research has found that results for the mediating role of self-efficacy differ depending on whether wellbeing is operationalized as physical (Munir & Nielsen, 2009) or psychological (Nielsen & Munir, 2009). For example, Nielsen & Munir, (2009) found that self-efficacy fully mediated the relationship between TL and affective wellbeing, but in another study, the same authors found that self-efficacy does not mediate the relationship between TL and sleep quality of followers (Munir & Nielsen, 2009). The physical and psychological elements are equally important for an overall sense of wellbeing, yet, to our knowledge, no previous longitudinal study considers them simultaneously. This limits researchers in making definitive conclusions about how both types of wellbeing are affected by organizational or personal resources. We tackle this matter by adopting a somewhat global approach to wellbeing that includes physical, as well as psychological components. Hence, we operationalize wellbeing in terms of psychosomatic complaints and psychological distress.

As previously mentioned, along with self-efficacy, resilience can also have a role in the TL-wellbeing relationship. Compared to self-efficacy, resilience has been studied less and usually in the context of acute stressors or highly adverse life situations (DiCorcia & Tronick, 2011). However, there is a growing awareness of the benefits of resilience to employees and organizations, as the speed of work processes increases and the line between work and personal life becomes more and more blurred (Jackson, Firtko, & Edenborough, 2007). Everyday setbacks and micro-stressors are a part of almost any job position, and resilience can be a key mechanism for managing them. It is considered a mechanism for adjusting to today's rapidly changing and uncertain organizational life (Shin, Taylor, & Seo, 2012) and a "process of regulating everyday life stressors" (DiCorcia & Tronick, 2011; p.1).

As a positive personal characteristic, resilience is tightly linked to self-efficacy since they share a common element: one's ability to persevere in the face of difficulty. The main difference is that self-efficacy perseverance refers to task accomplishment, and in the case of resilience, it refers to adapting to change and withstanding challenges (Schwarzer & Warner, 2013). Although there is no clear consensus in research about the direction of the relationship between the two constructs, Socio-Cognitive theory, as well as the Positive Organizational Behavior perspective, offer theoretical grounds that self-

efficacy can be an antecedent of resilience. According to socio-cognitive theory, self-efficacy provides the motivational foundation for resilience to emerge (Prilleltensky, Nelson, & Peirson, 2001), and according to POB, developing resilience largely depends on the one's level of self-efficacy (Luthans, Vogelgesang, & Lester, 2006). In line with this, we consider resilience as an outcome of self-efficacy. This places resilience as a mediator between self-efficacy and the two wellbeing outcomes (psychosomatic complaints and psychological distress). Hence, resilience comes in place as an additional mediator, after self-efficacy, between TL and wellbeing.

In this way, we empirically test a positive gain spiral in accordance with Conservation of Resources theory (CoR) which posits that personal and organizational resources almost never act independently from each other (Hobfoll, 2002). Rather, people aim to retain and build resources and such resources have a cumulative effect, and can "form building blocks one for the other" (Westman, Hobfoll, Chen, Davidson, & Laski, 2004). As we mentioned in the previous paragraph, we consider self-efficacy as a building block for resilience. Thus, in our theoretical model, transformational leadership contributes to increased self-efficacy, which then leads to resilience among employees, creating a "resource caravan"- an aggregate of linked resources, contributing to mental and physical wellbeing (Westman et al., 2004).

In summary, our objective is to test the roles of self-efficacy and resilience as serial mediators between the four TL components and wellbeing (operationalized as psychosomatic complaints and psychological distress). All described relationships can be seen in the following theoretical model in Figure 1.

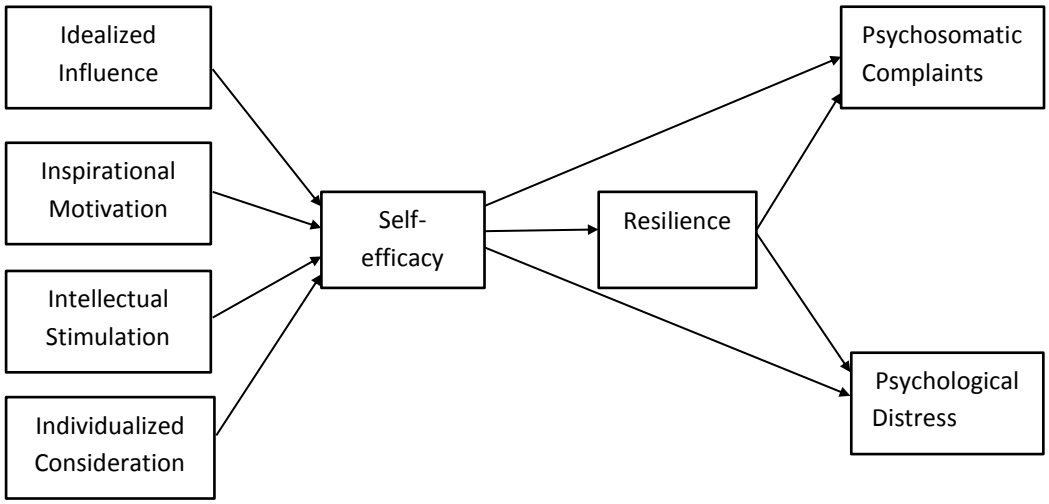


Figure 1. Theoretical Model

4.3.Self-efficacy as a mediator between TL and wellbeing

Transformational leadership and Self-efficacy

Self-efficacy is quite often considered a mediator through which transformational leaders exert their influence (Susanne Tafvelin, 2013). Although empirical studies have consistently linked overall TL to enhanced self-efficacy (Jung & Sosik, 2002; Munir & Nielsen, 2009; Nielsen, Yarker, Randall, & Munir, 2009), they have rarely taken into account the differences between the TL dimensions. Van Knippenberg & Sitkin (2013) point out that the majority of TL studies ''fail to specify how each dimension has a distinct influence on mediating processes and outcomes'' (p. 2). Previous research has shown the appropriateness of analyzing separately the relationship of each TL dimension with other correlates such as personality traits (Deinert et al., 2015). The characteristics and behaviors that the TL dimensions encompass are different, and so are the overall mechanisms through which they enhance self-efficacy, as is thoroughly explained further in this paper. Considering this, our study follows the recommendations by Sitkin & Van Knipperberg (2013) who emphasizes that good mediation theory about TL as a multidimensional construct requires that the conceptual case is made for the relationship between each individual TL dimension and the mediator. In this sense, we find it useful to test if there are some TL dimensions that contribute to follower self-efficacy more than others.

Therefore, we take a detailed look at the ways and mechanisms through which idealized influence, inspirational motivation, individualized consideration and intellectual stimulation affect follower self-efficacy.

The idealized influence (or charisma) dimension refers to the leader's ability to lead by example, to inspire followers and to instill a sense of mission (Bass, 1999). Charismatic leaders are confident and respectful of their followers, which instills a sense of belonging and pride in them (Bass, 1999). One of the key elements of idealized influence is that followers admire and identify with the leader. According to socio-cognitive theory, vicarious experience (or modeling) is a factor for developing self-efficacy, and it is especially effective when the person who is doing the modeling is identified with the model (Bandura, 1990). Since charismatic leaders themselves usually have high self-efficacy (Bass, 1990), by emulating the leader, followers are able to increase their own self-efficacy. Thus, we hypothesize that:

H1. Idealized Influence will relate positively to self-efficacy.

The next dimension, inspirational motivation, refers to a leader's ability to communicate in a clear way that unites followers and drives their efforts toward the achievement of organizational goals. Oral communication and positive feedback are key elements of inspirational motivation but also of social persuasion, one of the factors for developing self-efficacy. The leader's social persuasion helps build followers' self-assurance and belief in their ability to perform, and thus, increasing self-efficacy (Avolio, Gardner, Walumbwa, Luthans, & May, 2004). Also, studies have shown that when goals of employees are clear and well-communicated, self-efficacy increases (Dvir, Eden, Avolio, & Shamir, 2002). In addition to clarity, communicating encouraging messages makes followers more proactive and leads to increased self-efficacy (Rafferty & Griffin, 2004). Therefore, our next hypothesis is:

H2. Inspirational motivation will relate positively to self-efficacy.

Intellectual stimulation refers to the leader's ability to bring out the intellectual potential of followers by challenging assumptions, encouraging creativity and providing innovative ideas (Avolio, Bass, & Jung, 1999). Intellectually stimulating leaders are able to reframe stressful situations and therefore change the way followers experience those situations (Tafvelin, Armelius & Westerberg, 2011). They can also foster innovative problem solving and help followers improvise solutions, reassuring them in

their day-to-day work lives (Bass & Avolio, 1990). Thus, by presenting problems as necessary challenges and by offering a variety of solutions to work issues, an intellectually stimulating leader can help his followers succeed in their tasks. Experiencing success (enactive attainment) is a crucial factor in developing self-efficacy beliefs. Therefore, we hypothesize that:

H3. Intellectual stimulation will relate positively to self-efficacy.

The last dimension, individualized consideration, has to do with the degree to which the leader attends to each follower's needs, listens to their concerns and takes on the role of a mentor (Bass & Avolio, 1990). Individualized consideration enables the leader to recognize follower capabilities and to demonstrate appreciation for the value of their efforts, thus reassuring them of their importance for achieving desired outcomes (Bass, 1985; Bass & Avolio, 1990). This leads to increased self-efficacy through mentoring and support. In line with this, our next hypothesis is as follows:

H4. Individualized consideration will relate positively to self-efficacy.

Overall, we consider that vicarious learning and social persuasion are the two most important mechanisms through which self-efficacy can be enhanced. We base this premise on current literature from Positive Organizational Behavior which demonstrates that short training interventions for improving self-efficacy (some lasting no longer than 2 hours) can have an immediate impact on self-efficacy beliefs (Luthans, Avey, et al., 2006; Luthans et al., 2010; Luthans, Avey, & Patera, 2008). The interventions were found to have an effect through exercises based mainly on vicarious learning from peers and on social persuasion from the facilitators. As mentioned, those are the main mechanisms through which idealized influence and inspirational motivation operate; so, we expect that these two dimensions will affect self-efficacy to a higher degree than the other two dimensions.

4.4. Self-efficacy and wellbeing

Self-efficacy influences wellbeing via cognitive, motivational and affective processes, leading to attitudes and behaviors which can improve both mental and physical wellbeing (Bandura, 1995). In terms of cognition, self-efficacy beliefs can help one to reframe stressful or negative situations in a positive way, and thus lead to decreased psychological distress and reduced negative affect (Sumer, Karanci,

Berument, & Gunes, 2005; Wu et al., 2004). In terms of motivation, efficacious people are more capable of forming positive expectations about the future, which has been linked to higher wellbeing (Lyubomirsky, 2001). In terms of affect, self-efficacy strengthens emotional self-regulation and enables one to better control thoughts, feelings, and actions, which has been found to lead to better psychological health and wellbeing (Diehl, Semegon, & Schwarzer, 2006).

In addition, self-efficacy has been linked to higher life satisfaction, positive affect, and emotional wellbeing (Bandura, 2006). Furthermore, those high in self-efficacy are more likely to practice and maintain beneficial health behaviors, or to avoid unhealthy behaviors, leading to better overall physical welfare (Ashford, Edmunds, & French, 2010; Schwarzer et al., 2008). Self-efficacy also influences perceptions of stress by decreasing them, which in turn minimizes the health consequences of stress, such as somatization (Godin, Kittel, Coppieters, & Siegrist, 2005).

