



The influence of psychological capital on internal learning in teams: The mediating role of the perceived team structure

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The influence of psychological capital on internal learning in teams: The mediating role of the perceived team structure

Abstract

Whereas past research on internal learning has focused on evaluating how the observed learning rates affect collaborative interactions among the various actors, we extend this literature by analyzing internal learning in teams and the role of psychological capital in this process. This study aims to analyze the mediating role of perceived team structure in the relationship between positive psychological capital and internal learning in teams. Therefore, a self-report questionnaire was applied to 480 college students to test this relationship, using structural equation modeling. The results confirmed the mediating role of the perceived team structure in the relationship between psychological capital and internal learning in teams. Our work reinforces the role of psychological capital in academic settings. On the other hand, due to rapid changes in today's society, university students who are future employees have the need to cultivate psychological capital in order to achieve better learning outcomes.

Keywords: Positive psychological capital, perceived team structure, internal learning in teams, learning process, undergraduate students

A influência do capital psicológico na aprendizagem interna em equipes: o papel mediador da estrutura percebida da equipa

Resumo

Pesquisas anteriores sobre a aprendizagem interna se concentraram em avaliar, como as taxas de aprendizagem observadas afetam as interações colaborativas entre os vários atores. Assim sendo, agregamos valor a esta literatura ao analisar a aprendizagem interna em equipes e o papel do capital psicológico neste processo. Este estudo tem como objetivo, analisar o papel mediador da estrutura percebida da equipa na relação entre capital psicológico positivo e aprendizagem interna em equipes. Portanto, um questionário foi aplicado a 480 estudantes universitários para testar esta relação, usando a metodologia de modelagem de equações estruturais. Os resultados confirmaram o papel mediador da estrutura percebida da equipa na relação entre capital psicológico e

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3 aprendizagem interna em equipas. Argumentamos que este trabalho reforça o papel do
4 capital psicológico em contextos académicos. Por outro lado, devido às rápidas mudanças
5 verificadas, atualmente na sociedade, os estudantes universitários que são futuros
6 funcionários precisam desenvolver o capital psicológico, a fim de obterem melhores
7 resultados de aprendizagem.
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12 Palavras-chave: capital psicológico positivo, estrutura percebida da equipa, aprendizagem
13 interna em equipas, processo de aprendizagem, estudantes de graduação
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18 La influencia del capital psicológico en el aprendizaje interno del equipo: el papel
19 mediador de la estructura percibida del equipo
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22 **Resumen**

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24 La investigación previa sobre el aprendizaje interno se ha centrado en evaluar cómo las
25 tasas de aprendizaje observadas afectan las interacciones colaborativas entre los diversos
26 actores. Por lo tanto, agregamos valor a esta literatura al analizar el aprendizaje interno
27 en equipos y el papel del capital psicológico en este proceso. Este estudio tiene como
28 objetivo analizar el papel mediador de la estructura percibida del equipo en la relación
29 entre el capital psicológico positivo y el aprendizaje interno en los equipos. Por lo tanto,
30 se aplicó un cuestionario a 480 estudiantes universitarios para probar esta relación,
31 utilizando la metodología de modelado de ecuaciones estructurales. Los resultados
32 confirmaron el papel mediador de la estructura percibida del equipo en la relación entre
33 el capital psicológico y el aprendizaje interno en los equipos. Sostenemos que este trabajo
34 refuerza el papel del capital psicológico en contextos académicos. Por otro lado, debido
35 a los rápidos cambios observados en la sociedad actual, los estudiantes universitarios que
36 son futuros empleados necesitan desarrollar capital psicológico para obtener mejores
37 resultados de aprendizaje.
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42 Palabra clave: capital psicológico, estructura de equipo percibida, aprendizaje interno del
43 equipo, proceso de aprendizaje, estudiantes de pregrado
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Introduction

Studies on individual learning show that learning is at the heart of changes and renovations (Argote and Miron-Spektor, 2011). Collaborative activities that lead to individual learning are considered critical to achieving different positive outcomes (Song *et al.*, 2014). The identification of the degree of involvement of individuals in the learning process has been considered as the key issue in previous research (Bresman, 2010). Thus, learning theories tend to emphasize goal orientation and collaborative interactions among the various actors in order to minimize errors and improve individual performance (Bunderson and Reagans, 2011).

The study of the background of individual learning-focused essentially on explaining the differences in observed learning rates and evaluate how other factors such as perceived team structure interact to influence learning (Bresman and Zellmer-Bruhn, 2013). Although these approaches indicate certain individual learning processes, there remains a need for more theoretical construction and effective practical applications that more comprehensively analyzes the facilitating factors of learning (Yoon and Kayes, 2016). As advocated by Bunderson and Boumgarden (2010), knowing more about the antecedent factors that affect individual learning is a valuable contribution, as it improves our understanding of learning processes.

