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Team Psychological Capital: Comparative Psychometric Study of Two Versions of the Psychological Capital Questionnaire (24 and 12 items)

Dissertação no âmbito do Mestrado em Psicologia das Organizações e do Trabalho orientada pela Professora Doutora Teresa Manuela Marques Santos Dias Rebelo e pela Professora Doutora Cláudia Raquel Cordeiro Figueiredo e apresentada à Faculdade de Psicologia e de Ciências da Educação da Universidade de Coimbra.

Fevereiro de 2021

Faculdade de Psicologia e Ciências da Educação
da Universidade de Coimbra

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Resumo

O mundo globalizado e competitivo coloca uma forte pressão nas organizações para serem cada vez mais rápidas, flexíveis e inovadoras. Para tal, assume particular relevância o conceito de Comportamento Organizacional Positivo (POB) e, em concreto, o capital psicológico (PsyCap) ao nível da equipa. Na verdade, as equipas são cada vez mais percecionadas como críticas para o sucesso organizacional e, por isso, é de extrema importância estudar o capital psicológico ao nível da equipa. Avaliar os níveis de capital psicológico e/ou as dimensões que compõem o construto (autoeficácia, resiliência, esperança e otimismo) e entender como os promover pode proporcionar às organizações importantes vantagens. O instrumento de medição mais comum do PsyCap é o Questionário de Capital Psicológico (PCQ), que oferece uma versão de 24 itens e uma versão reduzida de 12 itens. Assim, o nosso objetivo é avaliar as qualidades psicométricas de cada uma das versões da escala, bem como comparar os construtos extraídos e verificar como se correlacionam entre eles, no contexto português. Neste sentido, foram realizadas Análises Fatoriais Confirmatórias para testar a estrutura correlacionada de quatro fatores e a estrutura de quatro fatores com a de segunda ordem em ambas as escalas. Numa segunda etapa, foi analisada a correlação entre os construtos das duas versões. Os resultados confirmam os dois modelos concorrentes para as duas versões: uma estrutura de quatro fatores e o PsyCap enquanto um construto de ordem superior. Adicionalmente, verificou-se uma elevada correlação entre os construtos de ambas as escalas, concluindo que ambas medem o PsyCap com um alto grau de sobreposição, com vantagens práticas no recurso à versão curta da escala.

Palavras-chave: capital psicológico, PCQ, equipa.

Abstract

The globalized and competitive world puts pressure on organizations to be increasingly faster, flexible, and innovative. To this end, the concept of Positive Organizational Behaviour (POB) and, in specific, team psychological capital (PsyCap), is particularly relevant. Indeed, teams are increasingly assumed as critical to organizational success, so it is of great importance the study of psychological capital at the team level. Assessing the levels of psychological capital and/or the dimensions that compound the construct (self-efficacy, resilience, hope and optimism) and understanding how to promote may provide organizations an important advantage. The most common measuring instrument of PsyCap is the Psychological Capital Questionnaire (PCQ), that offers a version of 24 items and a reduced version of 12 items. Thus, our aim is to evaluate the psychometric qualities of each of the scale's versions, as well as to compare the constructs extracted and see how they correlated between them, in the Portuguese context. For this purpose, Confirmatory Factor Analyses were conducted to test the correlated four-factor structure and a four factor with a second order factor structure of both scales. On a second step the correlation between the constructs of the two versions was analysed. The results confirm the two concurrent models for the two versions: a four-factor structure and the PsyCap as a higher-order construct. Furthermore, it was showed a high correlation between both scales' constructs, concluding that both measure PsyCap with a very high degree of overlap, with practical advantages in using the short version of the scale.

Keywords: psychological capital, PCQ, team.

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Introduction

Nowadays, there is a growing pressure to study positive psychological resources and to focus on Positive Organizational Behaviour (POB), which derives from the need to answer the demands on organizations to be increasingly fast in placing new products and services on the market, as well as flexible and innovative. Thus, it is essential to effectively manage the knowledge, experiences, and skills of employees (Luthans et al., 2004). The globalized and competitive world that characterizes today's reality generates the need for organizations to create value. Psychological capital (PsyCap) may be a construct that plays an important part on this process since it can have a strong positive impact on organizations. According to Luthans et al (2007b, p.3), 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 (resiliency) to attain success.". In fact, employees characterized by hope, optimism, self-efficacy and resilience – the four dimensions of PsyCap– reveal a greater capacity to resist and succeed in the dynamic and global environment that organizations are faced with. Therefore, it is essential to focus on the promotion of employees' positive psychological abilities (Ouweneel et al., 2012). Such view led to an evolution in terms of the investment in financial, human and/or social capital. Indeed, the focus must be on the investment in psychological capital, adapted to each reality, due to the significant benefits that are generated in consequence (Luthans et al., 2007a). The importance of PsyCap and the need to access individuals' levels of psychological capital has led to the development of a measurement instrument, which is the most used to assess PsyCap – Psychological Capital Questionnaire (PCQ), developed by Luthans et al. (2007a).

Despite the existence of a vast literature on the subject, it is relevant to continue this line of research to deepen the existing scientific knowledge around PsyCap. Indeed, one of the main areas emerging within the scope of PsyCap focus on perceiving and measuring it as a collective construct. Evidence supports the idea that different attitudes and behaviours of individuals can be seen as phenomena that characterize the collective made up of those individuals (Heled et al., 2015). However, the emergence of studies about collective PsyCap, namely team PsyCap, follows the extant literature on teams, which is gaining increasing relevance. In fact, the globalization and interdependence of markets is one of the factors that has most contributed to the growth of teamwork in organizations, which has increased by 50% or more in the last two decades (Cross et al., 2016). This growth can be explained by the fact that teamwork is indispensable for the pursuit and fulfilment of common goals (O'Neill & Salas, 2018).

The knowledge on individual and team PsyCap has the major advantages of allowing organizations to apply planned interventions and events, triggering positivity, efficacy, and collaboration, which are essential to meet current challenges and those that are still to come. However, studies on the construct of psychological capital have been mostly focused on the individual level. It was only recently that literature has begun to point to the possibility of studying PsyCap at the collective level, which has an impact on the individual level (Heled et al., 2015). The study of collective PsyCap requires adaptation in terms of measurement or, in other words, the adaptation of the most used questionnaire to access PsyCap – Psychological Capital Questionnaire (PCQ), developed by Luthans et al. (2007a). To study collective PsyCap at the team level, referent must be changed to the work team, instead of the individual. Rebelo et al. (2018) believed on the importance of transposing the PsyCap measure to the team level, considering that it would have a relevance independent of the individual level. Thus, the authors decided to explore this new measure and reformulated it, with results indicating that it is a reliable, stable, and promising adaptation.

The existing studies on the PCQ scale in the international context mostly focus on the individual level of analysis and in Portugal there are still only a few studies that evaluate team PsyCap measuring instruments, namely team PCQ scale. Furthermore, the studies carried out in Portugal around team PCQ scale have focused on the original scale of 24 items. Therefore, the short version of 12 items developed by Luthans et al. (2008a) has not been the target of significant studies regarding its psychometric qualities. However, in view of the growing relevance of team PsyCap, it becomes crucial not only to evaluate the psychometric qualities of the short scale, but also to make a comparison between both scales, in order to understand if they are measuring constructs that can be assumed to be overlapped. This study is even more important when considering the need to provide organizations and researchers with simple, quick, but reliable tools to access PsyCap, given the dynamic environment we are faced with.

In order to continue the assessment of the psychometric qualities of the PCQ at the team level, the goal of this master's thesis is to study the construct validity of both versions of the scale (24 and 12 items), namely the four-factor structure and PsyCap as a higher order construct, as well as to compare the level of association between the constructs in both versions.