Given the beneficial effect of self-efficacy on wellbeing, and the literature which demonstrates that transformational leadership develops self-efficacy in followers, we hypothesize that self- efficacy will mediate between TL and wellbeing, as follows:

H5. Self-efficacy will mediate the relationship between the TL dimensions and psychological distress.

H6. Self-efficacy will mediate the relationship between the TL dimensions and psychosomatic complaints.

4.5. Resilience as an additional mediator in the TL- Wellbeing relationship

Resilience is currently seen as a "dynamic quality" which depends on an individual's circumstances (Richardson, 2002). Resilience enables adaptation to fluctuations at the workplace through flexibility of thought and action (Lee et al., 2013; Lengnick-Hall et al., 2011), it helps individuals to accept reality and find meaning in hardship (Coutu, 2002), and it aids recovery from setbacks and workplace disruptions (DiCorcia & Tronick, 2011; Shin et al., 2012). Resilience also enables one to gather, choose and use resources in order to react to workplace micro- stressors in an adaptive

manner. In this sense, it is expected to contribute to wellbeing by decreasing the effects of daily hassles on different wellbeing outcomes, such as psychosomatic issues (Frese, 1986), chronic fatigue and anxiety (Godin et al., 2005). Empirically, resilience has been related to wellbeing factors such as psychological adjustment to a context (Kohli & Mather, 2003; Woods, Isenberg, & Professor, 2001) and work stress management (Howard, 2008).

Resilience is also closely related to self-efficacy- both are positive personal characteristics and according to CoR theory (Hobfoll, 2002), it is unlikely that such personal characteristics affect wellbeing independently from one another. Instead, one characteristic would enhance the other and in this sense, it is the cumulative effect of those two resources that then affects the outcome. In alignment with this, we consider that possessing self-efficacy can serve as a step to the enhancement of resilience, and both of them serve as serial mechanisms to enhance wellbeing.

Socio-cognitive theory offers insights as to how the link between self-efficacy and resilience unfolds. Bandura himself noted that self-efficacy affects people's ability to be resilient (Bandura, 1997. p.3) and Rutter (1993) stated that resilience arises out of a belief in one's own ability to deal with change. The affective, motivational, and behavioral mechanisms that are activated by self-efficacy beliefs contribute to individuals' ability to adapt and be flexible in various situations, which is part of the definition of resilience (Schwarzer & Warner, 2013).

In particular, self-efficacy beliefs can provide a motivational foundation for resilience in two ways. On the one hand, self-efficacy is central to feelings of competence and control over a situation, both cognitively and behaviorally (Bandura, 1997; Benight & Bandura, 2004; Aspinwall & Richter, 1999). Feelings of control and competence enable one to respond in a proactive manner to the environment, which is a key element of resilience (Prilleltensky, Nelson, & Peirson, 2001). On the other hand, self-efficacy beliefs influence one's perceptions of difficulty and enable people to reframe situations from threats to challenges, thus allowing for a wider repertoire of behaviors (Bandura, 1977). The more people believe they can influence their surroundings, the more likely it is that they will frame a challenge or a setback as a learning experience, and as consequence, continue working through it (Luthans et al., 2006). In a sense, one's belief in his/ her ability to influence the situation can be seen as

a prerequisite for being able to persevere in the face of difficulty and, thus, to be resilient.

Another, more recent theoretical framework that supports the view that self-efficacy can be an antecedent of resilience is Positive Organizational Behavior. POB literature has pointed out that positive personal characteristics can build resilience (Prilleltensky, Nelson, & Peirson, 2001) and in the words of Luthans et al., (2006) ‘‘nowhere is this more apparent than in the relationship between resilience and confidence or efficacy’’ (p. 31). Moreover, both self-efficacy and resilience are elements of the second-order construct Psychological Capital (PsyCap), defined as “a positive appraisal of circumstances and probability for success based on motivated effort and perseverance” (Luthans, Avolio, et al., 2007, p. 550). Psychological Capital consists of four state-like characteristics: self-efficacy, resilience, hope and optimism (Luthans, 2007). According to the authoring team of PsyCap, self-efficacy, hope and optimism are all pathways to resilience, however, self-efficacy is the most important one for its development because it is related to openness to development and confidence in one’s abilities which leads to the ’’proactive, process-focused development of resilience’’ (Luthans et al., 2006, p. 7).

In addition to this, other researchers in the field of Psychological Capital theorize about the order in which the components of Psychological capital emerge in the process of pursuing a desired goal or outcome at work (Hsu, Wang, Chen, & Dahlgaard-Park, 2014). They point out that even though self-efficacy motivates people to put in effort in the work process, this does not always guarantee positive outcomes because of the many small obstacles that often emerge even when working on trivial tasks. This is when resilience comes into place, after a setback or even a failed outcome. Resilience enables people to evaluate realistically the situation, without focusing solely on negative aspects of it, adapt, and take new action (Hsu et al., 2014). The motivational foundation for this kind of resilient response comes as a consequence from self-efficacy beliefs (Hsu et. al., 2014).

Based on this rationale, and on the link between resilience and wellbeing, we propose that resilience will mediate the relationship between self-efficacy and the two wellbeing indicators.

H7. Resilience will mediate the relationship between self-efficacy and psychosomatic complaints.

H8. Resilience will mediate the relationship between self-efficacy and psychological distress.

4.6. Method

Sample and procedure

This sample consisted of employees and supervisors in public social services organizations (psychologists, educators, social and administrative workers, sociologists, technicians, administrative personnel) in the Valencian Community in Spain. As previously mentioned, social service providers experience a number of stressful work conditions such as scarce resources, difficult clients, role ambiguity and more (Lázaro, 2004). This makes them a convenience sample for the study 3, which focuses on self-efficacy and resilience as crucial personal characteristics of day-to-day work life.

There were two waves of measurement with a six-month time lag, in line with recommendations by De Lange, Taris, Kompier, Houtman, and Bongers (2004) who point out the importance of an appropriate time lag when health or wellbeing are outcome variables, and underline the need of carrying out more longitudinal research which used shorter time lags than one year, a very commonly employed lag. A shorter time lag is also more adequate for assessing variables such as self-efficacy and resilience, as recommended in PsyCap literature, since they are considered state-like constructs, which are malleable over time but are not as unstable as moods (Luthans et. al., 2007). In addition, the shorter time-lag in this study is in line with the recommendation in PsyCap literature to take into account the state-like nature (Luthans & Youssef-Morgan, 2017).

The social service centers were contacted by phone and logistics were discussed in a follow-up conversation with the centers that agreed to participate. Self-completion questionnaires were administered at the workplace of employees by members of the research team. Most questionnaires were filled out and gathered on site on the same day, although when this was not possible, questionnaires were given individually to participants and after being filled out at a convenient time for them, they were returned in a sealed envelope approximately four days later. Anonymity of the data was guaranteed.

We checked with the organizations whether or not subjects had changed team (both in terms of employees and supervisors) and to our knowledge, all the teams in T2 were composed only of the same individuals as in T1 (there were no new members of the teams, the only difference was the lack of the subjects which did not complete the survey at T2).

We obtained measurements from 603 subjects at the first data collection point (T1) and 431 at the second one (T2). The dropout rate from T1 to T2 was 28.5%. We compared the subjects who dropped out after T1 and those who continued, in order to see if there were significant differences between the samples, or if there is an external factor that separated the people who continued with the study and those that did not. In order to compare, we ran a one-way ANOVA and found no significant differences between the two groups at the $p < .05$ level for self-efficacy ($F(1, 598) = .06$, $p = .81$), resilience ($F(1,596) = .34$, $p = .56$), psychological distress ($F(1, 599) = 1.06$, $p = .31$) and psychosomatic complaints ($F(1,598) = 1.09$, $p = .30$).

The sample from T1 was matched to the one from T2 using a specific self-generated code to ensure that the answers of subjects at T1 and T2 are being matched correctly. Some participants had not completed the questionnaire both times but rather only in T1 or only in T2, so they were excluded from our data. In addition, other subjects were excluded from the data because of missing values on specific variables that were crucial to our analysis and objectives. We therefore had to eliminate those subjects and were left with the final longitudinal database that consisted of 225 subjects.

The average age was 37.06 (SD = 8.25) in T1 and 38.19 (SD = 8.45) in T2, 80% of the sample were women and 20% were men. Regarding education level, 20% of the sample had high school education, 39.1% had a bachelor's degree, 30.2% a master's degree, 0.9% a doctoral degree and 7.1% were junior staff.

The cases with more than 50% missing values were eliminated from the sample and for the rest of the subjects; missing values were imputed using the maximum likelihood procedure (Little & Rubin, 2014). Descriptive statistics of the variables did not change substantially after the imputation.

Measurement

Self-efficacy was measured at Time 1 with a 5-item Spanish adaptation of the professional self-efficacy scale (Grau, Martínez, Agut & Salanova, 2002). An example

item is "I can usually handle whatever comes my way in my work" and the response scale ranges from 1 (completely disagree) to 4 (completely agree). Cronbach's alpha of the scale was .86.

Resilience was measured at Time 2 with a 10-item version of the Ego-Resilience scale (ER-89) by Block & Kremen, (1996). A sample item is "I quickly get over and recover from being startled" and the response scale ranged from 1 (completely disagree) to 4 (completely agree). The ER-89 was chosen because it does not assume an exposure to trauma or extreme stress (Luthar, Cicchetti, & Becker, 2000), which makes it appropriate for using in a work environment. The reliability of the scale was .76.

Transformational leadership

Transformational leadership was measured at Time 1 with the short version of the Multifactor Leadership Questionnaire MLQ-5X (Avolio, Bass & Jung, 1999), translated into Spanish by Vega & Zavala, (2004). The questionnaire contains 4 items per dimensions, except idealized influence which has 8 items (as it is considered the most central element of this type of leadership), and 20 items in total. Examples of items for the four dimensions of TL are: "He/she makes me feel proud of working with him/her" (Idealized influence), "He/she speaks about the future in an optimistic way" (Inspirational Motivation), "He/she re-examines critical assumptions to question whether they are appropriate." (Intellectual stimulation), "He/she spends time to teach and to orient" (Individualized consideration). Responses were evaluated on a 5-point scale ranging from 0 (never) to 4 (always). Cronbach's alpha for individualized influence was .93, for intellectual stimulation .88, for individualized consideration .81, and for inspirational motivation .93.

Psychosomatic complaints were measured at Time 2 with a nine-item questionnaire, based on Cooper, Sloan & Williams, (1988). An example of an item is "Frequency of the occurrence of headaches and pains in your head for the last three months". The response scale ranged from 1 (Never or very rarely) to 6 (Very often), and Cronbach's Alpha was .84.

Psychological Distress was measured at Time 2 with 12 items from the General Health Questionnaire (GHQ) by Goldberg, (1992). An example of an item is "Have you

felt constantly under strain?" The response scale ranges from 1 (Not at all/ A lot less than usual) to 4 (A lot more than usual) and Cronbach's Alpha was .87.

Control variables

Age and gender were used as control variables, as they have been found to affect key variables in this study: wellbeing perceptions, self-efficacy and resilience. For instance, people from younger groups tend to report more psychosomatic symptoms (Nimnuan, Hotopf, & Wessely, 2001), and women have been found to report higher psychological distress (Matud, 2004) and higher psychosomatic complaints than men do (Nimnuan et al., 2001). Age can also affect self-efficacy and resilience, as both variables are linked to an individual´s previous experience (Schwarzer & Warner, 2013). As for gender differences, men tend to report higher levels of general self-efficacy than women (Kocalevent, Klapp, Albani, & Brahler, 2014). Therefore, we controlled for the effects of age and gender on all dependent variables. Age was used as a continuous numeric variable and gender was coded as a dummy variable with values of 1 for men and 0 for women.