Positive Psychological Capital (PsyCap) is a higher-order construct that integrates psychological resources (eg, self-efficacy), motivational resources (eg, hope), and other positive psychological resources (eg, optimism and resilience). As such, we argue that PsyCap can be one of these antecedents, as it is considered a useful predictor of important results in academic settings (Datu & Valdez, 2019; Luthans *et al.*, 2012). For Siu *et al.*, (2014) students as well as employees, all work to achieve specific goals, such as good academic performance and completion of the course with their attainment of an academic degree. They also argued that PsyCap can be considered as a useful personal resource that assists in achieving the objectives, and can, therefore, help university students to face challenges in their studies.

Therefore, previous research indicates the need for further studies on how to integrate psychological capital in the learning process (Daspit *et al.*, 2015). In addition, Herrmann (2013) notes that there 'are very few studies that attempt to look at internal learning beyond the organizational settings. Thus, the present study intends to fill this gap in the research, by describing an approach to incorporating psychological capital and

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3 internal learning in teams. Given this, the aim of the present study is to analyze the
4 mediating role of perceived team structure in the relationship between positive
5 psychological capital and internal learning in teams.
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8 Daspit *et al.*, (2015) have provided empirical evidence supporting the positive
9 influence of psychological capital on the learning process of students during an online
10 course. However, there is no evidence from a study analyzing the mediating role of the
11 perceived team structure in the relationship between psychological capital and other
12 variables, such as internal learning, which we believe to be an important theoretical
13 contribution of this study.
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18 For Schaubroeck *et al.*, (2016), without an adequate learning process, team
19 members will have difficulty developing and implementing best practices to coordinate
20 their actions when environmental changes require new approaches. Thus, we argue that
21 this study could lead to certain practical implications because internal learning in teams
22 allows students to focus on understanding concepts to relate new ideas to previous
23 knowledge and experiences.
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29 The remaining of this work is organized as follows. First, the literature review and
30 provide the rationale for the hypotheses. We then present the methodological option and
31 procedures, followed by the analysis of the results. We finally draw on the discussion of
32 the results and conclude with the implications of our findings.
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38 **Literature review and hypotheses**

39 *Psychological Capital*

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41 Theoretical and empirical studies have supported that positive psychological
42 capital is as an emergent nuclear construct related to different positive results, thus
43 allowing a positive evaluation of the circumstances and probability of success, taking the
44 effort and perseverance as motivating factors (Luthans *et al.*, 2010; Heleda *et al.*, 2015).
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48 According to Luthans *et al.*, (2006), positive psychological capital is broadly
49 defined as the positive psychological state of development of an individual that can be
50 characterized by: (1) having the confidence to take on challenging tasks and make the
51 necessary effort to succeed (self-efficacy); (2) making a positive approach to success,
52 now and in the future (optimism); (3) persevering in achieving goals and, where
53 necessary, redirect the paths according to the goals to achieve success (hope); (4) being
54 able to overcome obstacles and adversities, without ever giving up, to achieve success
55 (resilience). In general, theoretical research considers four capacities of positive
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3 psychological capital, namely: self-efficacy, optimism, hope and resilience (Newman *et al.*, 2014). These capabilities are interconnected, if one capacity is affected (eg,
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5 optimism), other capabilities (eg, hope, self-efficacy and/or resilience) are likely to be
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7 affected over time as well (Peterson *et al.*, 2011).
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10 These capabilities can be defined, namely: (1) Self-efficacy - refers to individual
11 confidence that raises motivational levels and cognitive resources, which allow the
12 achievement of high performance (Bandura, 1982; Newman *et al.*, 2014. (2) Optimism -
13 is to increase positive attributes and expectations in the realization of future events
14 (Harms and Luthans, 2012). (3) Hope - cognitive set derived from the interaction: agency
15 (oriented determination to achieve the goals) and directional plans (planning steps leading
16 to achieving objectives) Walumbwa *et al.*, (2011). (4) Resilience - is considered as a
17 capacity that allows individuals to face or adjust positively in the face of adversity (King
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Chen and Lim (2012) pointed out that the four basic positive psychological capacities are likely to affect outcomes synergistically and are best represented by a higher-order construct called positive psychological capital. Avey (2014) argues that PsyCap does not consist of a single dimension (for example, simply optimism), but rather a shared variation of the four dimensions. Thus, the four positive psychological capacities, are part of a larger, second-order construct, called PsyCap.