Theoretical Framework

Emergence of the Psychological Capital construct

For a long time, psychology's history was strongly marked by the focus on the most negative and pathological aspects of human behaviour. In fact, in 1954, Maslow warned about the importance of shifting the focus of psychology to more positive aspects and areas, such as human potential and development. However, it was only after 2000 that what we now call "positive psychology" was introduced, through the contribution of Seligman and Csikszentmihalyi (2000), who stated that the objective of the positive psychology movement is to initiate a change of focus in psychology, that is, psychology must not worry only about the psychopathological aspects, but also about the construction and development of qualities and positive aspects of the human being. The acceptance of this idea has extended to the workplace, where positivity has also become a central concern (Luthans & Youssef, 2007). As a matter of fact, Luthans (2002a) recognized the importance of incorporating positive psychology in organizational behaviour, introducing the term Positive Organizational Behaviour (POB), which focuses on the strengths of human beings and their psychological abilities. Luthans (2002a, p.59) defined POB as "the study and application of positively oriented human resources strengths and psychological capacities that can be measured, developed, and effectively managed for performance improvement in today's workplace". Thus, the definition presented points out that for a construct to be part of the POB concept, it must be based on theory and research, and assessed with reliable psychological instruments. Additionally, one of the most important aspects for a construct to be part of POB is the fact that it must be "state-like", which means that the capacities must be malleable, unlike the traits, that tend to be fixed (Luthans et al., 2007a). It is also important to mention the criterion of the "positive impact on work-related individual-level performance and satisfaction", which is particularly relevant because it allows the positive organizational behaviour to be distinguished from the positive psychology movement, as well as prevents the POB from being an end in itself – it is, indeed, a means of achieving an impact on performance (Luthans & Avolio, 2009). Finally, there is the criterion of relative singularity, that is to say, the constructs must be positive and unique for the field of organizational behaviour. In other words, this uniqueness concerns positive psychological capacities, which can be applied to the organizational context (Luthans, 2002a).

The emphasis on positive organizational behaviour allows the development of more effective leaders and work teams, and their states can be developed through formal training

programs, mentoring or coaching relationships, among others (Luthans, 2002a). Indeed, it was the movement of positive psychology and, more specifically, POB, that provided the basis for the development of PsyCap as a construct of this new and positive approach. In this way, psychological capital derives from POB, because of the perception that traditional approaches to organizational behaviour do not produce the necessary results for the competitive advantage needed by organizations in the contemporary globalized world. Therefore, it becomes imperative to recognize and underline the importance of positivity in the workplace, especially with regard to psychological abilities (Luthans et al., 2007b).

Definition of Psychological Capital

There is consensus in the literature regarding the definition presented by Luthans et al. (2007b, p.3), which defines PsyCap 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 (resiliency) to attain success.". The aforementioned criteria for PsyCap being part of the POB concept were met by the dimensions of self-efficacy, optimism, resilience and hope. The concept of self-efficacy, based on Bandura's Theory of Social Learning, was defined by Stajkovic and Luthans (1998, p.4) as "an individual's convictions (or confidence) about his or her abilities to mobilize the motivation, cognitive resources, and courses of action needed to successfully execute a specific task within a given context.". Self-efficacy assumes itself as one of the main mechanisms addressed in positive psychology. Specifically, in positive organizational behaviour, this concept is seen as a state that can be developed and managed, revealing a strong impact on human performance. The "hope" dimension refers to a "positive motivational state that is based on an interactively derived sense of successful (a) agency (goal-directed energy), and (b) pathways (planning to meet goals)." (Snyder et al., 1991, p. 287). We can thus say that hope consists of three main concepts: action, path, and goals, where the action is the determination for the goals and the paths correspond to the way the goals are achieved (Snyder et al., 1996). Hope is a positive concept that can be developed and measured, but also managed to influence performance in the workplace. In fact, this concept appears to be associated with benefits in emotional health and in the ability to deal with adversities, because a person with hope tends to set and value their goals and progress, has an easy adaptation and interaction and is also less anxious (Luthans, 2002a).

Regarding optimism, Seligman (1998) is one of the main authors that approached the concept, defining it as the attributions that are made and the explanatory style that is used in response to events. It presents guidance for evaluating past or recent events. Just like the other PsyCap dimensions, optimism can also be measured, managed, and developed. However, it needs to be carefully developed, as disadvantages, such as the establishment of unrealistic goals, can also arise. It is important, according to the movement of positive organizational behaviour, to develop a realistic and flexible optimism, which allows adaptation according to circumstances (Luthans, 2002a). As such, this optimism is perceived as a desired characteristic in workers, especially at the level of leaders (because the optimism of the leader drives the optimism of the rest of the team), as it is associated with higher levels of motivation, satisfaction, aspiration, retention, and perseverance, being liable to development. The fourth dimension of PsyCap is resilience, defined as the ability to recover when faced with a failure and associated with the concept of adaptability (Block & Kremen, 1996). Luthans (2002b) states that this positive psychological capacity goes beyond adaptation and it is not limited to adversity, that is, resilience also concerns the ability to recover from positive changes, progress, and increased responsibility. Initial studies on the concept revealed that it is a capacity possessed by few (Luthans, 2002a). However, advances in the literature support that this ability is part of the daily life of all individuals and can be developed (Tugade et al., 2004). In fact, the competitiveness and stress present in the organizational world make resilience a central capacity of employees and leaders, capable of producing important results in the workplace (Luthans, 2002b). According to Coutu (2002), resilient people tend to be characterized by a strong acceptance of reality, by the deep belief that life is meaningful, as well as by the ability to improvise and adapt to significant changes.

Nevertheless, further studies pointed out that these four psychological resources present a superior contribution when combined in a broad construct, identifiable as PsyCap. That is, even though the four dimensions have their specificities and potential, PsyCap as a compound construct of the four factors (a higher order construct) is mostly better as a predictor with a significant impact in desirable outcomes, such as performance and job satisfaction (Luthans & Youssef, 2007). In this way, self-efficacy, hope, optimism, and resilience constructs – mostly of a cognitive nature - constitute a more comprehensive construct – psychological capital or PsyCap. The studies carried out, namely the work of Luthans et al. (2007a), indicate that individuals with high levels of general psychological capital perform better than those who have only one dimension of PsyCap, since it has a greater number and level of positive psychological resources. Thus, the focus on positive psychological capital and the four dimensions that make it up underlines the importance of the human characteristics as an answer to the challenges faced by organizations. Therefore, the global PsyCap is a multidimensional construct, that is to say, it corresponds to the shared variance of the four dimensions that constitute it (the constructs are highly related and integrated). PsyCap corresponds to the whole and it is, therefore, greater than the sum of the dimensions that constitute

it (self-efficacy, optimism, hope and resilience) (Avey, 2014; Luthans et al., 2007b). Thus, psychological capital is perceived as a higher order construct and it is expected that the investment and development of PsyCap have a greater impact on performance and results, since it is responsible for a greater variation in work results than that it derives from the individual positive psychological resources that compound psychological capital (Luthans et al, 2007a; Luthans et al., 2011). In other words, different psychological constructs can share common processes that influence motivation and behaviour, and the higher order construct – PsyCap – represents the common source of variance, making the connection with the constructs hope, optimism, resilience, and self-efficacy (Luthans et al., 2007a).

PsyCap is also context-specific, usually the work context, which means that high levels of psychological capital at work do not necessarily mean that the same is true in other contexts, such as family, which also happens with the four constructs that compound PsyCap. It is also characterized by a continuum of stability and it is considered "state-like", as it is malleable and liable to development, able to be adapted to each organization and more stable than, for example, emotions. Nevertheless, psychological capital is also measurable, and, in this context, it is possible to evaluate the return of the investment and development of PsyCap. The most widely used way to measure psychological capital is the "PsyCap Questionnaire" (PCQ), which was developed from recognized measures of self-efficacy, hope, optimism, and resilience (Luthans et al., 2007a).