Data Analysis

Preliminary CFA

Since the study uses the separate dimensions of TL, and not the second-order factor, we had to make sure that the use of the four dimensions is warranted from a statistical point of view as they have been shown to correlate highly in various studies, as is the case in ours.

Hence, we carried out Confirmatory Factor Analysis to compare a second-order model of the MLQ to a four-factor model (excluding the latent Transformational Leadership factor). The results revealed that both models fit our data well with almost identical fit: the indices for the Four factor model were: RMSEA=.067; TLI=0.93; CFI=0.94; SRMR=0.04; and for the Second-order model: RMSEA =.068; TLI=0.93; CFI=0.94; SRMR=0.04). To compare the models, we used the BIC- the model with a BIC that is minimum 10 units smaller is significantly better (Raftery, 1995). In our case, the difference between the BIC index of the four-factor model and the second-order model was only of one unit, showing that there is no significant difference between the two models.

Based on this, and the fact that both models showed good fit to our data, we consider it appropriate to use the four-factors separately, for two reasons. First, the four-factor model is preferable according to the principle of parsimony (Bentler & Mooijaart, 1989; Raykov, 2001), and second, it is in alignment with our research objectives. Focusing on separate variables through statistical techniques can be an important part of scientific analysis, because the dimensions of multidimensional constructs "represent different facets or manifestations of the construct" (Edwards, 2001, p. 7).

Structural equation modeling (SEM)

To test the proposed model we ran path analysis in the program Mplus 6. Firstly, we tested a model that did not include any mediators. Testing the direct effect of the four TL dimensions on the outcome variables psychosomatic complaints and psychological distress allows us to see the amount of variance explained by the Transformational Leadership dimensions and, afterwards by the mediators alone. Next, we tested the full theoretical model, where self-efficacy and resilience were modeled as consecutive mediators between the four Transformational Leadership dimensions and the wellbeing indicators. To estimate the model, we used Maximum likelihood, given that skewness and kurtosis for all variables were within limits). The model fit was assessed using the following fit indices: CMIN/ DF; RMSEA with confidence interval; CFI, TLI and SRMR.

Monte Carlo Confidence Intervals for Indirect Effects

The Monte Carlo (MC) method uses the asymptotic covariance matrix of the parameter estimates involved in indirect effects to generate a sampling distribution of this indirect effect (Preacher & Hayes, 2008; Preacher & Selig, 2012). The percentiles of this distribution are then used to construct confidence intervals for the significance of the indirect effect. This method has been found to be superior for estimating mediation compared to others, like for example product coefficients methods or bootstrapped confidence intervals (Preacher & Selig, 2012).

4.7.Results

Table 1 contains means, standard deviation, reliability coefficients and correlations between the variables included in the model. All variables are significantly correlated with the exception of inspirational motivation and psychosomatic complaints.

Table 1. Descriptive statistics and correlations between all study variables (N=225)

Variable	Range	M	SD	1.	2.	3.	4.	5.	6.	7.	8.
1. Idealized influence	0- 4	2.77	0.82	*.93*							
2. Intellectual stimulation	0- 4	2.59	0.86	.86**	*.88*						
3.Individualized consideration	0- 4	2.49	0.84	.86**	.82**	*.81*					
4. Inspirational Motivation	0- 4	2.70	0.89	.85**	.81**	.76**	*.93*				
5. Self-efficacy	1- 3	3.21	0.53	.26**	.25**	.15*	.32**	*.86*			
6. Resilience	1-4	3.03	0.39	.25**	.18**	.19**	.28**	.40**	*.76*		
7. Psychological Distress	1- 4	2.22	0.84	-.17*	-.17*	-.16*	-.16*	-.27**	-.34**	*.87*	
8.Psychosomatic complaints	1- 6	1.93	0.43	-.15*	-.14*	-.19**	-.12	-.19**	-.35**	.64**	*.84*

Note * p<.05; **p< .01.

The results from the structural equation modeling are represented in Figure 2.

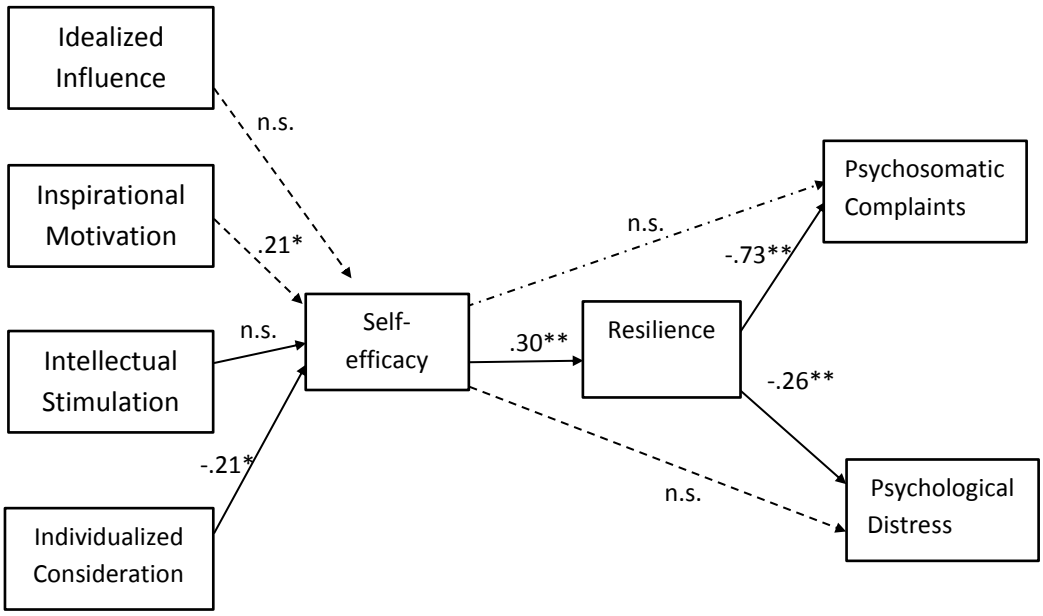


Figure 2. Final model based on results from structural equation modeling
Notes:*p ≤ .05; **p ≤ .01; Dashed lines represent paths that were not statistically significant. Control variables are omitted for clarity.

Direct effects

The testing of the direct effects of the TL dimensions on the wellbeing indicators did not reveal any significant direct effects neither on psychosomatic complaints, nor on psychological distress.

After incorporating the mediators, the hypothesized model (Figure 2) showed good fit to the data as seen in the fit indices: χ^2 = 21.580, DF = 12; CMIN/ DF= 1.79; RMSEA= .060 (CI 0.015- 0.102); CFI= .95, TLI= .89, SRMR= .05. No further modifications were made to the model. The path diagram in Figure 2 shows the standardized regression estimates. The effects of age and gender were not significant for any of the endogenous variables they were tested on.

H1 stated that idealized influence would relate positively to self-efficacy and H3 stated the same for intellectual stimulation. Both of these hypotheses are rejected, as idealized influence and intellectual stimulation did not have a significant effect on self-

efficacy. The direct effect of inspirational motivation on self-efficacy was positive and significant (β= .21, p= .013), therefore H2 is supported. Contrary to what was expected, the effect of individualized consideration on self-efficacy was negative and significant (β= -.21, p= .01), therefore H4 is rejected. Inspirational motivation accounts for 10% of the variance in self-efficacy, and individualized consideration for 2%.

The direct effect of self-efficacy was not significant for psychological distress, or for psychosomatic complaints. The effect of self-efficacy on resilience was positive and significant (β= .30, p= < .001) and it accounts for 20 % of the variance in resilience. Resilience had a negative effect on psychosomatic complaints (β= -.73, p= < .001), accounting for 15% of the variance and on psychological distress (β= -.26, p= < .001), accounting for 14% of the variance.

As can be seen in Table 1, the bivariate correlations between the TL dimensions and self-efficacy are all positive, while this is not the case for the regression coefficients in the path analysis. This is so because multiple regression only shows the unique effect of each TL dimension, and not the shared variance (partialling out the shared explanatory power), therefore it appears that inspirational motivation is the only dimension which produces unique variance within self-efficacy.

Indirect effects

As previously mentioned, the indirect effects (IE) were tested with Monte Carlo (MC) method for constructing confidence intervals, which show whether the mediated effects are significantly different from zero. Even though the direct effect of self-efficacy was not significant for psychological distress or for psychosomatic complaints, Monte Carlo estimation allows for testing the indirect effects when there is a non-significant path in the mediation. Results can be seen in Table 2, where the significant indirect effects are marked in bold.

Table 2. Estimates and Monte Carlo Confidence Intervals for the indirect effects

		95%CI	
Mediation paths	**Mediation parameter**	**Lower**	**Upper**
Idealized influence- SE- Psychosomatic complaints	-0.008	-0.028	0.013
Inspirational Motivation-SE-Psychosomatic complaints	-0.017	-0.069	0.028
Intellectual stimulation-SE-Psychosomatic complaints	-0.005	-0.026	0.01
Individualized consideration- SE- Psychosomatic complaints	0.016	-0.028	0.069
Idealized influence- SE- Psychological Distress	-0.019	-0.04	0.009
Inspirational Motivation-SE-Psychological Distress	-0.043	-0.078	0.02
Intellectual stimulation-SE-Psychological Distress	-0.013	-0.03	0.011
Individualized consideration- SE- Psychological Distress	0.041	-0.00019	0.057
SE- Resilience- Psychological Distress	**-0.143**	**-0.133**	**-0.025**
SE- Resilience- Psychosomatic Complaints	**-0.86**	**-0.344**	**-0.125**
Idealized influence- SE- Resilience- Psychosomatic complaints	-0.021	-0.068	0.018
Intellectual stimulation-SE- Resilience- Psychosomatic complaints	-0.014	-0.054	0.022
Inspirational Motivation-SE- Resilience- Psychosomatic complaints	**-0.048**	**-0.09**	**-0.01**
Individualized consideration- SE- Resilience- Psychosomatic complaints	**0.046**	**0.01**	**0.091**
Idealized influence- SE-Resilience- Psychological Distress	-0.014	-0.026	0.006
Intellectual stimulation-SE-Resilience- Psychological Distress	-0.009	-0.001	0.008
Inspirational Motivation-SE-Resilience- Psychological Distress	**-0.031**	**-0.035**	**-0.003**
Individualized consideration- SE-Resilience- Psychological Distress	**0.029**	**0.003**	**0.036**

H5 stated that self-efficacy would mediate the relationship between the TL dimensions and psychological distress. This hypothesis is rejected for all four TL dimensions as the indirect effects were not significant- the confidence interval contains 0. H6 stated that self-efficacy would mediate the relationships between the four TL dimensions and psychosomatic complaints. This hypothesis is also rejected for the same reason. Hypothesis 7 and hypothesis 8 are supported. Resilience mediates the relationship between self-efficacy and psychosomatic complaints (LL -0.34; UL -0.125), and between self-efficacy and psychological distress (LL -.133; UL -0.025) respectively.

Additionally, we tested whether self-efficacy and resilience consecutively mediate between the TL dimensions and psychosomatic complaints and psychological

distress. Their role as sequential mediators was supported for two TL dimensions. The effect of motivational inspiration on psychosomatic complaints via self-efficacy and resilience was significant (LL -0.09; UL -0.01), as well the indirect effect of individualized consideration on psychosomatic complaints via self-efficacy and resilience (LL 0.010; UL .091).