The combination of the four psychological capacities (self-efficacy, optimism, hope, and resilience) provide a high level of psychological capital that allows an individual to focus on task performance and pursue success in completing these tasks (Peterson *et al.*, 2011). More specifically, these capabilities were determined to meet the criteria of inclusion, research, and validation of measures of psychological capital as a theory, thus enabling its broad development and impact (Walumbwa *et al.*, 2011).

According to Daspit *et al.*, (2015), psychological capital represents a set of individual motivations that stimulate the development of learning outcomes. However, the expected relationship between psychological capital and individual learning is not obvious and remains open to further investigation.

Internal Learning in teams

Learning capacity and individual adaptation of the actors are fundamental to the long-term performance and success of organizations (Argote and Miron-Spektor, 2011).

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3 Edmondson (1999: 353) conceptualized individual learning in teams as an ongoing
4 process of reflection and action, characterized by asking questions, seeking feedback,
5 experimenting, reflecting on results, and discussing errors or unexpected outcomes of
6 actions.
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10 This process allows for a more comprehensive and robust understanding of future
11 possibilities, through the use of different information, perceptions and perspectives of the
12 team members, as well as critical analysis and evaluation of past actions (Bunderson and
13 Reagans, 2011).
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17 On the other hand, individual work in a team enables communication, sharing of
18 knowledge, thus transforming the individual perspectives of perceived team members
19 into explicit concepts that can positively influence other members (Kostopoulos *et al.*,
20 2013; Kayes *et al.*, 2005). In addition, the different perspectives and experiences of each
21 individual are what makes the interpersonal learning process possible through the formal
22 or informal sharing of knowledge (Bunderson and Reagans, 2011).
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27 Therefore, internal learning is based on the team members' own experiences in
28 generating new solutions and approaches through interactions among team members
29 (Bresman and Zellmer-Bruhn, 2013). Internal learning can provide the team with
30 opportunities to learn about all aspects of their work (Bresman, 2010). According to
31 Bresman and Zellmer-Bruhn (2013), the internal learning process is considered crucial
32 because team members can obtain and master the latest information on technologies and
33 markets (external learning), but without the effective internal learning process, this
34 knowledge may not be properly harnessed (Bresman and Zellmer-Bruhn, 2013).
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41 In this context, an analysis of individual learning in a team should essentially
42 consider internal learning, since factors that promote internal learning end up driving
43 external learning (Bresman & Zellmer-Bruhn, 2013). This is particularly important given
44 that individual learning can be enhanced with the insertion of new and challenging tasks
45 (Jiang *et al.*, 2015).
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50 The learning process has been proposed as the main psychological and behavioral
51 mechanism through which individuals can acquire the skills and knowledge necessary to
52 face and succeed in competitive environments (Yoon and Kayes, 2016). Despite the
53 theoretical and practical conceptualization of PsyCap and the learning process, there is
54 little evidence of a study that analyzes the influence of psychological capital on the
55 individual learning process. Therefore, the present study integrates these two concepts.
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Psychological capital and internal learning in teams

The influence of PsyCap on the learning process is pointed out as relevant by authors such as Yoon and Kayes (2016). These authors emphasize that in many situations, the learning process requires employees to face challenges, reflect errors, and perform tasks involving risk successfully.

Thus, when team members are actively involved in discussions geared toward achieving the stated objectives, they have the opportunity to exchange ideas and, in turn, share perceptions about the different alternatives identified and, as a result, multiply the achievement of goals, increasing positive psychological capacities (Dawkins *et al.*, 2013).

In this context, according to Huang and Luthans (2014), individuals with a high level of psychological capital tend to differentiate themselves from others because of their abilities to face challenging tasks, which can boost the learning process. Thus, the internal learning process requires collaborative reflection on the team's experiences, with the objective of improving the collaboration capacity and the interaction patterns of its members (Schaubroeck *et al.*, 2016). It is in this line that we propose that:

H1: Psychological capital positively influences internal learning in teams.

Psychological capital and perceived team structure

According to Bunderson and Boumgarden (2010), perceived team structure refers to the division of labor into tasks and the relationships that are established according to assigned tasks. Thus, Bresman and Zellmer-Bruhn (2013) point to two main dimensions of perceived team structure: (1) specialization, which is the horizontal division of labor (eg tasks and roles); and (2) formalization, which is the explicit articulation of objectives, priorities, and procedures.

Previous research has highlighted the benefits of the perceived team structure on issues of efficiency, predictability, and accomplishment of tasks. For example, Bresman and Zellmer-Bruhn (2013) emphasized that teams can create structures for themselves that fit their individual task demands. It is also shown that perceived team structure might be considered when there are few plans and procedures, specifying how the work should be carried out (Bunderson & Boumgarden, 2010).