Research on PsyCap

The introduction of PsyCap in positive organizational behaviour represents a turning point in terms of human capital and social capital, assuming itself, at the individual level, as a factor that nurtures growth and performance and, at the organizational level, it stands out for its ability to return on investment and provide competitive advantage, through the impact it has on the performance and satisfaction of employees (Luthans et al., 2005). Human capital has its origins in economics and concerns an individual's knowledge and skills, which can be increased by experience and/or training (Becker, 1993). Social capital, in turn, arises in sociology and refers to the set of resources that are associated with the existence of a network of knowledge relationships (Newman et al., 2014). Thus, the shift towards the construct of psychological capital does not deny the need for human and social capital but emphasizes the importance of each organization investing in the development of psychological capital, adapting it to its situation and reality and making it unique and specific of each organization (Luthans & Youssef, 2004). Additionally, studies carried

out in different cultures point to PsyCap ability to positively predict desired behaviours, such as organizational citizenship, while being negatively related to turnover intentions and to counter-productive behaviours (Avey et al., 2009).

Studies regarding PsyCap antecedents are relevant, as they demonstrate the construct's malleability to external influences, allowing the identification of intervention opportunities to promote the individual PsyCap through support and leadership mechanisms (Newman et al., 2014). Avey (2014) sought to study the background of PsyCap, having found four categories that, not exclusively, seem to play a prominent role. The first category comprises individual differences, since PsyCap has a strong correlation with cognitive dispositions, because people that are faced with a situation in work context tend to assess the environment related to their cognitions and, in consequence, there is an emotional response. As such, individual differences explain 45% of the PsyCap variance. The second is leadership, explaining 32% of the variance. Work design, namely task complexity, is the third category, explaining 12% of variance of PsyCap. This finding is in line with the model proposed by Hackman and Oldham (1980) which suggests that the characteristics of work influence the motivation for performing tasks. And, in a less expressive way, the fourth category encompasses demographic variables, which explain 2% of PsyCap variance.

Psychological capital as a collective construct: Collective PsyCap

The studies on PsyCap mainly focus on the individual level of analysis. In fact, the very definition of the construct presented by Luthans et al. (2007b) considers it a state of positive and individual psychological development, that is to say, a relatively stable personal characteristic over time, even though it can be changed and developed. However, the literature has evolved in the sense of also studying PsyCap as a collective phenomenon. As a matter of fact, PsyCap as a team phenomenon allows the focus on shared mental models that emerge through team members' communication and interactions, even when the mental models are related to each of the four PsyCap components (Dawkins et al., 2018). Besides, collective PsyCap can be seen as a resource for promoting positive attitudes and behaviours in employees, which, in turn, impacts satisfaction, as well as organization's outcomes and performance (Heled et al., 2015). The importance of collective PsyCap is also explained by the cross-level relationship between team PsyCap and individual-level outcomes (such as job satisfaction and turnover intentions), since individuals develop social relations at work and are influenced by the capacities of the team (West et al., 2009). Indeed, Heled et al. (2015) sought to contribute to the study of psychological capital as a team

construct, using literature to explain how individuals' attitudes and behaviours can become a phenomenon that characterize a collective. Studies in the field of Social Psychology reveal that team members develop shared mental models that allow them to communicate and that they can set up a collective PsyCap (Lim & Klein, 2006). Dawkins et al. (2015) recall the principles of social contagion, which refers to the process of communication and exchange of information between members of a group, resulting in the adoption of attitudes and beliefs shared by others. In so, social contagion can contribute to the emergence of the collective PsyCap. Similarly, Peterson and Zhang (2011) understand collective psychological capital as the product of the interactive dynamics of team members. Finally, also Walumbwa et al. (2009) defined collective PsyCap as the product of interactive exchanges between members that creates a sense of group capacity to achieve the desired collective goals.

Furthermore, collective PsyCap is also supported by the existing references to the collective in each of its four resources. Bandura (1997) addressed the concept of collective self-efficacy. West et al. (2009) stated that teams can share an optimistic posture towards achieving positive results, as well as developing a shared capacity to trace alternative paths to achieve the goals (hope). Finally, it has also been supported that resilience can be a collective phenomenon, concerning the team's ability to adapt to the demands of the environment (Zhang & Liu, 2012).

The conceptualization and the assessment of PsyCap at the collective level, however, requires the adaptation of the measuring instrument. In this sense, one of the existing strategies includes dispersion models, which assume that the degree of agreement between the members of a collective, for example, a team, is a statistical requirement for the aggregation process. In the scope of this strategy, the PsyCap measurement at the team level can be operationalized through the direct consensus approach, which uses the agreement level within the group as far as the lower level of the construct is concerned, using a cut-off value to represent this consensus, thus justifying the aggregation of the construct at a higher level. However, when the consensus does not reach the cut-off value, it is assumed that there is not sufficient agreement to guarantee the aggregation to the higher level. The collective PsyCap, within the scope of the direct consensus model, requires the existence of shared perceptions among members regarding individual psychological capital (Dawkins & Martin, 2015). We can also approach the “Referent shift consensus model”, which focuses on the perception that an individual has about the unit, that is, for example, their team. Thus, the referent is changed to represent the collective-level construct. In other words, instead of asking participants to assess their confidence in their own abilities, one of the main strategies used in this regard is to ask them to assess their confidence in the collective skills of the team to perform a given task (Luthans & Youssef, 2017). When measuring the collective PsyCap under this approach, a team member can have a high level of individual PsyCap and, at the same time, the perception of a low level of team psychological capital, as they are constructs operating in a different way and, for this reason, this model is recommended to measure the collective

psychological capital. In fact, the influence of the collective PsyCap is better assessed when team members are asked to reflect on the skills shared by the team, and not when the referent is the individual level (Dawkins et al., 2015). In short, while the direct consensus model focuses on the individual's perceptions, the referent shift consensus model highlights the individual's perception of the team as a whole (Dawkins & Martin, 2015).

PsyCap measuring instruments: PCQ (24 and 12-items versions)

Among the characteristics of PsyCap, there is consensus regarding the fact that it is a measurable construct. The PCQ-24 instrument - Psychological Capital Questionnaire - is the most used instrument to measure PsyCap at the individual level and was developed and empirically tested for validity by Luthans and colleagues (2007a). Thus, this instrument consists of a total of 24 items, that is, there are six items for each of the four dimensions that make up PsyCap, adapted from existing measures proposed for each of the constituent constructs (Avey, 2014): hope (Snyder et al., 1996), resilience (Wagnild & Young, 1993), optimism (Scheier & Carver, 1985) and self-efficacy (Parker, 1998). The adaptation essentially went through the inclusion of context ("at work"), as well as "here and now" and the items were chosen in order to explore the psychological resources similar to a state (Luthans & Youssef, 2017). As such, these measures formed the basis from which PsyCap questionnaire was developed, following two main criteria: each of the four constructs should have equal weight, so the six best items for each of the four measures would be the selected ones, and the selected items should have content validity as they are relevant to the workplace and adaptable to changes (Luthans et al., 2007a). These criteria made it possible to select the 24 items that make up PCQ, with response options on a 6-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = somewhat agree, 5 = agree, 6 = strongly agree), in which the participant must describe how he/she thinks about him/herself when he/she answers the questionnaire (Luthans et al., 2007a).

Studies on the PCQ-24 scale have demonstrated that it is a reliable psychological instrument and a predictive measure of performance, satisfaction, and affective organizational commitment at the individual level (Luthans et al., 2006; Luthans et al., 2007b). Luthans et al. (2008b) analysed the dimensionality of the scale, through the use of confirmatory factor analysis (CFA), in order to support the four-factor structure and also PsyCap as a higher order construct, with adequate indexes for the tetra structure of psychological capital with six items for each dimension. Specifically, both the four-factor and second-order structure obtained adequate indexes.