4.8. Discussion

This study aimed to test the role of self-efficacy and resilience as consecutive mediators in the relationship between the four TL dimensions and two wellbeing indicators: psychosomatic complaints and psychological distress. We also explored the relationship between self-efficacy and resilience, and whether resilience mediated the relationship between self-efficacy and wellbeing.

Firstly, our findings reveal details about the influence of TL on self-efficacy. By using the separate dimensions of TL, we wanted to have a more in-depth view of each dimension's contributions to followers' self-efficacy (van Knippenberg & Sitkin, 2013), and consequently to their resilience and wellbeing. Although the predominant part of the literature regards the core construct TL as an antecedent of self-efficacy (Liu et al., 2010; Nielsen et al., 2009; Susanne Tafvelin, 2013), our data shows that just two out of the four TL dimensions had a significant effect on followers' self-efficacy.

Moreover, only the inspirational motivation dimension of TL related positively to self-efficacy. Inspirational motivation is defined by clear, positive and productive communication with followers through which a leader is able to clarify the roles of followers, hence, they obtain a better comprehension of what is expected from them (Avolio et al., 1999; Bass, 1999). A clear understanding of one´s role in the workplace can contribute to a greater sense of control, which is central for self-efficacy (Bandura & Wood, 1989). The importance of clarity is also underlined by Chen & Bliese (2002), who have found that the more employees understand their role and task, the more efficacious they are. Also, the ability of the leader to articulate well the benefits of achieving objectives impacts follower self-efficacy because it gives a positive meaning to employee efforts. In addition, positive feedback, also a part of the inspirational

motivation dimension, affects followers' drive to persevere and mobilizes their efforts, thus increasing self-efficacy beliefs through social persuasion (Bandura, 1995).

In contrast, our results showed that idealized influence and intellectual stimulation had no significant effect on follower self-efficacy. Although considered the most important dimension of TL (Avolio & Bass, 1991), idealized influence' s effects can sometimes be overestimated, as they are highly dependent on individual beliefs and perceptions and prone to attribution biases of followers (Meindl, 1995; Shamir, House, & Arthur, 1993). As for intellectual stimulation, we predicted it would influence self-efficacy because it can act through enactive attainment (Bandura, 1995). The central element of intellectual stimulation has to do with enabling followers to think about problems in new ways (Rafferty & Griffin, 2004). Although this is likely to increase the probability of followers succeeding in resolving the problem at hand, it is also oriented towards specific tasks and concrete issues (Avolio et al., 1999). In this sense, intellectual stimulation could be more related to task-specific self-efficacy, rather than general occupational self-efficacy.

Overall, the non-significant relationship of two of the TL dimensions is in support of some authors who discuss the tendency in both literature and practice to attribute outcomes to leaders which are not really stemming from leadership (Meindl, 1995; van Knippenberg & Sitkin, 2013). In addition, the boundary conditions of transformational leadership are not extensively researched, as it might be the case that for certain people or in certain situation the TL dimensions can yield non-significant or negative results.

Related to this, an unexpected result in our work was that individualized consideration had a negative effect on self-efficacy, even though TL literature posits that the considerate leader encourages the belief in one´s capabilities by demonstrating appreciation and pointing out the importance of followers´ efforts (Avolio et al., 1999).

According to our results, however, the consideration dimension can influence followers' self-efficacy in a negative way. This finding opens up an interesting opportunity to explore the boundary conditions of TL in future research. In the case of the negative relationship we obtained, one possible boundary condition is dependency. Through individualized consideration, leaders might generate dependency among followers, leading them to perceive themselves as less capable of completing tasks

when the leader is not around. The same effect could exist if in his/her effort to assist followers, the leader gives them less of an opportunity to develop their own strategies for dealing with everyday work reality, which may decrease self-efficacy. These notions are supported by Kark, Shamir, & Chen, (2003) who found that TL predicts dependence in followers ($\beta = .49$, $p < .01$). This dependence leads to helplessness when the leader is absent and to a constant need for validation from him/her (Kark et al., 2003).

Another boundary condition that could explain the negative effect of individualized consideration on self-efficacy could be followers´ self-esteem. Leadership is a highly attributional phenomenon, which depends on followers' predispositions, states and beliefs (Shamir, House, & Arthur, 1993). One of the most distinctive elements of individualized consideration is mentoring, which may be interpreted as support by those with high self-esteem, but people with low self-esteem may interpret mentoring as doubt in their abilities to cope, leading to feelings of inefficacy (Dvir & Shamir, 2003).

Another element which can explain this negative relationship is the perceptibility of the support. Three experimental studies by Bolger & Amarel (2007) demonstrated that when subjects were aware that they were being supported, the effects from this support were either negative or non-significant. On the other hand, when participants were supported in a less explicit, more "invisible" way, outcomes were much more positive. The authors argue that this occurs because explicit support implies inadequacy of the followers, or low self-efficacy, while when the support offered is less obvious, people are much less likely to perceive themselves as inefficacious (Bolger & Amarel, 2007).

Overall, future research can tackle further the moderating roles that dependency, self-esteem, visibility of the support, and other boundary conditions have in the TL-self-efficacy relationship, as it would have practical implications for managerial practices and trainings.

Regarding the role of self-efficacy, our study provides empirical support for it as an antecedent of resilience, a role which has been theoretically outlined by Socio-Cognitive theory and Psychological Capital theory (Bandura, 1982; Hsu et al., 2014; Luthans et al., 2006). Self-efficacy was found to have a beneficial effect on wellbeing, but it is exerted only in an indirect manner through resilience. This finding contrasts

previous ones which link directly self-efficacy to wellbeing (Liu et al., 2010; Nielsen et al., 2009) while at same time it underlines the importance of resilience and demonstrates its role as an additional psychological mechanism for promoting work wellbeing (Richardson & Chew-Graham, 2016).

In addition to the mediation of self-efficacy between inspirational motivation and resilience, and the mediation of resilience between self-efficacy and wellbeing, we also found that both of them mediate sequentially the relationship between inspirational motivation and the wellbeing indicators. According to our results, it is the relationship between these two psychological resources, which can lead to reduce psychosomatic complaints and psychological distress. Although resilience is the variable which relates directly and negatively to psychosomatic complaints and psychological distress, the full mediation path illustrates how each variable reinforces the next one. This is coherent with CoR theory, postulating that personal resources generate more personal resources, but which also refers to organizational resources (Westman et al., 2004), such as leadership. Our results demonstrate how they can reinforce one another and have a cumulative beneficial effect on workplace outcomes, which within CoR theory is understood as a gain spiral (Hobfoll, 2002). This larger mediation path "inspiration motivation-self-efficacy-resilience-wellbeing" exemplifies such a gain spiral, where each resource reinforces the next.

The same mediation path was significant with the individualized consideration dimension of TL as an antecedent but, contrary to our hypothesis, the mediation parameter was positive, indicating that it actually related positively to distress and psychosomatic complaints. This result can be explained by the unexpected negative direct effect of individualized consideration on self-efficacy, examined earlier in the discussion.

Limitations

As every study, this one has limitations. Firstly, since we relied entirely on self-report methods, our data may be subject to common method bias (CMB) (Podsakoff et al., 2003). We have partially addressed this limitation by having a temporal separation between measurement points, which can reduce the probability of CMB (Podsakoff et al., 2003). Although another way for reducing CMB is using data from different sources, the nature of our variables is rather subjective (Avey, Luthans,

Smith, & Palmer, 2010) and it would not benefit from external ratings. This is especially true for psychosomatic complaints and psychological distress, as they are determined by personal perceptions of wellbeing and cannot be evaluated by another source (Wright, 2004).

Secondly, while having two measurement time points does increase confidence in our results, the use of a panel design does not allow us to claim causality in the hypothesized relationships. That said, our mediation model is grounded in theory and did fit our data well, perhaps future research can further test similar models in order to explore cause-effect relationships between personal and organizational resources.

A third limitation is related to the Transformational Leadership measurement tool- the MLQ. The dimensions/subscales of the MLQ have very high intercorrelations in our study. This poses a collinearity issue and suggests there might be a need for additional empirical evidence for using the MLQ dimensions as separate variables. However, we have taken measures to empirically show that the use of the four dimensions separately is warranted, by performing a CFA which showed that a four factor structure is an appropriate fit to our data. Overall, despite the high correlations obtained in our sample, a theoretical understanding of each of the separate TL subscales is useful, because, as pointed out by Hemsworth, Muterera & Baregheh (2013) a leader may score high on one dimension and low on another. With our study we answer the call of researchers who have advocated the exploration of each TL dimension and how it affects mediation processes (Deinert, Homan, Boer, Voelpel, & Gutermann, 2015; van Knippenberg & Sitkin, 2013). By understanding the difference between TL dimensions and the importance they have when influencing personal resources, managers can focus on the activities and behaviors that are most relevant to his/her objective.

Lastly, the current study has just two measurement points. Having more data measurement points would greatly improve the current work, as it would enable us to use more complex analyses and to see causal effects between variables. In future research, a minimum of three measurement waves would ensure a more methodologically accurate assessment of models similar to ours (Maxwell & Cole, 2007). However, our work is an advance on previous cross-sectional studies, which did not consider the mediation mechanisms in such detail.

Practical Implications

The current study reveals a gain spiral where increasing self-efficacy is related to an increase in resilience, and it also demonstrates the impact of that relationship on both physical and psychological wellbeing. However, leadership did not contribute to this chain of resources as we expected and this has some implications for practice. Although TL is generally seen as a positive organizational resource, in our study only inspirational motivation contributed to the enhancement of positive personal characteristics. Thus, our results emphasize the need for line managers and supervisors to exert behaviors and skills such as effective overall communication, clear goal communication, providing positive feedback and social persuasion in order to build followers' belief in their ability to perform.

Our study suggest that perhaps resources could be channeled toward the improvement of these behaviors and skills, while some costs in overall leadership training could be saved by focusing only on the most crucial characteristics for enhancing self-efficacy, through it resilience, and perhaps other positive personal characteristics. For instance, in light of our results, organizations can implement HR strategies which facilitate frequent and efficient communication between supervisors and followers. Such strategies would include reorganizing and redesigning communication channels, for instance work events, meetings or digital communication, in order to facilitate the flow of information.

These strategies seem applicable specifically to the area of social work which is highly stressful and emotionally demanding by its nature (Bell, Kulkarni, & Dalton, 2003), and that can affect the quality of communication. Social workers often encounter emotional and organizational stressors in their work which is why personal resources such as self-efficacy and resilience are of fundamental value in that field (Collins, 2007a). Maximizing communication effectiveness would enhance these personal characteristics in social workers, and thus contribute to their mental and physical wellbeing.

Conclusions

Our study analyzes the role of some personal characteristics as mediators between TL and wellbeing, demonstrating the importance of the relationship between these characteristics. Overall, our analysis helps to understand in a more detailed way

the mechanisms that underlie the relationship between organizational factors and well-being, ratifying personal resources that reinforce one another, and their importance for wellbeing.

CHAPTER 5

GENERAL DISCUSSION

The previous three chapters presented the three studies that have been carried out in order to achieve the specific objectives of the current doctoral thesis. The studies' aims, methodology and results have been commented in detail. The current Chapter 5 takes a comprehensive view and aims to provide an integrated discussion of the results for all studies, underline the important findings, draw specific conclusion, theoretical and practical implications, as well as point out the main limitations and outline new ideas for future research.

