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École affiliée à l'Université de Montréal

Team Psychological Capital : A Review and Examination of its Relationship with Team Adaptive Performance

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Cette thèse intitulée :

Team Psychological Capital : A Review and Examination of its Relationship with Team Adaptive Performance

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Résumé

Les deux objectifs principaux de cette thèse consistent à faire une revue de la littérature sur le capital psychologique d'équipe (*team PsyCap*) et à analyser ses effets sur la performance adaptative d'équipe.

Le premier article est un scoping review sur le team PsyCap. Premièrement, cette revue de la littérature recense les modèles théoriques auxquels les chercheurs se référent afin de justifier leurs conceptualisations du team PsyCap comme un phénomène d'équipe. À cet effet, notre revue de la littérature indique que les recherches antérieures sur le team PsyCap ont fait référence à une multitude de justifications théoriques. Dans un effort d'intégration, nous proposons un modèle multiniveau et multiphase de l'émergence du capital psychologique d'équipe. Deuxièmement, l'objectif principal de ce premier article consiste à synthétiser tous les résultats de recherche sur le team PsyCap afin de clarifier l'état des lieux et d'identifier des lacunes de la littérature. À cet effet, les résultats de notre scoping review mettent en lumière trois lacunes principales : (1) les recherches antérieures ont mis l'emphase sur la relation entre le team PsyCap et la performance, au détriment d'autres facettes importantes de l'efficacité d'équipe, (2) les chercheurs ont accordé peu d'importance aux mécanismes médiateurs qui sous-tendent l'influence du team PsyCap et (3) notre compréhension des variables qui modèrent les effets du team PsyCap est très limitée. Les deux autres articles de cette thèse ont été élaborés afin de répondre à ces manquements. Précisément, ils explorent les mécanismes et les variables modératrices qui interviennent dans les relations entre le team PsyCap et deux facettes de la performance adaptative d'équipe.

En s'appuyant sur la perspective motivationnelle interactionniste (Ajzen, 1991; Bandura, 1991), le deuxième article de cette thèse explore la relation entre le team PsyCap et le *team process improvement*. Basés sur des données provenant de 135 équipes œuvrant dans une importante organisation de sécurité publique canadienne, les résultats de l'article 2 démontrent que le team PsyCap exerce un effet positif sur le *team process improvement* et que cette relation s'explique par l'adoption de comportements d'autogestion par les membres (i.e., *team self-managing behaviors*). De plus, les résultats révèlent aussi que le niveau de récompenses offert par l'organisation renforce la relation indirecte entre le team PsyCap et le *team process improvement*. Par la suite, l'article 3 analyse la relation entre le team PsyCap et l'adaptabilité d'équipe en contexte de gestion de projets. En se référant aux théories des ressources clés (Hobfoll, 2002; van den Heuvel et al., 2014) et à la notion que l'affectivité positive élargit l'étendue cognitive (Fredrickson, 2001; Isen, 1987; Isen et al., 1987), l'article 3 propose que le team PsyCap favorise l'adaptabilité d'équipe et que cette relation s'explique par la créativité des membres. De plus, en considérant le rôle important que joue les orientations collectives de travail dans les processus créatifs et adaptatifs (Amabile & Pratt, 2016; Bunderson & Sutcliffe, 2002), le troisième article explore l'effet modérateur d'un focus d'équipe sur les résultats (i.e., team outcome focus) dans la relation entre le team PsyCap et la créativité d'équipe. Basés sur un échantillon de 198 équipes ayant participé à une simulation en gestion de projets, les résultats indiquent que le team PsyCap exerce un effet positif sur l'adaptabilité d'équipe et que cette relation passe par les comportements créatifs des membres. Par ailleurs, les résultats démontrent aussi qu'un trop grand focus sur les résultats et sur la performance affaiblit la relation entre le team PsyCap et la créativité d'équipe, et par le fait même l'effet indirect qu'il exerce sur l'adaptabilité d'équipe.

Mots clés : capital psychologique, capital psychologique d'équipe, processus d'émergence, équipes d'action et d'intervention, équipes de projets, performance adaptative, amélioration des processus d'équipe, créativité d'équipe, récompenses d'équipe, emphase sur les résultats, perspective interactionniste, théorie des ressources clés.

Méthodes de recherche : Revue de la littérature, recherche quantitative

Abstract

The two overarching objectives of this dissertation are to comprehensively review the team PsyCap literature and to examine its relationship with team adaptive performance.