The analyses carried out by Luthans et al. (2007a) conclude that PsyCap has discriminant validity compared to other constructs, such as personality traits, and criterion validity with job satisfaction. Additionally, the usefulness of PsyCap has also been compared to each of its four dimensions, in order to understand whether this higher order construct is actually more "useful" than the measures of each dimension. The conclusions point out that PsyCap is more consistent regarding the prediction of performance and satisfaction than each of its individual resources, which strengthens PsyCap as a higher order core factor (Luthans & Youssef, 2017). The PCQ scale has been adapted to other cultures and languages, for example, Görgens-Ekermans and Herbet (2013), who assessed the psychometric qualities of PCQ-24 for the South African context. The authors flagged items 13 and 20 (two of the three reverse items) due to the possibility of having a problematic behaviour. The results indicate that the four-factor structure fits the data. Cid et al. (2020) adapted the scale to the Brazilian context, by conducting a CFA to analyse the quality of adjustment of the second-order structure. The reverse items of the scale (13, 20 and 23) had loadings below .45 and, therefore, they were removed, leaving a solution of 21 items. The results indicated satisfactory fit indicators. Mónico et al. (2014) conducted a study regarding PsyCap questionnaire in the Portuguese workers and concluded that the PCQ's four-factor model has a good quality of adjustment, supporting the four dimensions originally proposed by Luthans et al. (2007a).

Despite the good conclusions reported, the PCQ-24 scale has raised some drawbacks, namely due to its size, which is a concern for organizational leaders. Additionally, the scale presents reverse items, which is also seen as a less positive point (Peterson & Chang, cited in Luthans & Youssef, 2017)

In order to overcome the abovementioned issues, a short version was developed and validated – the PCQ-12 (Luthans et al., 2008a). This scale is made of 12 items derived directly from the PCQ-24 and rated on the same 6-point Likert scale: four items representing hope (two for each of the hope mechanisms: agency and pathways), three items representing efficacy, two items representing optimism, and three items representing resilience (Avey et al., 2011; Luthans et al., 2008a). According to Luthans et al. (2008a), which used for the first time the short scale translated into Mandarin Chinese, the 12-item version of PCQ does not have the same high reliability (α = .68) of the original scale, but it is very close to acceptable levels. Later, Avey et al. (2011) used the 12-item scale and explained how they came up with those items. They used the criteria of Stanton et al. (2002, cited in Avey et al., 2011), that is, they first selected the items from the confirmatory factor analyses loadings available in previous literature. After that, the criteria of contribution of the items to the scales internal reliability was considered. In third place, they selected the items that allowed the maximization of construct breadth. Lastly, the numbers of items per component were considered.

PCQ-12 scale has important advantages. In fact, besides the short length that lowers fatigue and enables cooperation, the shorter version has no reverse-scored items, which as seem to tend to

compromise the measure. In addition to these advantages, the items that are included in PCQ-12 are more appropriate for translation and use across cultures, as shown with the measurement invariance study of Wernsing (2014) across twelve cultures, as well as to adaptation to contexts beyond the workplace (Luthans & Youssef, 2017). In addition to the studies of Luthans et al. (2008a) and Avey et al. (2011), which demonstrated that the scale is reliable and shows evidence of construct validity, Norman et al. (2010) also pointed out the reliability of the 12-item PCQ in their study ($\alpha = .93$).

PsyCap measuring instruments adapted to the team level

The conceptualization of PsyCap at the team level implies the adaptation of the measurement instruments, which need to have the team as a referent, since it is the model recommended due to the ability to represent the collective-level construct (Newman et al., 2014). As aforesaid, this reformulation work has already been carried out in Portugal by Rebelo et al. (2018), with results indicating that it is a reliable and promising adaptation.

Indeed, the study of Rebelo et al. (2018) used the PCQ-24 items developed by Luthans et al. (2007a) and worked on a version translated into Portuguese, which was also reformulated, in order to have the team as a referent. To evaluate the adequacy of the adaptation of the questionnaire to Portuguese and to the team level, a pilot study was carried out. It aimed to identify and correct words and items perceived as dubious or subject to different interpretations. This pilot study was conducted in a team from the services sector. After the fulfilment of the questionnaire, a debate regarding existing doubts and suggestions took place. This process led to slight reformulations of very few items. Additionally, the revised version of the questionnaire was submitted to two experts' evaluation and to a specialized translator to verify their agreement with the translation of the items (DeVellis, 2003).

Thus, the questionnaire was applied to the final sample, composed of 82 teams and 353 members. The scale was evaluated on its psychometric qualities, namely the dimensionality, using a Principal Components Analysis (PCA). This analysis led to a tetra-factorial structure, accounting for 65.83% of the total variance, after the dropout of six items (items 7, 9, 13, 14, 20, and 23). This scale reveals reliability, as Cronbach's alphas estimated for the four resources are above .70 (Nunnally, 1978): .90 for self-efficacy, .85 for hope, .80 for optimism and .75 for resilience. Then, a Confirmatory Factor Analysis (CFA) was also conducted, with psychological capital as a second order factor. The CFA supported PsyCap as a higher-order construct (Rebelo et al., 2018). Assunção (2020) departed from a sample composed of 124 work teams, totalizing 554 members

and used the PCQ-24 scale translated and validated into Portuguese by Rebelo et al. (2018). In order to analyse the psychometric qualities of the 24-items scale, a PCA was conducted. The results led to a solution composed by four components of 19 items (after the dropout of items 1, 7, 13, 20, and 23) that explain 61.04% of variance. Cronbach's alphas values were considered adequate, standing at .86 for self-efficacy, .87 for hope, .73 for resilience and .77 for optimism. It should also be noted that a new PCA was conducted, including the average results of each dimension, in order to evaluate PsyCap as a second order component, with the results indicating that the overall result of psychological capital is obtained through the average of each one of the four components that make it up (Assunção, 2020).

Other authors outside Portugal also measured team PsyCap with the referent at team level. West et al. (2009) measured team optimism, team efficacy and team resilience using six items per dimension from PCQ that were adapted in order to have the team as a referent. In their research, participants were assigned to team projects. The data regarding team optimism, team efficacy and team resilience was collected in team project-1 and team project-4 and they both showed reliability (team project-1 α's team efficacy = .94, team resilience = .76 and team optimism = .83; team project-4 α's team efficacy = .96, team resilience = .76 and team optimism = .75). Walumbwa et al. (2009), in turn, assessed team PsyCap through eight-items retrieved from PCQ-24, resulting in a Cronbach alpha of .79. They performed a CFA, and the results indicate that the model fits the data. Mathe-Soulek et al. (2014) used a 11-item scale (an item was dropped from the PCQ-12 in a prior analysis due to low factor loading) to measure team PsyCap, with a Cronbach alpha of .90. The authors conducted a CFA, and the results indicate that all factor loadings were above .40 and the second-order model showed an adequate fit. Lastly, Heled et al. (2015) measured team's collective PsyCap with the revised PCQ with 11 items (Mathe-Soulek et al., 2014). They performed a CFA that led to the dropout of three items due to factor loadings and, in consequence, an eight-item scale emerged with better results than the 11-item scale.

Hence, the few studies that have emerged in the Portuguese context (Assunção, 2020; Rebelo et al., 2018), and internationally (Heled et al., 2015; Mathe-Soulek et al., 2014; Walumbwa et al., 2009; West et al., 2009) that have used the PCQ scale (or some of their dimensions or items) with the team as a referent obtained satisfactory results. Despite the existence of validation studies of the PCQ scale at the team level in Portugal, these were done only for the 24-item version (Assunção, 2020; Rebelo et al., 2018). However, as previously mentioned, scale length is perceived by many organizational leaders as a weakness, so it is important to continue the studies around team PsyCap in both versions of the scale (24 and 12-items). As such, this dissertation aims to test the four-factor and second-order structure of team PCQ-24 and team PCQ-12. The decision to access PsyCap as a second-order factor relates to the history of the construct itself, as it is always perceived as a higher-order construct compound of four dimensions (self-efficacy, hope, resilience, and optimism), that represents the common source of variance (Luthans et al., 2007a). Another goal of

this dissertation is to compare the psychometric qualities of the team PCQ (24 and 12-items), in order to clarify whether they evaluate constructs that can be considered overlapped. Indeed, if both scales reveal to be highly correlated, it allows to extend the construct validity studies and recommend the use of the 12-item scale, for the Portuguese context, considering the benefits for researchers and organizations in terms of sparing resources, namely time. Lastly, we also aim to evaluate the reliability of the four resources that compose Psycap and also of the latent variable of PsyCap itself.