This thesis analyzes the construct Psychological Capital and its four dimensions hope, self-efficacy, resilience and optimism. Its general objective was to explore how the construct operates in a Spanish context. This objective was broken down in three parts, firstly, focusing on PsyCap's measurement and factorial structure by adapting and validating a questionnaire to Spanish context. Secondly, exploring the relationships between the four dimensions, taking a person-centered approach to it, and testing for individual PsyCap profiles, then linking these profiles to demographic variables, as well as checking how they relate to job satisfaction and performance. Thirdly, exploring the roles of two of the PsyCap dimensions (self-efficacy and resilience) as mediators between organizational antecedents and employee wellbeing. The following paragraphs provide a short summary of the findings in all three studies.

5.1. Summary of the findings

Study 1

Study 1 (Chapter 2) adapted and validated the PCQ12 questionnaire to the context of Spain. It also made some modifications to the scale, based on inconsistencies and

problematic items found in previous studies and validations in other countries, while simultaneously aiming to maintain most of the original scale to avoid proliferation.

In order to do that, we administered a version of the PCQ12 translated to Spanish according to established procedures, in a sample of 792 employees from 42 organizations. In this study we paid special attention to the factorial structure of the PCQ, and carried out EFAs to ensure item selection was optimal. After the first EFA we decided to eliminate one problematic item: item 4 from the Hope dimension, because it was cross-loading on another PsyCap dimension- self-efficacy, and we found this consistent with previous studies where this item had also been problematic. We also added an extra item to the optimism dimension since the original PCQ only has 2 indicators for optimism and that could be problematic from a methodological point of view. We went onto to test the results obtained in the EFA with a CFA, where we compared a one-factor model of the PCQ, a four-factor model and the established a second-order PsyCap model.

Results from the CFA showed that the one-factor model was not a good fit to our data, while the four-factor and second-order models both showed good fit, in favour of the four-factor model which yielded best results according to the fit indices. We also compared the modified version (without item 4 and with the added item to the optimism dimension) to the original PCQ12 version. The results were better for our modified version compared to the original.

We also found that the modified PCQ12 has adequate reliability, according to the indices Chonbach´s Alhpa, Rho and AVE. Convergent and discriminant validity of the scale also showed satisfactory results. We also tested the criterion validity of the scale by linking it to 3 criterion measures- job satisfaction, performance, and organizational citizenship behavior, testing the strength of the relationships. We concluded that the scale shows adequate criterion validity as all the criterion variables correlated significantly with the composite PsyCap score, as well as the subscales for each PsyCap dimension. The strength of the correlations was congruent with what has been found in previous studies, which use the same criterion variables.

Overall, the conclusion from Study 1 was that the modified PCQ12 showed support for the modified PCQ12 as a reliable and valid instrument for measuring Psychological Capital in the Spanish context.

Study 2

Study 2 (Chapter 3) took a person-oriented approach to the PsyCap construct and tested if there are individual profiles with high scores on some PsyCap dimensions and low scores on others. We used Latent Profile Analysis in a sample of 152 employees from various Spanish organizations and tested models with 2, 3, 4 and 5 profiles. Our results showed that a four profile model is the best fit for our data.

The four-profile model consisted of: Profile 1, where individuals had low self-efficacy and hope, and high resilience and optimism; Profile 2, where they had high self-efficacy and hope, and low resilience and optimism; Profile 3 where they had low self-efficacy and high hope, resilience and optimism; and Profile 4 where individuals had high scores on all PsyCap dimensions. The majority of the sample was classified in this last profile, showing evidentiary support for the unitary structure of PsyCap and its structure as a multidimensional construct, where people tend to score similarly across the four dimensions.

We went on to analyze if socio demographic variables (i.e. gender, age, educational level, job tenure and organizational seniority) are associated with belonging to a certain profile, since these variables have been linked in previous studies to the PsyCap dimensions. We used Chi-square test of independence and follow-up analysis of the standardized residuals to see distribution of the demographic characteristics according to profiles. Results showed that in profiles 2 and 4 there were no deviations from the expected distribution given the overall sample, while in profiles 1 and 3 there were.

Specifically, we found that individuals with lower formal education, who are over 35 years old, were more likely to belong to Profile 1 defined by low hope and self-efficacy and high resilience and optimism. People with lower formal education and less than a year job tenure and seniority were more likely to be classified in Profile 3, defined by low self-efficacy and high hope, resilience and optimism.

In addition to testing the association between the individuals´ demographics and the profiles, we also tested if there are differences in scores across the four profiles on in-role performance, intrinsic job satisfaction and OCB, with the use of ANOVA and Post-Hoc comparison. The results revealed that those people low on self-efficacy and

hope and high on resilience and optimism tend to have lower levels of intrinsic job satisfaction compared to individuals with high self-efficacy and hope and low resilience and optimism. Furthermore, individuals with high self-efficacy and hope and low resilience and optimism showed higher levels of OCB compared to individuals with low self-efficacy and high hope, resilience and optimism. The people who scored highly on all four PsyCap dimensions showed higher means of both OCB and intrinsic job satisfaction.

The main conclusion from Study 2 is that the unitary structure of PsyCap is valid and the vast majority of people tend to score similarly across the four dimensions. However, the existence of the other three individual PsyCap profiles reveal high-low and low-high configurations of, where there is synchronicity between hope and self-efficacy, on the one hand, and resilience and optimism, on the other. We concluded that these configurations are due to the predominantly cognitive nature of hope and self-efficacy and the emotional component pertinent to optimism and resilience.

Furthermore, an important conclusion drawn from study 2 is that in order to contribute to higher scores of intrinsic job satisfaction and OCB, the optimal scenario is having high levels of all four PsyCap dimensions. When this is not the case, it appears that the agency component is the next most important element of PsyCap which, contributes to higher levels of positive employee outcomes.

Study 3

Although the previous study showed that there is a synchronicity between optimism and resilience, in study 3 we focused on the relationship between self-efficacy and resilience, since there is more theoretical background which links the two, particularly from Socio-cognitive theory, which is the most developed one out of all theories behind the PsyCap elements. As mentioned previously, we also consider self-efficacy to be more relevant for the context in which the study was carried out, since PsyCap optimism is based on optimistic attributional style, and the positive psychology literature has pointed out that this style is not always adequate to all environments, especially ones that require vigilance and include high personal responsibility, as is the case of social workers. In addition, in study 3 we investigate the relationship between

self-efficacy and resilience, by considering self-efficacy to be an antecedent of resilience, rather than a simultaneously occurring capacity.

Thus, Study 3 (Chapter 4) focused specifically on self-efficacy and resilience as consecutive mediators between the transformational leadership (TL) components and two wellbeing indicators: psychosomatic complaints and psychological distress. In terms of the effects of TL on self-efficacy, the results from a SEM analysis showed that out of the four TL dimensions, only two had a statistically significant relationship to self-efficacy, and consequently to resilience and wellbeing. The dimensions inspirational motivation showed a significant positive effect on self-efficacy and, surprisingly individualized consideration had a significant negative effect on self-efficacy, which went against our hypothesis.

The indirect mediation effects were tested using Monte Carlo confidence intervals. Results revealed that self-efficacy and resilience consecutively mediate between the TL dimensions, and psychosomatic complaints and psychological distress, and diminish the perceptions of those wellbeing indicators. There was a significant mediation effect of motivational inspiration on psychosomatic complaints via self-efficacy and resilience, as well a significant indirect effect of individualized consideration on psychosomatic complaints via self-efficacy and resilience.

The main conclusions from this study are that only the inspirational motivation dimension contributes to developing followers' self-efficacy. Furthermore, self-efficacy and resilience consecutively mediate between motivational inspiration and psychosomatic complaints, on the one hand, and psychological distress on the other, diminishing the experience of both in followers. None of the TL dimensions, nor self-efficacy had a direct effect on the wellbeing indicators.

5.2. Theoretical implications

General theoretical implications can be drawn from the results of these three studies, and they are listed below.

1) Factorial structure of PsyCap in Spain

The conclusion from the validation study is that in a Spanish sample, there are two structures of the PsyCap construct which fit our data. One is the original second-order structure, established by PsyCap's authorship team, and the other one that fits the data even better is a four-factor model where the four components of PsyCap are intercorrelated first-order factors and there is no latent PsyCap factor. The study points out that both models can be used depending on the objectives of the researchers.

Our finding are congruent with others that have obtained better fit for alternative PsyCap structures than the original second-order one. As mentioned in Chapter 1 of the dissertation, the functioning of PsyCap seems to be influenced by North American culture, where the PCQ measure was developed. The majority of studies where the second-order structure of PsyCap is replicated are carried out in the United States (e.g. Avey et al., 2008; Luthans, Avey, Avolio, & Peterson, 2010; Luthans, Avey, Clapp-Smith, & Li, 2008; Avey, Patera, & West, 2006; Peterson, Luthans, Avolio, Walumbwa, & Zhang, 2011). However, our results are in line with other studies from countries such as South Africa, Romania, Portugal, which have shown other PsyCap structures, for instance a five-factor, or three factor models where some PsyCap dimensions are split into two or merged together, fit the data better (Du Plessis & Barkhuizen, 2012; Görgens-Ekermans & Herbert, 2013; Rego et al., 2010; Viseu, Jesus, Rus, Nunes, & Lobo, 2012).

Particularly in the Iberian Peninsula, there is evidence from Portugal that a four-factor first-order structure is a better fit in Portuguese samples (Rego et al., 2010; Viseu, Jesus, Rus, Nunes, & Lobo, 2012). Spanish studies have omitted the testing of a four-factor first-order model of PsyCap (e.g. Azanza, Domínguez, & Molero, 2014), however, one study does provide fit indices which demonstrate that a four-factor model is a better fit than a second order one (León-Pérez, Antino, & León-Rubio, 2017).

Considering the linguistic and cultural communalities between Spain and Portugal, it is possible that there is less convergence between the sub-dimensions in the context of Spain and Portugal, and that the PsyCap construct functions in a less unitary manner.

2) Unitary configuration of PsyCap

An important finding from Study 2 is that the overwhelming majority of our sample was classified in the profile where all scores on the four PsyCap components go

together and are rather high. This finding has theoretical implications as it provides evidence of the unitary structure of PsyCap, which has been questioned in previous literature. It goes to show that overall, there is, a synergistic relationships between the four PsyCap elements, in which high levels on one component are related to high elements on another. In this sense, our findings support the theory proposed by the PsyCap authorship team and are in line with the emphasis that has been placed on the communalities between the four dimensions, rather than the differences.

3) The grouping of PsyCap capacities into specific configurations

The findings from the Study 2 also highlight that there are two mirroring configurations of the four PsyCap dimensions: self-efficacy and hope tend to go hand in hand and the same goes for resilience and optimism. We have explained these configurations mostly with the nature of the constructs.

Particularly in the case of self-efficacy and hope, this is congruent with previous literature. Some general similarities between them are that both relate to positive future expectancies, agency and motivational elements; and both are about people´s proactive goal-directed thoughts, motivations and behaviors. The agency components of hope is also a part of self-efficacy, however, hope includes the additional mechanism of pathway thinking through which goals are accomplished. Zhouand & Cam (2016) point out that the conceptual and empirical similarities between hope and general self-efficacy are very significant, and they suggest that the literature on these two construct should be integrated, given that they correlate in a similar way with outcome variables and they have many operational similarities. Although in the case of PsyCap, self-efficacy is more domain-specific, and not general, our results are in line with the suggestion that self-efficacy and hope share more communalities between each other than with the other two PsyCap components.

The other PsyCap configuration revealed by profiles 1 and 2 is resilience and optimism. We have viewed the relationship between resilience and optimism through the prism of Frederickson´s Broaden-and-Built theory, which posits that positive views and emotions and an optimistic explanatory style are linked to higher resilience to

obstacles and adversity. Active coping with difficulties is also more likely to occur when positive affect is experienced while passive copying and avoidance strategies are employed when more negative affect is experienced.