Individuals with a high level of psychological capital tend to generate positive expectations that encourage them to achieve defined goals and deal with adverse situations (Newman *et al.*, 2014). On the other hand, several authors such as Bresman and Zellmer-Bruhn (2013) highlight the relevance of the perceived team structure, arguing

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3 that structure allows a definition of team boundaries, through the division of tasks and
4 allocation of responsibilities by subtasks.
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6 Thus, the division of labor makes it possible to perform specific tasks that team
7 members must complete to achieve their stated goals, which requires high levels of
8 psychological capital for better performance (Salas *et al.*, 2014). As Siu *et al.*, (2014)
9 have said, individuals with high levels of PsyCap promote a positive approach within a
10 work team and can effectively improve the processes, priorities and working procedures
11 of university students.
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17 Ortega-Maldonado and Salanova (2017) found that students use their
18 psychological capabilities to define tasks or reaching academic goals. Moreover, the
19 research also shows that under numerous challenging academic situations, students may
20 need a high level of psychological capital to exert the necessary effort to complete defined
21 tasks and to make positive attribution about succeeding when problems and adversity
22 appears. Thus, individuals with high levels of psychological capital have the ability to
23 structure their work in order to achieve the desired goals (Goertzen and Whitaker, 2015).
24 Taking this type of conclusions into account, we hypothesize that:
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30 *H2: Psychological capital positively influences the perceived team structure.*
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34 *Perceived Team Structure and Internal Learning in teams*

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36 The perceived team structure allows for shaping the actions of its members and
37 may be applicable to various types of perceived teams and organizational units (Bresman
38 and Zellmer-Bruhn, 2013). In this way, teams that present high-level collective
39 perceptions are more likely to recognize and seize the emerging opportunities conducive
40 to the learning process (Jansen *et al.*, 2016).
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45 For Noe *et al.*, (2014) perceived team structure facilitates the learning process
46 precisely because it promotes a set of interactions among team members. In this context,
47 learning presupposes that the activities and individual efforts of its members are oriented
48 toward the achievement of objectives defined by a process of formalization and
49 specialization of activities (Bunderson and Reagans, 2011).
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53 The learning process depends on the existence of defined objectives and shared
54 tasks within the team (Mathieu *et al.*, 2014). Therefore, as the structuring of work has
55 become increasingly important in education and in the workplace, more emphasis is
56 placed on the learning process and individual learning capacity (Kayes *et al.*, 2005). For
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3 these reasons, we argue that the perceived team structure contributes to internal learning.

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5 Thus, we assume that:

6 *H3: Perceived Team Structure positively influences Internal Learning in teams.*

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10 *The mediating role of the Perceived team structure*

11 Previous research has paid little attention to the mediating role of the Perceived
12 team structure in developing learning processes with an internal focus (Bresman and
13 Zellmer-Bruhn, 2013). Similarly, Bunderson and Boumgarden (2010) argue that
14 Perceived team structure is a category of team characteristics that researchers often
15 neglect. For Crawford and Lepine (2013), these team process theories have focused more
16 on the content and temporal relevance of the work.

17 We argue that the perceived team structure can mediate the relationship between
18 psychological capital and internal learning. In a reflection on the mediating role of the
19 perceived team structure, Bunderson and Boumgarden (2010) emphasize that perceived
20 team structure has important implications for individual learning with an internal focus.

21 Psychological capital allows influencing students' attitudes in structuring
22 activities and tasks, which can create favorable conditions for the internal learning
23 process. As highlighted by Nielsen *et al.*, (2016), individuals with a high level of PsyCap
24 have confidence (self-efficacy) to deal with challenging tasks they face at work, believe
25 they will be able to face these challenges (optimism) redirecting paths to facilitate goals
26 (hope) and recovering from adversity (resilience). For Nigah *et al.*, (2012) these abilities
27 were considered as personal psychological resources that individuals can use to structure
28 their tasks as well as the relationships that are established according to the tasks defined,
29 which contributes to the individual learning process.

30 In line with this, we argue that the perceived team structure will function as a
31 mediating mechanism linking psychological capital to student learning. Although there is
32 little evidence about the effect of psychological capital on internal learning through
33 perceived team structure, there is increasing evidence that psychological capital is linked
34 to a trend that maintains cognitions and assessments of an individual and allows this has
35 the ability to handle a variety of situations, including the confidence an individual must
36 have to take challenging tasks, generate alternative solutions to adversity, persevere in
37 difficult circumstances, recover and learn from failures quickly (Harms *et al.*, 2018). This
38 evidence leads us to formulate the following hypothesis:

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3 *H4: Perceived Team Structure mediates the relationship between PsyCap and*
4 *Internal Learning in teams.*

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6 A conceptual model of the mediating role of perceived team structure in the
7 relationship between psychological capital and internal learning in teams is presented in
8 Figure 1. In addition, the conceptual model presents also the hypotheses under study.
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17 **Method**