Article 1 consists of a scoping review on team PsyCap. The first aim of this review is to identify the theoretical frameworks that researchers have mobilized to justify their conceptualisations of PsyCap as a collective construct. In that regard, our review reveals that scholars have referred to a wide variety of theoretical frameworks to explain how PsyCap emerges as a team phenomenon. In an integrative effort, we develop a multilevel and multiphase model of the emergence of team PsyCap. In addition, the main objective of Article 1 is to review and synthesize all the empirical findings related to team PsyCap in order to assess the state of the literature and to identify understudied areas. Review findings highlighted three main gaps in the team PsyCap literature. More precisely, we found that: (a) researchers have focused on the relationship between team PsyCap and task performance to the detriment of other important facets of effectiveness, (b) little is known about the mediators of team PsyCap, and (c) there is a clear lack of research on the boundary conditions of team PsyCap. The remaining two articles of this dissertation were designed to respond to these shortcomings. Specifically, they explore the mediating mechanisms and the moderating variables that intervene in the relationships between team PsyCap and two facets of team adaptive performance.

Drawing from the motivational interactionist perspective (Ajzen, 1991; Bandura, 1991), Article 2 of this dissertation explores the relationship between team PsyCap and team process improvement. Using data from 135 action teams working for a Canadian public safety organisation, results showed that team PsyCap exerts a positive effect on team process improvement and that this relationship can be explained by the team self-managing behaviors that members engage in. Also, results revealed that the team reward system positively moderates the first stage of this relationship, such that the association between team PsyCap and team self-managing behaviors is stronger under high levels of team reward. Subsequently, Article 3 examines the relationship between team PsyCap and

project team adaptability. Drawing from key resources theories (Hobfoll, 2002; van den Heuvel et al., 2014) and from the notion that positive affectivity leads to a broadening of cognitions (Fredrickson, 2001; Isen, 1987; Isen et al., 1987), Article 3 proposes that team PsyCap enhances team adaptability and that this relationship travels through the creative behaviors of members. In addition, because collective work orientations are likely to play an important role in the creative and adaptive processes of teams (Amabile & Pratt, 2016; Bunderson & Sutcliffe, 2002), this study investigates the moderating role of team outcome focus in the relationship between team PsyCap and team creativity. Using data from 198 teams participating in a project management simulation, results showed that the positive effect that team PsyCap exerts on team adaptability can be explained by the creative behaviors of members. Moreover, results also revealed that these relationships were contingent on the level of team outcome focus, such that the direct effect of team PsyCap on team creativity and the indirect effect of team PsyCap on team adaptability were only significant in teams with low levels of outcome focus.

Keywords : psychological capital, team psychological capital, processes of emergence, action teams, project teams, team adaptive performance, team process improvement, team creativity, team reward system, team outcome focus, interactionist perspective, key resources theories.

Research methods : Scoping review, quantitative research

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AIB	Akaike information criterion
CFA	Confirmatory factor analysis
CFI	Comparative fit index
CI	Confidence interval
CMV	Common method variance
GFI	Goodness of fit index
DF	Degrees of freedom
GPA	Grade point average
ICC	Intraclass correlation coefficient
IFI	Incremental fit index
IMO	Input-mediator-outcome
IPO	Input-processes-outcome
KSA	Knowledge, skills, and abilities
LLCI	Lower limit confidence interval
ULCI	Upper limit confidence interval
OCB	Organizational citizenship behaviors
OF	Outcome focus
ORG	Organizational
PCQ	Psychological capital questionnaire
PEP	Perceived external prestige
PSYCAP	Psychological capital
RMSEA	Root-mean-square error of approximation
SD	Standard deviation
SE	Standard error
SIP	Social information processing perspective
SRMR	Standardized root mean square residual
TLI	Tucker-Lewis index
TMT	Top management team
TPI	Team process improvement
TSMB	Team self-managing behaviors

To my spouse Mireille, my anchor and my pillar.

Without your love and your support, I would have never been able to achieve this.

To my daughter Amalia, my purest love and my legacy.

All this hard work is for you!

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Introduction

Organizations operate in an increasingly dynamic, unpredictable, and complex world. In most industries, change remains one of the few certainties (Al-Haddad & Kotnour, 2015). As a result, organizations and their subsystems face constant pressures to continuously improve and adapt (Baard et al., 2014).