It is important to keep in mind that these configurations only applied for a small fraction of the individuals in our sample, and although they give a clue as to how the PsyCap dimensions relate to one another, more research is necessary to establish if these configurations emerge consistently. However, our results provide an important first step to know how PsyCap profiles might be structured.

2) The importance of the agency component for PsyCap

The second study highlights the importance of the combination of hope and self-efficacy, and particularly the agency component, shared by the two, and its contribution to positive organizational behaviors and attitudes. Apart from having high levels on all PsyCap dimensions, the agency component seems to be the next most important contributor to citizenship behaviors and intrinsic job satisfaction.

Within socio-cognitive theory, the notion of agency is developed through an understanding of the individual as an agentic being, capable of exerting influence over the factors of one´s life and environment. According to Bandura's view of agency, it is what enables people to be proactive, self-regulating, rather than being reactive to their external environment. Socio-cognitive theory stresses the importance of personal agency as a self-regulatory mechanism that enhances people's ability to control their actions, exert more effort and overall manifest more positive and constructive behaviors in the workplace. Also, agency, as defined in socio-cognitive theory impacts internalization and determination in one's work (Bandura, 1982; Zhou & Kam, 2016).

In hope theory, agency refers to an individuals´ determination towards the pursuit of a goal in the past, present and future. In this sense, agency is the motivational component of hope and the mechanism that provides the mental energy to perform. The agency component of hope tends to reinforce the pursuit of approach goals, thus people high in hope-agency tend to strive for positive outcomes, rather than avoidance goals, in which they avoid negative consequences. Agency in hope has also been known to lead

to more positive affect, even when faced with difficulties (Snyder, Ilardi, Michael, & Cheavens, 2000).

Together, increased positive expectancies, agentic motivation, perceptions of control over stressful situation and increased positive affect can overall lead to a positive cognitive and affective processing of the reality (Hannah & Luthans, 2008). Our findings highlight the crucial role that the combination of these elements plays in organizations and the positive attitudes and behaviors of employees.

3) The relationship between self-efficacy and resilience

In study 3 we found that self-efficacy can serve as an antecedent of resilience. Our findings go in line with the literature on PsyCap, and self-efficacy in particular, which has underlined that resilience in a taxing environment is partially based on self-efficacy perceptions. We have empirically tested self-efficacy as an antecedent of resilience. Thus, our analysis provides support for the notion that the motivational and cognitive components that make up self-efficacy can lead to increased resilience, as is posited in the socio-cognitive and PsyCap theory. Having higher self-efficacy beliefs leads to greater willingness to take actions and thus, helps people bounce back from setbacks.

We also underline the importance of these two capacities for the particular sample of social workers, where putting in the necessary effort does not always guarantee positive outcomes because of the many difficulties and unpredictable factors in the work of such professionals. Thus, resilience and adaptability is one more step necessary in the process that can lead to wellbeing, as it enables individuals to evaluate realistically a difficult situation, without exaggerating the negative aspects of it, and come up with new strategies and actions for dealing with difficulties. Our analysis partly relates to the work of Hsu et al., (2014) who posited that understanding the mechanisms of the PsyCap dimensions and how they relate to one another can help to mobilize employees and contribute to their overall wellbeing, along with other positive employee outcomes.

4) The boundary conditions of transformational leadership and its effects on followers' efficacy beliefs, and the value of studying the TL dimensions separately

Over many years, it has been pointed out in the literature that the main value of TL is that it facilitates follower development and self-efficacy in particular. Although there is generally a good understanding of how transformational leader behaviors operate, their boundary conditions are not well understood in relation, and in study 3 we discuss them in relation to self-efficacy.

Our results however showed that only inspirational motivation contributed to the enhancement of self-efficacy, and individualized consideration showed to have a negative effect on it. We suggested that this negative effect could be explained with 3 possible boundary conditions: 1) leaders who are too attentive may create dependency in followers; 2) self-esteem levels of the followers can influence how the leaders' support is perceived; and 3) the visibility of the leaders' support can play a role in how followers interpret it. This analysis could contribute to the overall scarce literature on the boundary conditions of TL.

Furthermore, the results from study 3 provide evidence that there is a value in studying the TL dimensions separately, in line with recommendations by van Knippenberg & Sitkin, (2013). This type of analysis allows us to explore how specific leader behaviours are related to employee outcomes and well-being. Our findings reveal that, indeed, in a sample of social workers, the TL dimensions can have very distinct relationship with employee beliefs.

In addition, the results from study 3 are also connected to the literature that criticizes the overwhelming amount of attention which is paid to leadership as a force in organizations. This is illustrated by the non-significant relationship between individualized influence and intellectual stimulation and followers' efficacy beliefs.

5) Positive gain spirals and PsyCap capacities

The findings from study 3 place emphasis on the possible positive gain spiral inspirational motivation-self-efficacy-resilience-wellbeing. Our results showed no direct effect of TL on wellbeing which is congruent with some previous studies (e.g. Tafvelin, Armelius, & Westerberg, 2011), and neither did we obtain direct effects of self-efficacy

on wellbeing. Thus, wellbeing indicators were affected by the consecutive cumulative influence of all the elements included in the gain spiral. This has theoretical implications for the PsyCap literature, as it highlights the importance of PsyCap dimensions as consecutive connecting mechanisms that can transfer and foster the influence of organizational resources onto employee outcomes. In fact, all the PsyCap elements are likely to serve as links in positive gain spirals, since they are psychological resources that can easily have a synergistic effect not just among each other, but also with other resources provided by the organization.

5.3.Practical implications

The practical implications from the studies carried out in this thesis are several; most of them can be drawn from studies 2 and 3, as study 1 had a methodological orientation.

Firstly, our results highlighted the importance of agency, the shared underlying component of hope and self-efficacy, as a contributor to positive organizational behaviors and attitudes. Managers and organizations should therefore pay more attention to this component and its functioning and reinforce the idea of employees as active, independent agents who can exert control over their environment and can improve workplace behaviors and job satisfaction.

Agency can also be trained in interventions and trainings on PsyCap, where special emphasis can be placed on the notion of goal-directed energy and motivation. Trainings should involve exercises such as personal reflections on one's agency, as well as activities and cognitive restructuring techniques which enhance employee perceptions of internalized control and determination (e.g. Luthans, 2007). In addition, it is important for managers and leaders to raise awareness and to encourage employees to know their realistic capability to influence the environment while taking into account, evaluating and using the resources available to do this. Verbal persuasion and an emphasis on the positive outcomes that individuals and the organization will obtain are a viable way to enhance agency in employees.

Secondly, study 2 also provides interesting information regarding which demographic groups are more likely to have lower levels of certain PsyCap dimensions.

Therefore, this can be taken into account by trainers and HR professionals when designing PsyCap interventions and trainings for these specific audiences.

Our results revealed that people with less formal education and over 35 years old tend to have lower levels of hope and self-efficacy. Thus, PsyCap interventions for such target groups should focus extensively on hope and self-efficacy development. Of course, pre-evaluation of the levels of PsyCap capacities for groups with similar demographic characteristics should be carried out to confirm that hope and self-efficacy are indeed the capacities which most need training out the four. We also found that self-efficacy tends to be lower for people with less formal education and less than a year job tenure and seniority. Thus, PsyCap interventions targeted at such professionals can increase the amount of activities and exercises aimed at building self-efficacy.

Adapting the interventions to the demographic particularities of audiences will help to minimize time and costs associated with training and development of personnel as it will only aim at developing what most needs to be developed in employees.

Thirdly, there are implications from study 3 which refer to leadership. Specific leadership behaviors which emerge from our results as most important for the development of self-efficacy and resilience in employees include clear and constructive communication with followers, productive and positive feedback and verbal persuasion. Focusing on specific behaviors instead of developing interventions based on a full theory of positive leadership styles (such as transformational) can allow for much more meticulous and parsimonious designs, which can save organizations costs and time. Leadership trainings can be designed in a more efficient way where time and resources are allocated to communication improvement between leaders and followers.

In addition, HR managers can assist leaders by coming up with policies which facilitate the flow of communication between supervisors and followers, by focusing on improving the design of communicational channels and utilizing digital technology in a clear and constructive way to maximize the quality and efficiency of the informational flow and feedback. In this sense, through assisting leaders in communicating more efficiently, HR professionals can contribute indirectly to improving follower self-efficacy, facilitating the development of this positive psychological resource.

Finally, study 3 showed the important role of self-efficacy and resilience as mechanisms which lead to wellbeing of workers, particularly in the social services

sector. Our findings showed that there was no direct effect of leadership on wellbeing but that this effect passed through self-efficacy and resilience. Leadership development tends to get more attention in Spanish organizations in comparison to developing the psychological capacities and resources of workers. One of the reasons for this is that there is still a predominant understanding that capabilities such as goal-directedness, agency, optimism and positivity are fixed traits and therefore much more difficult to influence than the behaviors and styles of leaders. However, an important implication from study 3 points in the direction that it is necessary to continue working on changing this perception and develop employee psychological resources, such as self-efficacy and resilience, in order for the effects of positive leadership behaviors to truly influence employee outcomes such as wellbeing.

CHAPTER 6

RESUMEN

La presente tesis doctoral analiza el constructo Capital Psicológico o PsyCap**.** El PsyCap se define como un estado de desarrollo psicológico positivo de un individuo y se caracteriza por: "(1) tener confianza (autoeficacia) para asumir y hacer el esfuerzo necesario para tener éxito en tareas retadoras; (2) hacer una atribución positiva acerca de tener éxito en el presente y en el futuro (optimismo); (3) perseverar hacia los objetivos y, cuando sea necesario, redirigir los esfuerzos y buscar varios caminos para tener éxito y lograr los objetivos (esperanza); y (4) cuando uno se enfrenta a adversidades y problemas, mantener el esfuerzo y recuperarse e ir incluso más allá para alcanzar el éxito (resiliencia)" (Luthans et al., 2007, p. 3).

Se ha llevado a cabo una revisión de la literatura, enfatizando ciertos aspectos problemáticos que han surgido en la literatura sobre el PsyCap. En primer lugar, existe un debate sobre la estructura unitaria del constructo PsyCap, a partir del cual se propone la necesidad de explorar más a fondo el uso de la puntuación compuesta del PsyCap, ya que omite información sobre las variaciones individuales en cada una de las dimensiones del PsyCap.

En segundo lugar, hay una falta de estudios sobre cómo se relaciona el Psycap con los antecedentes de la organización y los resultados de los empleados en un contexto europeo.

En tercer lugar, es necesario tener en cuenta los factores contextuales del trabajo y cómo afectan al PsyCap de los individuos. La disertación actual pone el énfasis en los comportamientos de liderazgo como antecedentes organizativos y el bienestar como resultado.

Finalmente, a partir de la revisión de las escalas más utilizadas para medir el PsyCap, describimos algunas de las limitaciones de una de las más utilizadas, el PCQ-12 y realizamos la validación de una versión modificada.

Los objetivos de la presente tesis doctoral se han diseñado teniendo en cuenta todos estos aspectos problemáticos que se han señalado en la literatura.

Objetivos

El objetivo general de la presente tesis es investigar el constructo Capital Psicológico y sus cuatro dimensiones- esperanza, autoeficacia, resiliencia y optimismo en el contexto español.