18 *Participants and Procedure*

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20 Study participants were undergraduate students from three large Higher Education
21 Institutions (two Public Institutions and one Private Institution). These Higher Education
22 Institutions were selected from a list of 8 Higher Education Institutions. Moreover, the
23 institutions were selected through random sampling, as suggested by Lohr (1999).
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27 Students from 13 different undergraduate courses (e.g. Psychology, Pedagogy,
28 Clinical and Organizational Psychology, Linguistics-Portuguese, Geography,
29 Physiotherapy, Accounting and Taxation, Biology and History) have participated in this
30 study. The data collection has been authorized by the board of each institution and
31 permission has been granted by the lecturer of the modules in which the survey took place.
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35 Participants voluntarily completed the questionnaire in person during the class
36 period, using paper and pencil. Additionally, the study participants filled a questionnaire
37 about their work in a team related to specific course units. Moreover, as the two study
38 variables (perceived team structure, and internal learning) were obtained from students
39 who worked in teams, we asked students to think about their individual work with other
40 team members rather than team unit as a whole, as recommended by Lee et al., (2018). It
41 is also shown that to measure construct at the individual-level of analysis from individuals
42 who worked in teams, they need to respond by having team member reference (Jehn,
43 1995).
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47 As a result, 600 surveys were distributed and 480 valid surveys (an 80%
48 acceptance rate) were received during the month of August 2018. All participants were
49 informed that participation was voluntary and that the data collected would be handled
50 by the researchers involved in the study confidentially and would be used only for the
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3 purpose of the study. In addition, any questions from the participants were clarified during
4 the data collection process.
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6 The participants were 54 percent men and the average age of the participants was
7 24 years (ranging from 17 to 58 years). The most significant courses were Economics (25
8 percent), Business Management (12 percent), Nursing (11 percent) and Linguistics-
9 English (8 percent). On the other hand, 64 percent of the participants study in the morning,
10 2 percent in the afternoon and 34 percent in the post-work period. Additionally, 61 percent
11 were from the first year, 21 percent the second year, 11 percent the third year and 7
12 percent the fourth year.
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19 20 *Measures*

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22 PsyCap. We used the version of the 24-item questionnaire adapted for academic
23 research by Luthans et al., (2012). The 24 items that measure psychological capital were
24 adapted from published scales and used in previous studies, such as Luthans *et al.*, (2014)
25 and Luthans *et al.*, (2016).
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28 The scale is composed by four subscales with 6 items each, corresponding to
29 positive psychological capacities, respectively, evaluating: self-efficacy (eg: "I feel
30 confident when I look for a solution to a long-term problem"); hope (eg: if I found myself
31 in a difficult situation at work of course, I could think of many ways to get out of it");
32 resilience (eg: "when I have an obstacle in my studies, I have difficulties recovering and
33 moving forward"); optimism (eg: "in studies, I am optimistic about what will happen in
34 the future").
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41 The responses were given on a 6-point Likert scale, from (1) "Totally Disagree"
42 to (6) "Totally Agree". According to Luthans et al., (2012), the 24-item positive
43 psychological capital scale presented in the original study has a Cronbach's α s of 0.90.
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46 *Perceived Team Structure*. We used the scale developed and validated by
47 Bunderson and Boumgarden (2010), consisting of 9 items with two subscales,
48 specialization (for example: "Our individual tasks are very clear and we do not deviate
49 from them") and formalization (for example, "we follow a very structured working
50 schedule"). Cronbach's Alpha reported by the authors is 0.75. In a later study, Bresman
51 and Zellmer-Bruhn (2013), validated the scale and found a Cronbach Alpha of 0.73. The
52 responses were given on a 7-point Likert scale, from (1) "Totally Disagree" to (7) "Totally
53 Agree".
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3 *Internal Learning in teams.* We used the scale developed by Edmondson (1999).
4 The scale initially validated by Edmondson (1999) and later confirmed and validated by
5 Bresman and Zellmer-Bruhn (2013) is related to internal learning with 7 items. Example
6 of items: we have, "we regularly reserve time to find ways to improve the group's work
7 processes" and "People in the team often speak up to test assumptions about issues under
8 discussion". The response scale used is a 7-point Likert type, from (1) "Totally Disagree"
9 to (7) "Totally Agree" with a Cronbach Alpha of 0.71.

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16 The total scale with 40 items was translated into Portuguese using the
17 translation/retroversion method. The original scale and translated versions were carefully
18 compared, at this stage an English-speaking native and Portuguese-English linguistic
19 lecturer assisted us in this process.

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23 Control variables¹. Previous research (e.g., Schneider & Preckel, 2017) argued
24 that students' year of the course may influence their learning outcomes. Therefore, we
25 included this demographic variable in our analyses. The year of the course was a self-
26 report measure.