To remain efficient under these conditions, research shows that human capital is a strategic driver of performance at multiple levels of the organizational system (Crook et al., 2011; Ployhart et al., 2014). In addition to more traditional inputs such as knowledge, skills, and abilities (i.e., KSA), scholars are now highlighting the importance of the psychological components of human capital (e.g., French & Holden, 2012; Youssef-Morgan, & Luthans, 2013). This psychological emphasis stems from the realization that individuals tap into their pool of psychological resources in order to cope with the difficult attributes of work (Avey et al., 2009), and in order to adapt effectively to changing circumstances (Hobfoll, 2002). Accordingly, the psychological components of human capital have become important subjects of research (Newman et al., 2014). More precisely, psychological capital (PsyCap) is defined as:

An individual's positive psychological state of development characterized by: (1) having confidence (efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2) making a positive attribution (optimism) about succeeding now and in the future; (3) persevering toward goals and, when necessary, redirecting paths to goals (hope) in order to succeed; and (4) when beset by problems and adversity, sustaining and bouncing back, and even beyond (resilience) to attain success. (Luthans et al., 2007a, p. 3).

Over the past decade, PsyCap studies have flourished and have consistently shown positive effects on employee attitudes, behaviors, and performance (Avey et al., 2011; Newman et al., 2014).

At the same time, to respond to ongoing changes, many organizations have come to structure their core activities around teams (Maynard et al., 2015). In fact, Deloitte's Global Human Capital Survey indicates that 2017's number one trend was managers' willingness to reorganize their companies into flatter and more flexible team-based arrangements. In other words, work teams are now considered as an efficient vehicle to adapt to this increased environmental dynamism and complexity (Burke et al., 2006). However, to deal effectively with these increasing organizational demands and to realize this adaptive potential, it is imperative that teams possess a deep enough pool of shared positive psychological resources. Indeed, recent studies demonstrate that psychologically strong teams fare better in difficult situations and tend to cope more efficiently with environmental pressures (e.g., Dawkins et al., 2018; Megeirhi et al., 2018). Realizing that positive psychological capacities could also constitute important resources at the team level, researchers have started to investigate collective conceptualizations of psychological capital. While team PsyCap research is still in its early stages, scholarly interest is growing, and initial evidence suggest that team PsyCap is a significant predictor of numerous positive team outcomes.

Considering that team PsyCap is an emerging topic, we believe that a scoping review is a necessary first step (Levac et al., 2010). Scoping reviews provide an initial assessment of the size and nature of the available research literature (Grant & Booth, 2009; Paré et al., 2015). Therefore, to ensure that this research builds upon prior knowledge and contributes to the efficient development of the team PsyCap construct, the first Article of this dissertation is a scoping review of the team PsyCap literature. To summarize, this review offers three contributions that will advance the field's understanding of team PsyCap. First, in accordance with Chen and colleagues (2005) and Kozlowski and Klein's (2000) recommendations for construct elevation, this paper consolidates and expands the theoretical foundations that support the existence of PsyCap as a team-level phenomenon. As such, this scoping review provides clarity in terms of why and how the psychological resources of hope, efficacy, resilience, and optimism can become shared among teammates and come to represent a collective psychological capacity. Second, this review provides a comprehensive synthesis of team PsyCap's empirical findings. As team PsyCap researchers, it is time to stop, to map out what has

been discovered, and to clarify what needs to be investigated next. By systematically reviewing all published and grey literature on team PsyCap, this scoping review delineates the nomological network of constructs to which team PsyCap is related. Third, we also identify understudied areas in the team PsyCap literature and propose an agenda for future research. More precisely, despite the important contributions of this initial body of work, our review highlights three important gaps:

- 1) When studying the relationship between team PsyCap and team effectiveness, researchers have generally focused on task performance, to the detriment of other important dimensions of effectiveness.
- 2) Little is known about the mechanisms that underlie the positive relationships between team PsyCap and team-level outcomes.
- 3) A lack of research on boundary conditions between team PsyCap and team-level

The remaining two articles of this dissertation, which are of empirical nature, were designed to respond to these shortcomings. As such, they offer multiple important contributions that will move the field forward.