Este objetivo general se ha desglosado en los siguientes 3 objetivos específicos:

1) Adaptar y validar una versión corta del Cuestionario de Capital Psicológico de 12 items al contexto español
2) Explorar si las relaciones entre las dimensiones del PsyCap resultan en perfiles individuales basados en las dimensiones del PsyCap; analizar si las variables si la pertenencia a los perfiles se asocia con variables socio-demográficas y poner a prueba cómo los diferentes perfiles se relacionan con la satisfacción y el desempeño.
3) Poner a prueba la relación entre dos elementos de PsyCap, la autoeficacia y la resiliencia, y su papel mediador entre los antecedentes organizacionales (liderazgo transformacional) y el bienestar individual

Para alcanzar estos objetivos se han desarrollado tres estudios, cada uno dirigido a la consecución de un objetivo específico. En los siguientes párrafos se describen dichos estudios, sus resultados y las conclusiones generales que se han obtenido a partir de ellos.

Metodología y Resultados

El **estudio 1**, titulado "Validación de una versión modificada del Cuestionario de Capital Psicológico (PCQ12) en España", se centra en validar y adaptar la escala PCQ12 en el contexto español. Esa escala, en su versión original, contiene 3 items para medir la autoeficacia, 4 para esperanza, 3 para resiliencia y 2 para optimismo.

Para llevar a cabo la validación, hemos hecho una revisión de los estudios y validaciones previas de esta escala en diferentes países y hemos visto que la estructura del constructo PsyCap tiende a ser incongruente en las diferentes muestras. Además, hemos identificado dos items que han sido problemáticos en varios estudios, saturando en factores que no correspondían a su asignación en base a la teoría y el contenido del ítem (ítem 4 de la dimensión esperanza e ítem 9 de la dimensión resiliencia).

En el estudio hemos planteado algunas modificaciones a la escala original para mejorarla. Por ejemplo, hemos añadido un ítem a la dimensión de optimismo, ya que solo tiene 2 indicadores en la escala original, lo que puede suponer una debilidad metodológica. En general, nuestro objetivo era modificar la escala para que fuera más equilibrada, buscando obtener un instrumento con 3 items para cada dimensión, manteniendo, así, el número de items en 12. Para ello, hemos dado a los participantes un cuestionario con 13 items, manteniendo inicialmente los 4 items para esperanza e incluyendo 3 para cada una de las restantes dimensiones. Hemos aplicado el procedimiento estándar de traducción inversa de Brislin, (1970).

Los cuestionarios se administraron en una muestra de 792 empleados de 43 organizaciones españolas. En cuanto a los análisis de datos, se llevó a cabo una validación cruzada, distribuyendo la muestra total en dos muestras extraídas de forma aleatoria y realizando posteriormente en una de ellas un Análisis Factorial Exploratorio y en la otra un Confirmatorio.

Los resultados del Análisis Factorial Exploratorio con rotación oblicua (Promax) mostraron que el Ítem 4 de la dimensión esperanza saturaba predominantemente en otro factor (autoeficacia). En base a estos resultados y a los obtenidos en validaciones previas en las que este ítem había sido problemático, decidimos eliminarlo de la escala. Repetimos el análisis Factorial exploratorio obteniendo una factorización en la que todos los items saturaban en la dimensión correspondiente. Posteriormente verificamos estos análisis con el Análisis Factorial Confirmatorio en la otra muestra, comparando 3 modelos del PCQ: un modelo de un factor, un modelo de cuatro factores de primer orden correlacionados, y el modelo establecido de segundo orden.

Los resultados mostraron que el modelo de un factor no ajustaba bien con nuestros datos, mientras que los modelos de cuatro factores y el de segundo orden presentan un buen ajuste. El modelo de cuatro factores es el que obtuvo mejores índices de ajuste. También comparamos la versión modificada (sin el ítem 4 y con el ítem

añadido a la dimensión de optimismo) con la versión original de PCQ12. Los resultados fueron mejores para nuestra versión modificada en comparación con la original.

También encontramos que el PCQ12 modificado tiene una fiabilidad adecuada, según los índices Chronbach's Alhpa, Rho y AVE. La validez convergente y discriminante de la escala mostró resultados satisfactorios. También obtuvimos una validez de criterio de la escala satisfactoria en relación los siguientes criterios: satisfacción laboral, desempeño y conducta de ciudadanía organizacional (OCB). Así pues, la escala muestra una validez de criterio adecuada ya que todas las variables criterio correlacionaron significativamente con la puntuación compuesta de PsyCap, así como con las cuatro subescalas de PsyCap.

En general, del estudio 1 cabe concluir que el PCQ12 modificado es un instrumento fiable y válido para medir el PsyCap en el contexto español.

Una implicación importante de estos resultados tiene que ver con la estructura del constructo y la escala. Aunque nuestros datos mostraron que el modelo de cuatro factores era preferible, el modelo de segundo orden también ajusta bien a los datos. Por lo que concluimos que ambas estructuras del PCQ12 pueden ser utilizadas de manera flexible por los investigadores en función de sus objetivos y planeamientos teóricos.

Concretamente, la investigación orientada a la predicción de variables organizacionales debería utilizar la puntuación total de PsyCap porque es más parsimoniosa y simplifica los análisis estadísticos. Desde un punto de vista práctico, un concepto multidimensional es más útil porque permite la generalización y, además, el PsyCap ha demostrado ser un mejor predictor del rendimiento laboral y el bienestar de los empleados que sus elementos constitutivos por separado.

Sin embargo, los elementos del PsyCap también pueden funcionar de forma independiente entre sí; las personas podrían tener una puntuación más alta en algunas dimensiones del PsyCap y menor en otras. Los investigadores interesados en analizar los aspectos diferenciales entre las cuatro dimensiones y sus relaciones con diferentes variables criterio pueden hacerlo utilizando las cuatro dimensiones de la escala validada.

El segundo estudio está relacionado con esta cuestión, y trata de analizar si existen diferentes perfiles al considerar las cuatro dimensiones del PysCap.

El **estudio 2**, ¨Perfiles Individuales de Capital Psicológico en una muestra española¨ adopta una perspectiva centrada en el individuo en relación con el PsyCap. Este estudio pretende comprobar cómo puntúa la gente a través de las cuatro

dimensiones del PsyCap e identificar diversos perfiles individuales empíricos. De esta forma, se pone a prueba si el constructo PsyCap tiene una estructura unitaria, tal y cómo ha establecido el equipo que ha venido desarrollándolo, o si, a veces, los cuatro elementos son más independientes de lo que cabría esperar.

En este estudio hemos utilizado una muestra de 1752 empleados de diferentes organizaciones españolas y hemos realizado un Análisis de Perfiles Latentes poniendo a prueba modelos con 2, 3, 4 y 5 perfiles. Los índices de ajuste indican que el modelo que mejor ajusta a nuestros datos es el de cuatro perfiles. El perfil 1 se caracteriza por baja autoeficacia y esperanza, y alta resiliencia y optimismo; el perfil 2 se caracteriza por alta autoeficacia y esperanza, y baja resiliencia y optimismo; el perfil 3 por baja autoeficacia y altas esperanza, resiliencia y optimismo; y el perfil 4 por altos niveles en todos los componentes del PsyCap. Una gran mayoría de la muestra se clasificó en el Perfil 4, lo que va a en línea con la literatura previa del PsyCap, mostrando apoyo para la estructura unitaria del PsyCap, según la cual las personas tienden a puntuar de forma similar en las cuatro dimensiones. De todos modos, es interesante constatar que empíricamente se producen otros perfiles que tienen su interés teórico y diagnóstico.

Una vez identificados los perfiles, evaluamos su caracterización en función de diversas variables sociodemográficas, específicamente, el género, la edad, el nivel educativo, la antigüedad del puesto y la antigüedad organizacional. Todas estas variables se han relacionado en estudios previos con las dimensiones del PsyCap. Utilizamos la prueba de independencia Chi-cuadrado y el análisis de los residuales estandarizados para ver la distribución de las características demográficas en cada uno de los perfiles. Los resultados mostraron que en los perfiles 2 y 4 no hubo desviaciones de la distribución esperada dada la muestra global, mientras que en los perfiles 1 y 3- sí se obtuvieron desviaciones.

Específicamente, encontramos que las personas con menor educación formal, y con edades superiores a los 35 años, tenían más probabilidades de estar incluidas en el perfil 1 caracterizado por baja esperanza y autoeficacia y alta resiliencia y optimismo. Las personas con menor educación formal y con menos de un año de antigüedad en el puesto y en el trabajo tenían más probabilidades de ser clasificadas en el perfil 3, definido por baja autoeficacia y altas esperanza, resiliencia y optimismo.

Además de probar la asociación entre los perfiles y los datos demográficos de los individuos, también probamos si existen diferencias entre los cuatro perfiles en cuanto a los niveles de desempeño intra-rol, satisfacción laboral intrínseca y OCB. Para

ello, realizamos diversos ANOVA y comparaciones post-hoc. Los resultados revelaron que no hay diferencias significativas en cuanto a desempeño intra-rol. Las personas con baja autoeficacia y esperanza y alta resiliencia y optimismo tienden a tener niveles más bajos de satisfacción laboral intrínseca en comparación con las personas con alta autoeficacia y esperanza y baja resiliencia y optimismo. Además, las personas con alta autoeficacia y esperanza y baja resiliencia y optimismo mostraron niveles más altos de OCB en comparación con las personas con baja autoeficacia y alta esperanza, resiliencia y optimismo. Las personas que obtuvieron puntaciones altas en las cuatro dimensiones del PsyCap fueron las que mostraron mayores promedios de OCB y satisfacción laboral intrínseca.

Así pues, la estructura multidimensional del constructo se valida de forma más amplia por la relación del perfil 4 con las variables dependientes. La combinación de los niveles elevados en las cuatro dimensiones del PsyCap es la que presenta valores más elevados en el bienestar y en el desempeño OCB, suponiendo un apoyo para el efecto de sinergia entre las cuatro dimensiones del PsyCap. Además, estos resultados aportan evidencia a favor de la puntuación compuesta del PsyCap, respondiendo así a la recomendación en la literatura para validar su uso.

El análisis de perfiles latentes ha revelado también que hay casos en que las puntuaciones difieren en las cuatro dimensiones del PsyCap (perfil 1, perfil 2 y perfil 3). Nuestros resultados muestran que hay perfiles alto-bajo y bajo-alto donde, por un lado, hay puntuaciones similares en autoeficacia y esperanza y, por otro, en resiliencia y optimismo. Concluimos que estas configuraciones se deben a que la esperanza y la autoeficacia se basan más en la cognición y los patrones de pensamiento, mientras que el optimismo y la resiliencia tienen un componente emocional.

Además, la autoeficacia y la esperanza tienen mucho en común, ya que ambas son conjuntos cognitivos que se refieren a las expectativas sobre el futuro, los objetivos y resultados individuales, y determinan el comportamiento en gran medida (Magaletta y Oliver, 1999). En general, ambas se basan en una actitud positiva hacia la probabilidad de lograr resultados relacionados con los objetivos (Zhou y Kam, 2016). Además, la autoeficacia y la esperanza comparten el componente común de la agencia (agency): esta característica se refiere a la energía motivacional necesaria para alcanzar un objetivo y las creencias autorreferentes para lograrlo (Snyder, 2000).

Teniendo en cuenta los resultados que obtuvimos con respecto a los datos demográficos, la agencia parece estar vinculada a la edad y al nivel educativo. Las

personas con baja autoeficacia y esperanza eran en su mayoría mayores de 35 años con una educación obligatoria. Es probable que las personas con estas características perciban una falta de perspectiva y menos objetivos en términos de desarrollo de carrera, debido a las realidades socioeconómicas del mercado laboral que puede ser una explicación para una agencia disminuida.