30 31 *Measure Validity*

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33 We ran a confirmatory factor analysis for each construct to examine its factorial
34 structure. The quality of local adjustment of the model was made based on the factorial
35 weights and individual reliability of the items. Likewise, convergent validity (i.e.,
36 composite reliability) was examined (Fornell and Larcker, 1981).

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40 The confirmatory factor analysis, carried out with the Amos software on the
41 Positive Psychological Capital scale, resulted in adequate values. The model presents
42 moderate and good factorial weights ($\lambda \geq 0.30$) and appropriate individual reliabilities
43 ($r^2 \geq 0.10$). The final model has excellent adjustment indexes² ($\chi^2(145) = 242.993$, p
44 < 0.001 ; TLI = 0.908; CFI = 0.922; GFI = 0.949; SRMR = 0.044; RMSEA = 0.038). The
45 Cronbach Alpha for the Positive Psychological Capital dimension was 0.86. It is

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53 ¹ We are thankful to the Editor-in-chief and two anonymous reviewers for their significant contributions to
54 improving this study.

55 ² Acceptability parameters of Structural Equation Modeling (Hair et al., 1995):

56 - *Chi-Square* (χ^2): p -value $\leq 0,05$.

57 - *Goodness of Fit Index* (GFI): ≥ 0.90 .

58 - *Comparative Fit Index* (CFI): ≥ 0.90 .

59 - *Tucker-Lewis Index* (TLI): ≥ 0.90 .

60 - *Root Mean Square Error of Approximation* (RMSEA): ≤ 0.08

- *Standardized Root Mean Square Residual* (SRMR): ≤ 0.08

important to emphasize that in the present study we used PsyCap as a second-order factor, considering that several studies have shown that PsyCap as a second-order construct has a stronger impact on results than the four psychological capacities separately (Avey *et al.*, 2011; Badran and Youssef-Morgan, 2015; Alessandri *et al.*, 2018).

Confirmatory factor analysis for the *Perceived Team Structure* scale allowed adequate values to be obtained. The model presents moderate and good factorial weights ($\lambda \geq 0.40$) and appropriate individual reliabilities ($r^2 \geq 0.16$). The final model presents good adjustment indices $\chi^2(26) = 89.137$, $\rho < 0.001$; TLI = 0.899; CFI = 0.927; GFI = 0.962; SRMR = 0.045; RMSEA = 0.071. The Cronbach alpha for the team structure was 0.82.

The confirmatory factor analysis, for the Internal Learning scale, allowed to obtain adequate values. The model presents moderate and good factorial weights ($\lambda \geq 0.40$) and appropriate individual reliabilities ($r^2 \geq 0.16$). The final model presents excellent adjustment indices ($\chi^2(7) = 23.797$, $\rho < 0.001$; TLI = 0.950; CFI = 0.977; GFI = 0.984; SRMR = 0.034; RMSEA = 0.071). Cronbach's alpha coefficient for internal learning is 0.76.

Results

Descriptive statistics

Table I presents the means, standard deviations, Cronbach's alphas (in parentheses) and Pearson's correlations of the variables being studied. According to Table I, the internal consistencies are generally acceptable. The perceived team structure mediation model on internal learning was adjusted to 480 respondents. The model has an acceptable adjustment ($\chi^2(450) = 716.726$, $\rho < 0.001$; TLI = 0.90 CFI = 0,902; GFI = 0,915; SRMR = 0.050; RMSEA =0.035).

On the other hand, we used a structural equation modeling power analysis program with an anticipated effect size of 0.144 at a probability level of 0.05 and at a statistical power level of 0.80, as suggested by Westland (2010). Thus, the results showed that to have an acceptable sample size to test the research hypotheses this study necessitated a minimum of 379 participants. Therefore, we argued that the sample of the present study (480 students) has acceptable explanatory power.

Insert Table 1 about here

Assessing common method bias

There is a considerable amount of evidence that the common method variance biases can have a substantial effect on the observed relationships between measurements of different constructs. For Podsakoff *et al.*, (2003) it is possible that the use of statistical remedies may minimize the effects of common method bias on the study findings. Given that the data from this study were obtained from the same source, we evaluated the effect of this variation by re-estimating the measurement model by adding a latent common method factor (Harman's single-factor test).

The model fit without the common method factor produced the following adjustment indices: ($\chi^2(422) = 663.455, \rho < 0.001$; TLI = 0.901; CFI = 0.911; GFI = 0.918; SRMR = 0.049; RMSEA = 0.035). While the inclusion of the common method factor only slightly improved the model fit in certain indices, the results are as follows: ($\chi^2(421) = 666.986, \rho < 0.001$; TLI = 0.899; CFI = 0.909; GFI = 0.919; SRMR = 0.039; RMSEA = 0.035).