Method

Sample Characterization

The sample collected is composed of 907[1] subjects from 206 teams. The teams belong to 140 organizations, from several activity sectors, namely industrial, associative, and trade and services, the latter being the most representative. Regarding the subjects' sociodemographic characteristics, 895 answered the question of age and the average is 36.71 (SD = 11.94), varying between 17 and 70 years old. Most respondents are female (n = 894; 61.9%), with 36.7% of male responses. With respect to academic qualifications (n = 882), 38.7% have the 12th grade or lower qualifications, followed by 35.9% of subjects with a degree. The seniority in the organization (n = 886) has an average of 9.66 years (SD = 10.14). As for seniority in the current team (n = 880), the average is approximately 5 years (SD = 6.75). The teams have an average of 6 elements (SD = 3.75), varying between 3 and 22 elements.

Data Collection Procedures

The sample is composed of members of work teams, collected in two large research projects on team functioning and effectiveness carried on by our research group. To be considered a team, it was necessary to be constituted by three or more elements; the members must be recognized and recognize themselves as a team; they must have interdependent relationships and interact regularly to achieve a common goal (Lourenço et al., 2014).

The data collection was based on a non-probabilistic sample procedure, the convenience (or accessibility) sampling method, which presupposes the use of interpersonal and close contact networks (Hill & Hill, 2005). This procedure took place between 2016 and 2020 in the scope of two large research projects. In each project, the initial contact was established, in most cases, in person or electronically, along with the document of the collaboration project. This document provided a detailed explanation of the scope and goals of the research project, the variables to be analysed, the type of collaboration proposed, the steps and methods of data collection, as well as the rights and duties of the researchers and organizations.

The application of the questionnaires is carried out in person or in an online version. The entire procedure followed the ethical assumptions of research in psychology, namely the informed consent of the participants, as well as the confidentiality and anonymity of the data.

[1] Only valid answers are reported throughout the document. Values that differ from 907 are due to the absence of answers.

Measure

The measurement instrument used in this dissertation was the team PCQ scale with 24 items (see Appendix A) adapted by Rebelo et al. (2018). This scale consists of 24 items, six for each of the PsyCap dimensions: items 1 to 6 evaluate self-efficacy, items 7 to 12 evaluate hope, items 13 to 18 evaluate resilience, and items 19 to 24 evaluate optimism. The items are adapted from existing scales that measure each dimension. The instrument consists of a 6-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = somewhat agree, 5 = agree, 6 = strongly agree), in which the participant must describe how he/she thinks about him/herself when he/she answers the questionnaire (Luthans et al., 2007a).

Statistical Procedure

In order to assess the scale's construct validity and test the four-factor and second-order structure of both versions of the PCQ scale (24 and 12 items), a Confirmatory Factorial Analysis (CFA) was performed with IBM SPSS AMOS 25 software, using the maximum likelihood (ML) estimation method. The decision about the goodness-of-fit of the models was supported in the formal hypothesis test, chi-square, and, as this test is so sensitive to sample size and model complexity, in a set of fit indexes. For the analysis undertaken, the following indexes were considered being the most common recommendation with CFA: Comparative Fit Index (CFI), which evaluates the model fit by comparing the discrepancy between the data and the hypothesized model (values range between 0 and 1, with 1 being the best model fit); Tucker-Lewis Index (TLI), which makes up for the negative bias issues (values approaching 1 are considered a good model fit); Standardized Root Mean Square Residual (SRMR), that "can be viewed as the average discrepancy between the correlations observed in the input matrix and the correlations predicted by the model" (Brown, 2015, p. 70) and Root Mean Square Error of Approximation (RMSEA), which assesses how the model fits to the population, with values of 0 indicating perfect fit. The cut-off points considered for the assessment of the models were .90 for CFI and TLI, and .07 for RMSEA and SRMR (Brown, 2015; Hair et al., 2006). As for the loadings, the cut-off considered were .45 as fair values (Tabachnick & Fidell, 2007). Cronbach's alphas were also computed to evaluate the internal consistency of the PCQ scale (24 and 12 items), both in global latent variable and each of its four dimensions.

Results

Dimensionality and reliability of the 24 and the 12-items versions of Team PCQ

Regarding the original scale structure (24 items), a set of concurrent models were tested using CFA. The first model tested assumed the hypothesis of all items being represented in a single factor. Considering the results that indicate that PsyCap is not represented by a single factor solution (see Table 1), we proceeded to a CFA to test the four-factor original model (see Table 1). The inspection of the standardized solution revealed that items 13, 20 and 23 had low loadings (.230, .191, .175, respectively), meaning that their association with the imposed structure was weak, so they were excluded, leaving a 21-factor solution. The referred items are reversed, and the mentioned behaviour of these items was also verified in previous studies (Assunção, 2020; Rebelo et al., 2018). The retained structure was tested using once more the same CFA procedure, initially for a single factor model, that did not reveal, as expected, results that supported this option (see Table 1). Then it was performed a new CFA with the retained structure of 21 items to test the four-factor structure of the scale, which revealed an overall goodness-of-fit [χ^2 (183) = 894.989, p <.001, CFI = .923, TLI = .911, SRMR = .046, RMSEA = .066] and loadings between .453 and .806 (see Figure 1). Finally, a CFA was conducted with the 21-item structure and psychological capital as a second order factor. The results showed also a very good level of adjustment regarding this model [χ^2 (185) = 906,612, p <.001, CFI = .922, TLI = .911, SRMR = .047, RMSEA = .066] and loadings ranged between .456 and .804 (see Figure 2). Although the difference in the chi-square is statistically significant, the models show very good levels of adjustment and very similar goodness-of-fit values with no significant difference compared to the 21-item four-factor solution.

As for the 12-item version, the procedure was identical. More specifically, a CFA was conducted assuming a single-factor structure and the results revealed that it was not an adequate solution (see Table 1). Then, we performed a CFA to test the four-factor structure of the scale, which revealed good level of overall adjustment [χ^2 (48) = 294.332, p <.001, CFI = .946, TLI = .926, SRMR =. 044, RMSEA = .075] and loadings between .434 and .823 (see Figure 3). Finally, a CFA was also conducted with the 12 items and psychological capital as a second order factor [χ^2 (50) = 302,677, p <.001, CFI = .945, TLI = .927, SRMR = .045, RMSEA = .075]. The loadings range between .438 and .824 (see Figure 4). Similarly to the 21-item version, in the 12-item scale, the difference in the chi-square of the four factor and the second order factor structures is

statistically significant, but both show very good levels of adjustment and very similar goodness-of-fit values with no significant differences. The results of each model are summarized in table 1.

Summing up, the statistical indicators of goodness-of-fit for the models tested revealed the best adjustment indexes showed for the two four-factor models (12 and 21 items), as well as the two second order models (12 and 21 items). In figures 1 (12-item four-factor model), 2 (21-item four-factor model), 3 (12-item second order model) and 4 (21-item second order model), we show the retained structures, as well as the correlations between factors and the items loadings.