En general, nuestro estudio muestra que tanto en el caso del OCB como en la satisfacción laboral intrínseca, la combinación de alta autoeficacia y esperanza parecía estar contribuyendo, incluso cuando las puntuaciones eran más bajas en las otras dos dimensiones del PsyCap. Aunque la configuración óptima para reforzar los resultados organizacionales positivos es claramente altos niveles en todas las dimensiones del PsyCap, cuando este no es el caso, la agencia, que se refleja en tener expectativas positivas del futuro y la motivación dirigida a metas, es el conjunto de factores más importante.

La otra combinación del PsyCap revelada por nuestros resultados incluye la resiliencia y el optimismo. De acuerdo con la teoría Broaden-and-Built, el optimismo es más similar a la resiliencia, ya que el hecho de experimentar afecto positivo se relaciona con un enfoque más activo a las dificultades, mientras que el afecto negativo está vinculado al afrontamiento pasivo y a las estrategias de escape o evasión.

Además, el optimismo, en el PsyCap, se define por el estilo atributivo optimista: la atribución de los éxitos a factores internos y permanentes y los fracasos a factores externos y temporales. Un estilo atributivo optimista puede servir como una estrategia de afrontamiento frente a la adversidad de situaciones difíciles, lo que explicaría por qué el optimismo y la resiliencia estarían vinculados dentro de los perfiles que hemos visto en el estudio 2.

El siguiente estudio se centra específicamente en la relación entre la autoeficacia y la resiliencia. Aunque el estudio 2 mostró que hay una sincronización entre el optimismo y la resiliencia, la relación entre autoeficacia y resiliencia se ha resaltado más en la literatura previa. Además, como se ha señalado en la literatura de la Psicología Positiva, el estilo atributivo optimista no siempre es adecuado, y menos en contextos donde se requiere vigilancia y existe alta responsabilidad personal en el trabajo. Dado que el siguiente estudio se ha desarrollado en una muestra de trabajadores sociales, consideramos que la autoeficacia es una capacidad mental más relevante y necesaria para este tipo de trabajadores en comparación con el optimismo. En este contexto, consideramos que la autoeficacia y la resiliencia son dos recursos psicológicos

indispensables para poder hacer frente a la carga emocional y relacional de la profesión del trabajador social.

El **estudio 3,** ¨Autoeficacia y resiliencia como mediadores consecutivos de la relación entre el liderazgo transformacional y el bienestar¨ analiza el rol mediador de la autoeficacia y la resiliencia, en la relación entre los antecedentes organizacionales (concretamente las dimensiones de liderazgo transformacional, LT) y el bienestar individual. Hemos elegido estas dos dimensiones del PsyCap porque la relación entre ellas se ha resaltado en la literatura previa y además, son las más relevantes para el contexto en el que se desarrolla el estudio 3.

Hemos estudiado el LT como antecedente del bienestar individual, debido a que en varios estudios se ha relacionado con algunos de los componentes del PsyCap, particularmente la autoeficacia. En las investigaciones anteriores, el LT se estudia como un constructo de segundo orden, pero en el estudio 3 analizamos los efectos de cada uno de sus componentes (influencia idealizada, motivación inspiracional, estimulación intelectual y consideración individualizada), para analizar su actuación como antecedentes de la autoeficacia y, en consecuencia, de la resiliencia.

Además, este estudio considera el bienestar individual como una variable dependiente y utiliza dos indicadores para evaluarlo: las quejas psicosomáticas y el distrés psicológico. Elegimos estos indicadores porque permiten un enfoque global del bienestar que incluye los aspectos físicos y psicológicos, mientras que los estudios previos que relacionaban los recursos psicológicos con el bienestar se centraban principalmente solo en uno de los dos aspectos.

Estudios previos han mostrado que la autoeficacia puede tener un efecto sobre los niveles de bienestar tanto físico como psicológico. Nuestro estudio propone que la resiliencia es un componente adicional en este proceso.

Se ha utilizado una muestra de 225 trabajadores sociales en España, y se han recogido los datos en dos momentos temporales, con un tiempo de 6 meses entre las dos recogidas de datos. Tuvimos, así, en cuenta la recomendación de la literatura sobre el PsyCap de dejar plazos más cortos entre distintas recogidas de datos, teniendo en cuenta el carácter similar a un estado (*state-like*) y maleable de las dimensiones del PsyCap. El estudio utiliza un diseño de panel.

Los resultados del análisis de ecuaciones estructurales mostraron que, de las cuatro dimensiones del liderazgo, sólo dos tenían una relación estadísticamente

significativa con la autoeficacia y, en consecuencia, con la resiliencia y el bienestar. La motivación inspiracional mostró un efecto positivo significativo sobre la autoeficacia y, sorprendentemente, la consideración individualizada tuvo un efecto negativo, lo que iba en contra de nuestra hipótesis. El efecto de la autoeficacia sobre la resiliencia fue positivo y significativo y representa el 20% de la varianza en la resiliencia. El efecto directo de la autoeficacia no fue significativo para el distrés psicológico o las quejas psicosomáticas. La resiliencia tuvo un efecto negativo en las quejas psicosomáticas y el distrés psicológico.

Los efectos indirectos se pusieron a prueba usando los intervalos de confianza de Monte Carlo y revelaron que la autoeficacia y la resiliencia median consecutivamente entre dos de las dimensiones del liderazgo y las quejas psicosomáticas y el distrés psicológico. Hubo un efecto de mediación significativo de la inspiración motivacional sobre las quejas psicosomáticas a través de la autoeficacia y la resiliencia, así como un efecto indirecto significativo de la consideración individualizada sobre las quejas psicosomáticas a través de la autoeficacia y la resiliencia.

Respecto a las conclusiones extraídas de este último estudio, en primer lugar, nuestros hallazgos revelan detalles sobre la influencia del LT sobre la autoeficacia. Sólo la dimensión de motivación inspiracional del LT se relacionó positivamente con la autoeficacia, lo que resalta la importancia de una comunicación clara, positiva y productiva con los subordinados a través de la cual el líder favorece una comprensión clara del propio rol en el lugar de trabajo.

En contraste, nuestros resultados mostraron que la influencia idealizada y la estimulación intelectual no tuvieron un efecto significativo sobre la autoeficacia del subordinado. En general, la relación no significativa de dos de las dimensiones del LT apoya la tesis de algunos autores que critican la tendencia, tanto en la literatura como en la práctica, de atribuir resultados a los líderes que realmente no se derivan del liderazgo.

Un resultado inesperado en nuestro trabajo fue que la consideración individualizada tuvo un efecto negativo sobre la autoeficacia. Una posible condición límite del LT es la dependencia, ya que los líderes pueden generar dependencia entre los subordinados, lo que les lleva a percibirse a sí mismos como menos capaces de completar las tareas. Otra condición límite que podría explicar el efecto negativo de la consideración individualizada sobre la autoeficacia sería la autoestima de los subordinados. Las personas con una alta autoestima podrían interpretar la mentoría (*mentoring)* (que es un componente importante de la consideración individualizada)

como apoyo, pero las personas con baja autoestima podrían interpretarla como una duda en cuanto a su capacidad laboral, lo que podría llevar a sentimientos de ineficacia. Un tercer elemento que puede explicar esta relación negativa es la perceptibilidad del apoyo. Es probable que cuando los participantes reciben apoyo de una manera menos explícita, los resultados sean más positivos. Esto se debe a que el apoyo explícito podría ser interpretado como una evaluación negativa del trabajo de los subordinados.

Con respecto al papel de la autoeficacia, nuestro estudio proporciona un respaldo empírico de su rol como antecedente de la resiliencia, lo cual ha sido teóricamente delineado por la teoría socio-cognitiva y la teoría del capital psicológico. Se encontró que la autoeficacia tiene un efecto positivo sobre el bienestar, pero de manera indirecta a través de la resiliencia. Este hallazgo contrasta con los estudios anteriores que vinculan directamente la autoeficacia con el bienestar, y a la vez subraya la importancia de la resiliencia, señalando su papel como un mecanismo psicológico adicional para contribuir al bienestar laboral.

También descubrimos que tanto la autoeficacia como la resiliencia median secuencialmente la relación entre la motivación inspiracional y los indicadores de bienestar. Según nuestros resultados, la relación entre estos dos recursos psicológicos puede llevar a reducir las quejas psicosomáticas y el distrés psicológico. Aunque la resiliencia es la variable que se relaciona directamente y negativamente con las quejas psicosomáticas y el distrés psicológico, la vía (path) completa de mediación ilustra cómo cada variable refuerza la siguiente. Esto es coherente con la teoría de Conservación de Recursos (CoR) que postula que los recursos personales y organizacionales generan más recursos positivos, que actúan de forma acumulativa. Nuestros resultados demuestran cómo los recursos pueden reforzarse entre sí y tener un efecto beneficioso acumulativo sobre los resultados en el lugar de trabajo, que en la teoría CoR se entiende como una espiral positiva de ganancia (*gain-spiral*).

Conclusiones generales:

Las principales conclusiones que se pueden extraer de los estudios llevados a cabo en la tesis se detallan a continuación:

- La escala PCQ12 se puede usar con dos estructuras factoriales diferentes, según los objetivos de futuros estudios. La investigación orientada a la

predicción debe examinar el constructo general del PsyCap porque es más práctico y simplifica los análisis estadísticos. Por otro lado, si se pretenden analizar las cuatro dimensiones en profundidad y su relación con otras variables, sería más apropiado usar el modelo de cuatro factores.

- En general, se encuentra apoyo para la estructura unitaria del PsyCap. La mayoría de las personas tienden a tener puntuaciones altas en las cuatro dimensiones del PsyCap

- Existen cuatro perfiles individuales del PsyCap:
    - Alta esperanza, autoeficacia, resiliencia y optimismo
    - Baja autoeficacia y esperanza, y alta resiliencia y optimismo
    - Alta autoeficacia y esperanza, y baja resiliencia y optimismo
    - Baja autoeficacia y alta esperanza, resiliencia y optimismo

- Las personas con educación formal más baja, que tienen más de 35 años, tienen más probabilidad de tener baja esperanza y autoeficacia, y alta resiliencia y optimismo.

- Las personas con menor educación formal y menos de un año de antigüedad en el empleo tienen más probabilidad de tener baja autoeficacia y altas esperanza, resiliencia y optimismo.

- Tener altos niveles en todos los componentes del PsyCap es la condición óptima para incrementar la conducta y la satisfacción laboral intrínseca.

- Tener altos niveles de agencia (agency) es el elemento que más contribuye al OCB y la satisfacción laboral intrínseca, en los casos en que otras capacidades del PsyCap tienen niveles más bajos.

- Con respecto a las dimensiones LT y su relación con la autoeficacia, la motivación inspiracional demostró tener una relación positiva, la consideración individualizada una negativa, mientras que la influencia idealizada y la estimulación intelectual no tuvieron una relación significativa.

- Se resalta una tendencia en la literatura y en la práctica a atribuir resultados al liderazgo que podrían no provenir realmente del mismo.

- Se pone de manifiesto la importancia que tienen la comunicación efectiva entre líderes y subordinados, la comunicación clara de objetivos, la retroalimentación positiva y la persuasión social para aumentar la autoeficacia de los empleados.

- Con respecto al papel de la autoeficacia, se proporciona apoyo empírico para la misma como antecedente de la resiliencia.

- La autoeficacia y la resiliencia sirven como mediadores consecutivos en la relación entre la motivación inspiracional y los indicadores de bienestar, desempeñando así un papel importante en una espiral de ganancia positiva y conectando los recursos de la organización con el bienestar de los empleados.

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