However, the amount of total variance explained by this method factor was 15 percent, below the 25 percent that is suggested by Williams *et al.*, (2015). Thus, we argue that same-source bias cannot be considered a threat meant to the findings of this study.

Hypothesis tests

In relation to the hypothesis test, a bootstrap approach with a 90% confidence interval over the indirect standardized effects was adopted. The adjusted model explains 55% of the variability of Internal Learning. The results show that psychological capital has a positive and statistically significant influence on internal learning ($\beta = 0.113; p = 0.006$). Hypothesis H1 is supported. PsyCap showed to significantly and positively influence perceived team structure ($\beta = 0.45; \rho < 0.001$), supporting H2. Perceived team Structure is significantly and positively associated with Internal Learning ($\beta = 0.73; \rho < 0.001$), which supports H3. The results show that the perceived team structure fully mediates the relationship between psychological capital and Internal Learning (indirect effect = 0.33; 90% CI limits to] 0.22, 0.46 [), supporting hypothesis H4.

Insert Figure 2 about here

Discussion

The aim of this study was to analyze the mediating role of the perceived team structure in the relationship between psychological capital and internal learning. The results confirmed the existence of a positive relationship between psychological capital and internal learning. This highlights the importance positive psychological capacities have on for building strength and contributing to alertness of individuals, thus contributing to internal learning (Chen and Lim, 2012).

Individuals with these psychological capacities activate efforts which, when well executed, lead to certain results of success (Stajkovic and Luthans, 1998). This relationship between psychological capital and internal learning seems to happen due to the strong link between psychological capital and successful academic outcomes (Luthans *et al.*, 2018). In addition, learning activities require concrete and substantial efforts, such as identifying problems, seeking information to solve problems (Huang and Luthans, 2014).

The relationship between psychological capital and perceived team structure was also confirmed. As reported by Luthans *et al.*, (2018), individuals with a high level of psychological capital deal best with errors, failures, and setbacks, and usually do not let difficult circumstances prevent them from achieving high-performance levels. These factors may be sufficient to lead individuals to seek other relevant paths for the clear definition of objectives and procedures. Moreover, psychological capital is important to reveal individual psychological factors related to the structuring process (Daspit *et al.*, 2015).

In addition, a longitudinal (4-week interval) study of 391 Dutch university students showed that personal resources such as self-efficacy, hope, optimism, and resilience are indeed important in predicting a greater involvement of students in achieving better outcomes (Ouweneela *et al.*, 2011).

The third hypothesis on the positive relationship between perceived team structure and internal learning was also confirmed. This result seems to confirm what has been reported by Bunderson and Boumgarden (2010) that identification of roles among group members facilitates the information sharing and makes it possible to perform tasks that can boost the learning process. Structure is fundamental to the learning process, as learning requires some level of confidence and potential to achieve the desired performance. In turn, this requires a clear definition of objectives and procedures (Yoon and Kayes, 2016).

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3 Finally, the mediating role of the perceived team structure in the relationship
4 between psychological capital and internal learning has been confirmed. This finding is
5 consistent with previous research (e.g. Bunderson and Boumgarden, 2010), which argues
6 that the perceived structure can promote learning and create a safe environment within
7 the team, thus facilitating the sharing of information. Additionally, the perceived structure
8 of the activities tends to provide the experimentation and the search for new insights
9 which may have a positive impact on the learning process (Bunderson and Boumgarden,
10 2010).
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19 **Conclusions**

20 Studies conducted over the years have shown that psychological capital is related
21 to several important outcomes, both inside and outside the work environment (e.g.
22 Luthans *et al.*, 2011; Dawkins *et al.*, 2013; Newman *et al.*, 2014; Krasikova *et al.*, 2015;
23 Luthans and Youssef-Morgan, 2017). The aim of this study was to analyze the mediating
24 role of perceived team structure in the relationship between psychological capital and
25 internal learning. The current study provided empirical evidence of the influence of
26 psychological capital on the internal learning process through the perceived team
27 structure. Therefore, we argue that the present study is important not only because it can
28 be applied in academic settings to enhance the students' learning process, but also because
29 it brings new theoretical issues and challenges for future studies.
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39 *Theoretical and practical implications*