Table 1

Concurrent Models Goodness-of-fit

Models	χ^2	df	$\Delta \chi^2$	p	CFI	TLI	SRMR	RMSEA
PCQ-24								
Single-factor 24 items	2509,153	252		.000	.772	.750	.0716	.099
Four-factor 24 items	1543,900*	246	965,253***	.000	.869	.853	.0639	.076
Single-factor 21 items	1896,517	189		.000	.815	.794	.0633	.100
Four-factor 21 items	894,989	183	1001,528***	.000	.923	.911	.0462	.066
Second order 21 items	906,612	185	-11,623**	.000	.922	.911	.0471	.066
PCQ-12								
Single-factor 12 items	750,735	54		.000	.848	.814	.0640	.119
Four-factor 12 items	294,332	48	456,403***	.000	.946	.926	.0446	.075
Second order 12 items	302,677	50	-8,345*	.000	.945	.927	.0455	.075

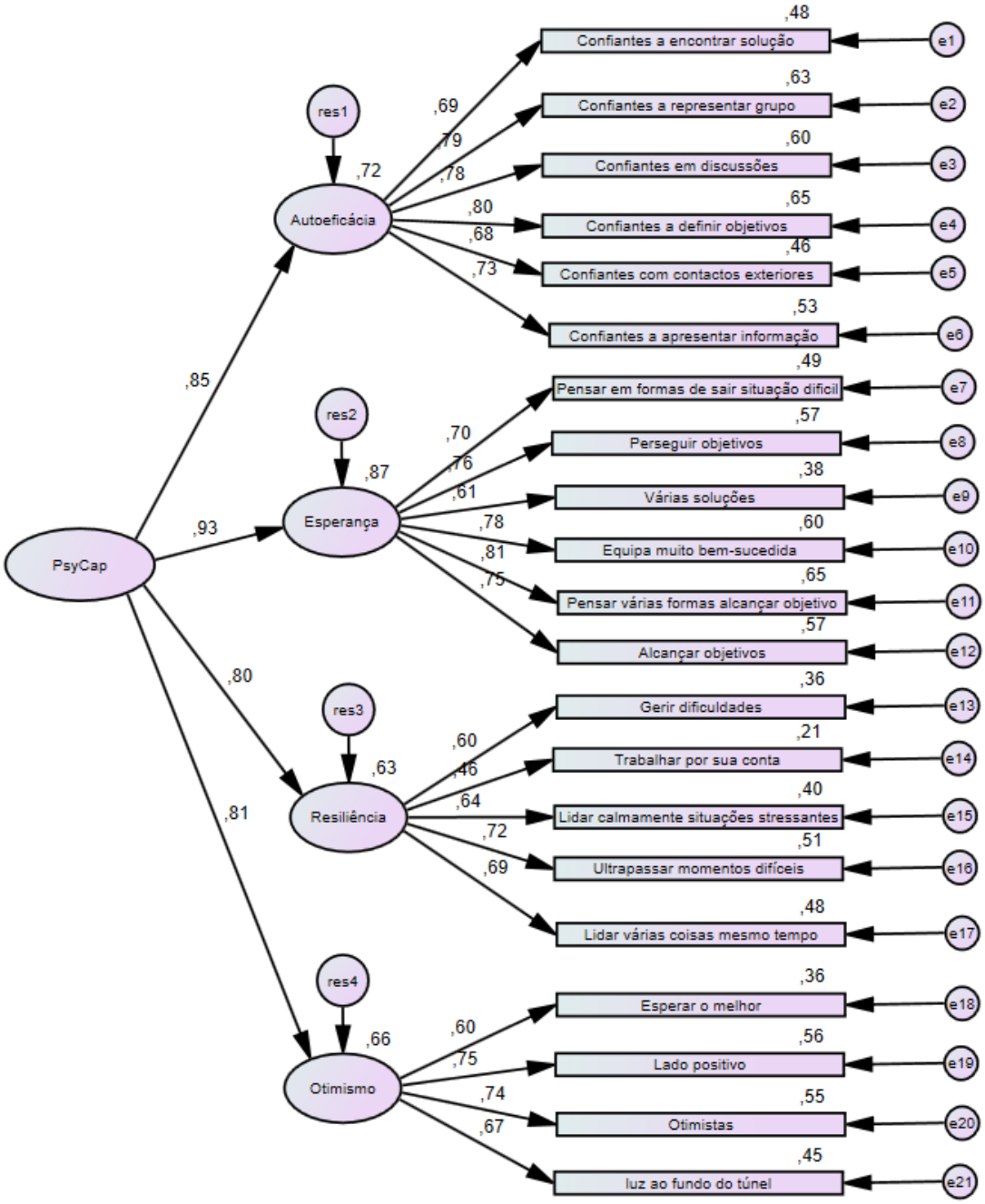
* $p < .05$

** $p < .01$

*** $p < .001$

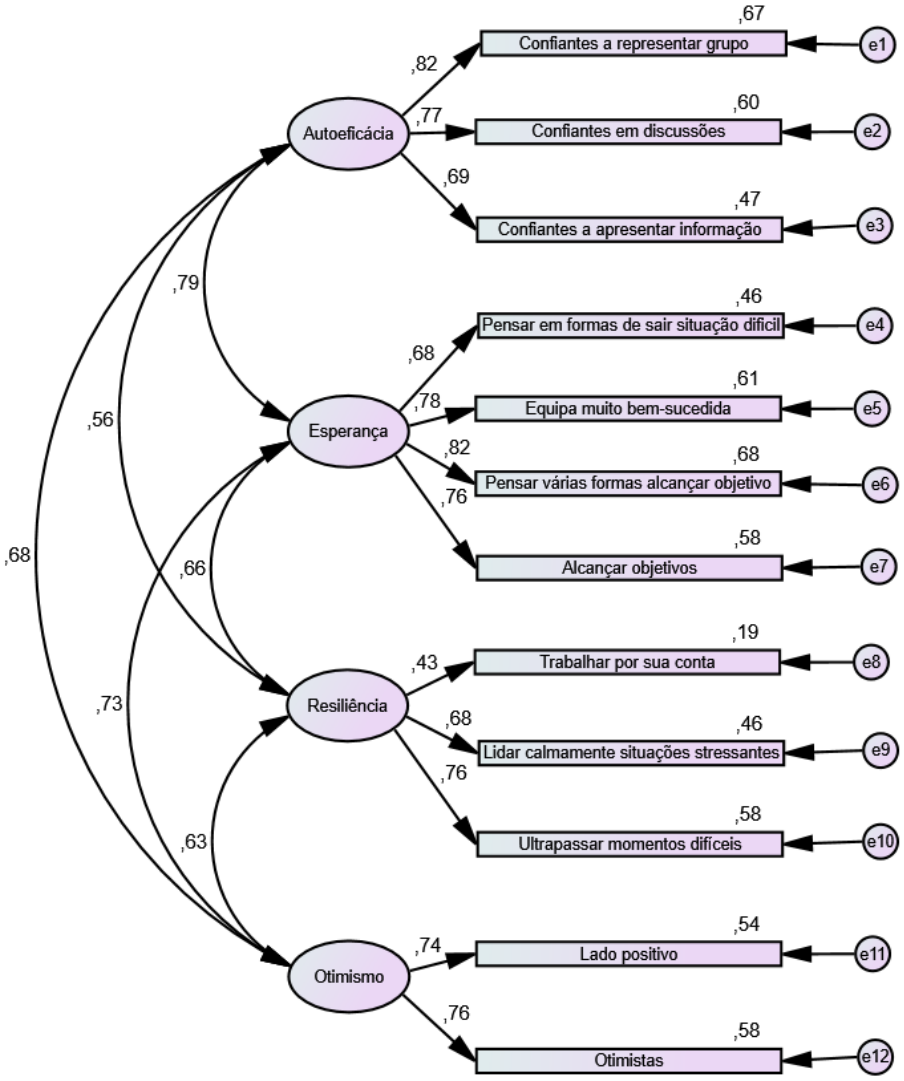
Note: standardized factor loadings and R squares of the observed variables.