First, they investigate the relationships between team PsyCap and two facets of team adaptive performance (i.e., team process improvement and team adaptivity). Considering that psychological resources play an important role in the adaptive process of individuals (Hobfoll, 2002; van den Heuvel et al., 2014) and that teams can be well positioned to adapt (Lepine, 2003, 2005), it is pertinent and timely to study the relationship between team PsyCap and team adaptive performance. Thus, the first empirical contribution of this dissertation resides in the examination of two potentially critical outcomes of team PsyCap. In parallel, these two studies also respond to the striking lack of research testing antecedents of team adaptive performance (Maynard et al., 2015) and team creativity (Gilson & Shalley, 2004). Second, by testing indirect effects, these two articles shed light on the behavioral mechanisms (i.e., team selfmanaging behaviors and team creativity) through which team PsyCap influences team adaptive performance. In keeping with the input-mediator-output (IMO) framework (Hackman, 1987; Ilgen et al., 2005; McGrath, 1984), this dissertation clarifies the mediating variables that link team PsyCap to team-level outcomes. Considering that "research is just beginning to scratch the surface on the mediators of PsyCap" (Luthans

& Youssef-Morgan, 2017, p. 351), this contribution represents an important step forward. Third, our review points to a clear lack of research on potential boundary conditions between team PsyCap and team effectiveness. It thus seems that our knowledge of the variables that moderate the influence of team PsyCap is very limited. In that sense, by testing the moderating effects of a contextual variable (i.e., team reward system) and of an internal dynamics variable (i.e., outcome focus), articles 2 and 3 significantly advance our understanding of the external and the internal conditions that affect the influence of team PsyCap. Lastly, although team PsyCap will surely benefit all types of teams, it tends to be more important in certain settings. Specifically, positive psychological resources will surely play a major role when teams must face a dynamic, complex, and stressful task (Dawkins et al., 2013; Kaplan et al., 2013). With that in mind, the settings (i.e., teams in a Canadian public safety organization and teams in a project management simulation) in which articles 2 and 3 take place constitute relevant contexts to study the impact of team PsyCap.

Overall, the contributions of this research program will greatly expand our understanding of team PsyCap. Precisely, this dissertation will provide answers as to how and under which conditions team PsyCap represents an important driver of team adaptive performance.

Article 1 Team Psychological Capital : A Scoping Review

1.1 Abstract

By means of the systematic 5-step approach proposed by Arksey & O'Malley (2005), this scoping review offers a comprehensive synthesis of the literature on team PsyCap. Based on a sample of 24 studies, our review indicates that researchers have been somewhat inconsistent in how they conceptualize and operationalize team PsyCap. In response, we highlight how issues pertaining to levels of analysis and composition models contribute to clarify the nature of the team PsyCap construct. Also, our review reveals that scholars have referred to a wide variety of theoretical frameworks to justify their conceptualization of PsyCap as a group phenomenon. In an effort to integrate these perspectives, we develop a multilevel and multiphase model of the emergence of team PsyCap. Lastly, this review provides a comprehensive summary of all the empirical findings related to team PsyCap. Overall, we found that team PsyCap is a predictor of multiple important team outcomes, and that factors at different levels contribute to its emergence. Our review of the empirical findings of team PsyCap also revealed three understudied areas. More precisely, we found that: (a) researchers have focused on the relationship between team PsyCap and task performance to the detriment of other important facets of effectiveness, (b) little is known about the mediators of team PsyCap, and (c) there is a lack of research on the boundary conditions of team PsyCap. To respond to these shortcomings, we develop an agenda for future research. Specifically, we call on future research to study the relationship between team PsyCap and other dimensions of team effectiveness, to investigate indirect effects, and to consider the potential presence of boundary conditions.

1.2 Introduction

Over the last decade, researchers have started to investigate team-level psychological capital. Considering the emerging nature of team PsyCap's evidence base, we argue that a scoping review represents a necessary first step in order to avoid fragmentation and in order to ensure the efficient development of the team PsyCap