40 The present study contributes to the literature in different ways. We provide
41 evidence that the relationship between psychological capital and internal learning is
42 mediated by the perceived team structure., This confirms that one of the distinctive
43 features of psychological capital, with an important practical contribution, is its openness
44 to change and development (Han *et al.*, 2012; Choi and Lee, 2014; Nwanzu and Babalola,
45 2019).
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51 Moreover, it provides additional empirical validation for the idea that processes,
52 like internal learning, can be sustained by personal resources such as self-efficacy, hope,
53 optimism, and resilience. These results are important from a practical point of view,
54 because they reinforce the importance of training interventions designed to developing
55 and sustaining PsyCap as an important determinant of the internal learning process.
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3 Studies by Luthans and Youssef-Morgan (2017) presents insights and practical guidelines
4 for developing PsyCap.
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6 *Limitations and future directions*

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9 This study has some limitations. A limitation concerns to a potential common
10 method variance problem, given that the data were obtained from the same source. To
11 reduce this potential method bias on the study results, we resorted to the use of statistical
12 remedies, such as the addition of the latent method factor. The results indicated that the
13 common method bias cannot be considered a threat meant to the findings of this study.
14 However, efforts to obtain data from multiple sources (e.g. obtaining psychological
15 capital measures from students, teachers, and managers of higher education institutions)
16 in future research may alleviate the potential common method bias.
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24 On the other hand, the PsyCap questionnaire used in this study is traditionally
25 applied in organizational settings. Although we have used the version of the questionnaire
26 adapted for academic research by Luthans *et al.*, (2012), we encourage future researchers
27 to further examine the applicability of the PsyCap instrument in others contexts, outside
28 the work environment.
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For Review Only

Table 1. Means, standard deviations and correlations between study variables

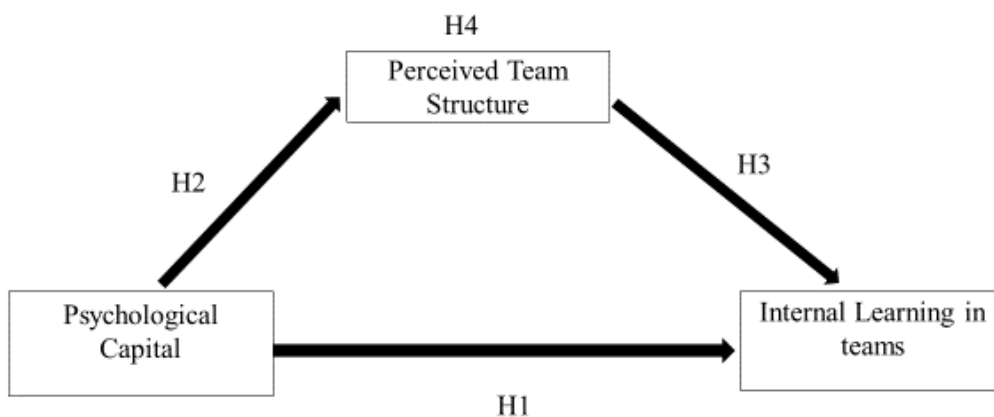
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Study Variables	M	SD	Maximum	Minimum	1	2	3	4
1. Year of the course	1.63	0.93	4	1	-			
2. Psychological Capital	4.75	0.57	5.90	2.04	0.031	(0.86)		
3. Perceived Team Structure	4.46	1.08	7.00	1.00	-0.099*	0.335**	(0.82)	
4. Internal Learning in teams	4.00	1.19	7.00	1.00	-0.015	0.275**	0.507**	(0.76)

N = 480; Cronbach's α s (in parentheses)

**. Correlation is significant at the 0.01 level (2-tailed).

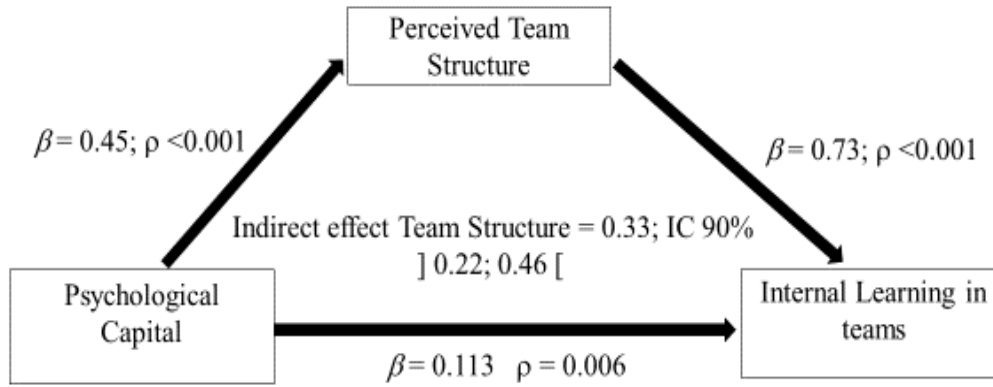
Figure 1- A conceptual model of the relationship between psychological capital, perceived team structure and internal learning in teams



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Figure 2-Final Model



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