Figure 1. 21-item four-factor model standardized solution



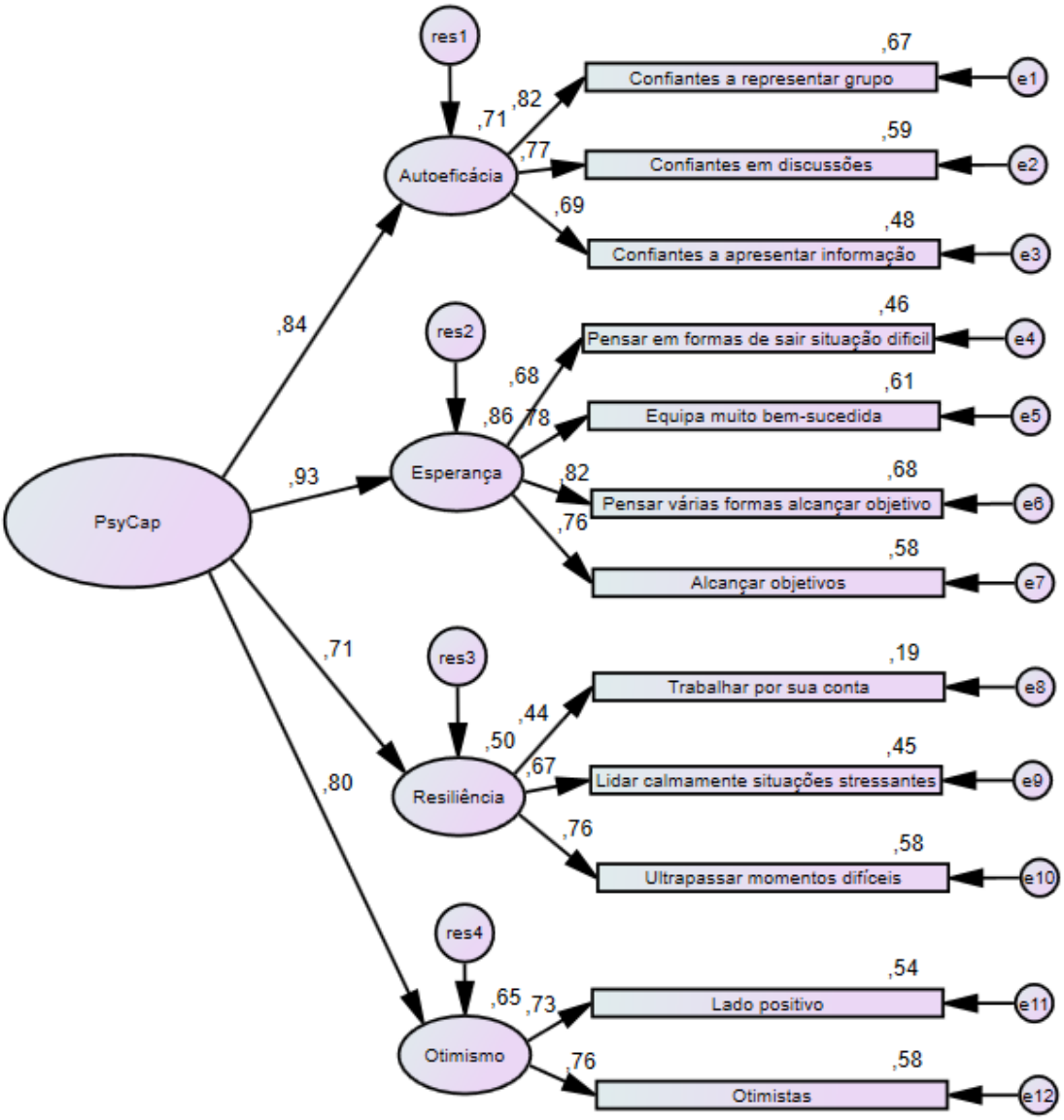
Note: standardized factor loadings and R squares of the observed variables.

Figure 2. 21-item second-order model standardized solution



Note: standardized factor loadings and R squares of the observed variables.

Figure 3. 12-item four-factor model standardized solution



Note: standardized factor loadings and R squares of the observed variables.

Figure 4. 12-item second-order model standardized solution

Subsequently, we proceeded to calculate the Cronbach alphas for both scales (12-item and 21-item) and for the dimensions that constitute each one.

Regarding internal consistency, the global 21-item scale presented an alpha of .93. Regarding each dimension, self-efficacy has an $\alpha = .88$, hope an $\alpha = .87$, resilience an $\alpha = .75$, and optimism has an $\alpha = .79$. The global 12-item scale, in turn, has an alpha of .87, and the dimensions also have adequate values (self-efficacy – $\alpha = .79$; hope – $\alpha = .84$; resilience – $\alpha = .64$ and optimism – $\alpha = .72$).

Team PsyCap assessment: comparing the two versions of the team PCQ scale

It is important to note that in both models (12-item and 21-item), the second order structure was not importantly different from the four-factor models, meaning that both structures may be acceptable.

After the construct validation assessment of both scale versions, we aim at comparing the constructs from the two versions of the instrument. Therefore, the correlations between the 12-item and 21-item version of the scale were performed. The results are shown in Table 2. All the same subscales correlated above .90, which means that they are measuring very similar constructs or mostly overlapping dimensions. The hope dimension is, on both scales, the one that is most associated with PsyCap, followed by self-efficacy. On the 21-item scale, the least associated dimension with PsyCap is optimism, while on the 12-item scale is resilience the least associated to PsyCap. The highest correlations are at the level of the PsyCap global scale, that is, the 12-item scale is highly correlated with the 21-item scale ($r = .979$), so we can safely affirm that it is possible to measure with most similar results PsyCap at team level through the short version of the scale.

Table 2

Correlations between the 21-item scale and the 12-item scale (n = 907)

21-item scale / **12-item scale**	Self-efficacy	Hope	Resilience	Optimism	PsyCap
Self-efficacy	**.956****	.691**	.511**	.536**	.834**
Hope	.706**	**.969****	.589**	.599**	.870**
Resilience	.467**	.500**	**.934****	.471**	.681**
Optimism	.543**	.612**	.496**	**.910****	.740**
PsyCap	.850**	.890**	.776**	.753**	**.979****

** Significative correlation at the level 0.01

Discussion

With this dissertation, we aim to extend the validation studies of the most used PsyCap measuring instrument considering the two versions – PCQ-24 and PCQ-12 – adapted at a team level as referent, in the Portuguese context. In the literature (Luthans et al., 2007a), PsyCap has been perceived as an integrated construct, a higher-order latent variable, that is, PsyCap provides an explanation and additional contribution to the four dimensions that make it up. In fact, our results reinforce the conclusion that PsyCap cannot be perceived as a single-factor solution, but rather as a construct compound of four dimensions (self-efficacy, resilience, hope and optimism). Moreover, it should be highlighted the similarity between the four-factor models and the second-order models. As a matter of fact, both scales (21 and 12-items versions) allow their use at the level of the four correlated dimensions, as well as a second order construct, which increases the flexibility when analysing the data in relation to the research goals and/or the purpose of the organizational diagnosis. In terms of organizational diagnosis, a company may want to measure the levels of psychological capital of its teams, using one of the scales for this purpose and, thus, it makes sense to use as a higher-order construct. However, if the findings point for a specific dimension with particularly low levels, it may make sense for the company to provide training that meets this need and to assess and analyse it in more detail. Thus, it will make sense to look at the data according to the four-factor structure, in order to further explore each of the four dimensions. Even so, from the conceptual point of view, we believe it is relevant to consider team PsyCap as a higher-order construct, given the existing theoretical support (Luthans et al., 2007a). Indeed, the authors refer that the compound factor of PsyCap, reflected in a second order latent variable, presents an additional contribution to the four dimensions that make it up, that is, "the whole (PsyCap) may be greater than the sum of its parts (self-efficacy, optimism, hope and resiliency)" (Luthans et al., 2007b, p.19). As mentioned before, PsyCap is the reflexion of the integration of the four constructs (Luthans et al., 2007a).

In our analysis, the team PCQ-24 scale was reduced to 21 items due to the reverse items that obtained low loadings. In fact, in previous analyses of the 24-item team PCQ scale, in Portugal, there was always the dropout of reverse items in this instrument, as they presented a behaviour similar to that identified in our analysis. With respect to the 21-item solution, the CFA supported the existence of good adjustment indexes, which corroborate the remotion of the reversed items (13, 20 and 23), similarly to what happened in the work of Rebelo et al. (2018). However, in the two previous studies, more items had to be eliminated, namely 6 in the study by Rebelo et al. (2018) and 5 in the work of Assunção (2020). Cid et al. (2020) adapted the scale to the Brazilian context and the results are in line with ours, since the reverse items of the scale (13, 20 and 23) were also removed due to low loadings, leaving a solution of 21 items. Regarding the scale of 12 items, there are authors who indicate the drop of an item (Mathe-Soulek et al., 2014), but this was not verified

in our analysis. In fact, Cronbach's alphas assume adequate values, and when analysing the total-item correlation there was no indication to dropout any more items. The only item that caused some concern was item 15 that belongs to the resilience dimension – "working on your own" –, which obtained lower loadings both on the 21-item scale and on the 12-item scale. Except for this item, all the others are above .50. However, although lower, the loadings were not below .40 and, considering that the item's content is not covered by the rest of the items, we decided to keep it in the analysis, since the models fit with it and it is an important theoretical aspect of the subconstruct that must be mapped – the ability of the team to work on its own. Nevertheless, we believe that it is an item whose behaviour we must pay close attention to in the future.

Moreover, we calculated the correlations between the scales of 21 items and 12 items, as well as the higher-order factors, and we conclude that they were greater than .90, which reveals that both scales measure the same construct and, as such, it is possible to use one or the other. All the constructs in study, the four dimensions and the integrated latent variable of PsyCap, overlap in both versions of the scale. At this point, it is important to note that the use of the PCQ-12 scale results in practical advantages, namely the fact that it is a smaller version, enhancing cooperation and reducing participants' fatigue (Luthans & Youssef, 2017). According to those authors, the PCQ-12 scale also stands out because its items are more susceptible to translation and use in different cultures.

Conclusions, limitations, and further research

The organizational world increasingly depends on the existence of teams capable of answering to the challenges and obstacles that are imposed (O'Neill & Salas, 2018). In this context, it is relevant to approach team PsyCap not only at a theoretical level, but also at a practical and empirical level, in order to understand and interfere in the teams' psychological capital levels. For this, it is essential to have valid and reliable instruments to assure this assessment. Indeed, the present work reinforces the use at the team level of the PsyCap measurement scale – PCQ 21 and 12-items versions, supporting the idea that psychological capital can be measured at the collective level (Heled et al., 2015; Rebelo et al., 2018). In fact, studies about PsyCap particularly focus on the individual level and the transition to the team level as a referent is a recent process, which is fully supported by the findings of the present work. This conclusion also results in an important practical contribution for organizations, since it confirms that they can measure and later intervene on the psychological capital levels of their teams. Likewise, the results support the four-factor and second order structure of the PCQ scale (21 and 12 items) and that it is possible to use one or the other, depending on the research and/or organizational goals. Nevertheless, it is worth noting the strong correlation found between both versions of the scale and these results hold the conclusion that it is possible to make preferential use of the smaller version of the scale, as this one has equally good psychometric qualities. Within this framework, the present study assumes a paramount importance, as it allowed the validation of the 21-item and 12-item scales with the team as a referent with the benefit of using a short measure. Our study points out that researchers and organizations can safely use the team PCQ-12 scale, as it evaluates PsyCap and allows to increase cooperation and reduce participants' fatigue, which is highly important for the success of the procedure (Luthans & Youssef, 2017). With this in mind, we emphasize the contribution of the present work of a psychometric nature to the accuracy of studies and interventions in Work and Organizational Psychology.

However, the present study had some limitations, namely the existence of few subjects per team, which impairs the adequacy of a multilevel confirmatory factor analysis. As a next step, it would be important to analyse the PCQ scale with a multilevel confirmatory factor analysis. However, for this it will be necessary to proceed with the collection of additional data, in order to increase the number of subjects per team (Hox et al., 2010).

In terms of future suggestions, we highlight the relevance of studying the nomological validity of both scale versions, relating them to variables of interest, such as team effectiveness. It is also relevant, from our point of view, to carry out invariance tests according to the variables that characterize teams, such as supervision/support from leadership (Avey, 2014), team size or team tenure. In order for an instrument to be widely applied in a heterogeneous population, it is necessary that its psychometric properties are proved equivalent or invariant in the different subgroups of the

population. Thus, it is important to clarify whether the four-factor and second-order structure may be assumed to have invariance in different groups or in the same group but at different times of application (Brown, 2015), for example, after a field intervention program to improve team PsyCap.

Summarily, this work is relevant to research and practice, as it provides strong support for the measure of PsyCap at the team level. Additionally, we also concluded that this measurement is valid for the Portuguese context through the two versions of the PCQ scale (21 and 12 items), with a global score or with the four factors scores. Furthermore, it was showed and discussed the strengths of using the 12-item scale with guarantees of measurement validity, plus the advantages related to the length of the scale, as well as the cooperation of participants.

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Appendix A

Team Psychological Capital Questionnaire Scale (24 items)

Relativamente **à sua equipa de trabalho**, pedimos-lhe que indique em que medida concorda ou discorda das seguintes afirmações, assinalando com uma cruz (x) a opção que melhor se adequa, utilizando a seguinte escala:

1	2	3	4	5	6
Discordo fortemente	Discordo	Discordo em parte	Concordo em parte	Concordo	Concordo fortemente

Na nossa equipa…	1	2	3	4	5	6
1. … quando analisamos um problema de longo prazo, sentimo-nos confiantes de que iremos encontrar uma solução.						
2. … sentimo-nos confiantes ao representar o nosso grupo de trabalho em reuniões com a administração.						
3. … sentimo-nos confiantes ao contribuir para as discussões acerca da estratégia da organização						
4. … sentimo-nos confiantes em ajudar a definir objetivos para a nossa área de trabalho.						
5. … sentimo-nos confiantes ao estabelecer contacto com pessoas fora da empresa (por exemplo, clientes e fornecedores) para discutir problemas.						
6. … sentimo-nos confiantes a apresentar informação a um grupo de colegas.						
7. Se nos encontrássemos numa situação difícil no trabalho, conseguiríamos pensar em muitas formas de sair dela.						
8. Neste momento, sentimos que estamos a perseguir ativamente os nossos objetivos de trabalho.						
9. … para qualquer problema existem várias soluções.						

10. Neste momento, consideramo-nos uma equipa muito bem-sucedida.						
11. … conseguimos pensar em várias maneiras de alcançar os nossos objetivos de trabalho atuais.						
12. … estamos, neste momento, a alcançar os objetivos de trabalho que definimos para a equipa.						
13. … quando temos um contratempo no trabalho, temos dificuldade em ultrapassá-lo e seguir em frente.						
14. … geralmente conseguimos gerir as dificuldades no trabalho, seja de uma forma ou de outra.						
15. Se for necessário, somos capazes de trabalhar por nossa conta.						
16. … em geral, costumamos lidar calmamente com as situações mais stressantes do trabalho.						
17. … conseguimos ultrapassar os momentos difíceis do trabalho, pois já passámos anteriormente por dificuldades.						
18. … sentimos que conseguimos lidar com várias coisas ao mesmo tempo.						
19. … quando as coisas estão incertas, habitualmente esperamos o melhor.						
20. … se alguma coisa tiver que correr mal para nós no trabalho, então, vai mesmo correr.						
21. … no que respeita ao nosso trabalho, olhamos sempre para o lado positivo das coisas.						
22. … no que se refere ao trabalho, estamos otimistas acerca do que nos irá acontecer no futuro.						
23. … em termos de trabalho, as coisas nunca nos correm como gostaríamos.						
24. … no que respeita ao trabalho, consideramos que “há sempre luz ao fundo do túnel”.						