construct (Levac et al., 2010). More precisely, the objectives of this review are threefold. First, researchers have relied on different theoretical frameworks to justify the conceptualization of PsyCap as a team-level phenomenon. Despite these refinements, there is a need to integrate and expand the theoretical mechanisms that account for the emergence of team PsyCap (Dawkins et al., 2015). Therefore, the first objective of this scoping review is to consolidate the theoretical foundation that explains why and how the psychological resources of hope, efficacy, resilience, and optimism can become shared among teammates and come to represent a collective psychological capacity. To do so, we draw from social psychology research to develop a multilevel and multiphase model of the emergence of team PsyCap. Second, initial findings reveal that team PsyCap is positively related to multiple positive outcomes at the team-level. Although research is accumulating, no effort to date has been made to review and map out research results specific to team PsyCap. As such, the second objective of this review is to provide a comprehensive synthesis of team PsyCap's empirical findings. Third, we leverage the resulting nomological network of team PsyCap to identify understudied areas and to propose an agenda for future research. More precisely, when studying the relationships between team PsyCap and team outcomes, we encourage researchers to (a) adopt a multidimensional perspective of team effectiveness, (b) investigate the processes that account for the positive influence of team PsyCap, and to (c) pay greater attention to contextual influences and boundary conditions that may moderate the effects of team PsyCap. In summary, these contributions provide a solid foundation that will facilitate the efficient development of team PsyCap research.

1.3 Review Methodology

Because team PsyCap research is still in its early stages, a comprehensive coverage of the literature was essential. In line with best practice (Arksey & O'Malley, 2005; Webster & Watson, 2002), we first consulted relevant electronic databases (i.e., Ebsco, Emerald, Proquest, PsycInfo, Sage, Science Direct, and Web of Science) to identify peer-reviewed articles that either contained the keywords of: team psychological capital, collective psychological capital, group psychological capital or unit psychological capital. The keyword search was also conducted using the acronym of PsyCap. We then

followed by reviewing the lists of references of the articles yielded from the keyword search (i.e., backward searching). In addition, to make sure that no published papers were omitted, we hand-searched all leading journals that were relevant to our topic (i.e., Journal of Applied Psychology, Journal of Positive Psychology, Journal of Organizational Behavior, Personnel Psychology, and Small Group Research). Finally, to avoid publication biases, we also searched the grey literature for conference proceedings, theses, and dissertations. Considering that team PsyCap's evidence base is emerging, we wanted to be as inclusive as possible in terms of study selection. Therefore, we only evaluated studies in function of two inclusion criteria. Specifically, the retained articles needed to empirically measure PsyCap at the team or group-level of analysis and to operationalize team PsyCap as a multidimensional construct. As such, theoretical papers and studies that only investigated one component of PsyCap were excluded. As a result of our literature search, a total of 24 papers were identified. Of these 24 papers, 15 were published in peerreviewed journals, one came from a book chapter, 4 were doctoral dissertations, and 4 were conference proceedings. Subsequently, we did a thematic analysis to chart and sort the data according to relevant dimensions (see Table 1). Lastly, to provide a clear overview and summary of our review findings, we organized the synthesis of research evidence in terms of its position in team PsyCap's nomological network (see Figure 2).

1.4 Psychological Capital

To distinguish the psychological resources that compose PsyCap from other positive constructs, Luthans and his colleagues provide a set of inclusion criteria (Luthans, 2012; Luthans & Avolio, 2014). More precisely, PsyCap resources need to: be based on theory and research, have validated measurement instruments, be state-like, be open to development, and have performance impacts. To date, the psychological resources that satisfy these conditions are *hope, efficacy, resilience, and optimism*.

First, from a psychological standpoint, hope is defined as "a cognitive set that is based on a reciprocally derived sense of: (a) agency and (b) pathway thinking" (Snyder et al., 1991, p. 570–571). The agency component refers to a sense of successful determination in meeting goals in the past, present, and future (Snyder, 2000). The pathways component represents the ability to identify and clarify alternative routes leading to goal attainment (Avey et al., 2009). Second, self-efficacy is a belief regarding one's capabilities to execute a specific task within a given context (Bandura, 2000). Individuals with high levels of self-efficacy tend to be open to new challenges and express a willingness to expand efforts in pursuit of goals (Bandura, 2008). Third, resilience is defined as the capacity to cope successfully and bounce back quickly in the face of change, adversity, and/or risk (Masten & Reed, 2002). In organizational settings, resilience constitutes the psychological capacity to recuperate from difficulties, from uncertainty, from conflict, and/or from failure (Luthans, 2002). Fourth, optimism represents an expectancy about the social or material future - one which the evaluator regards as socially desirable, to his or her advantage, and/or for his or her pleasure (Tiger, 1979). Moreover, from an attributional perspective, optimism is a situation-specific explanatory style through which positive outcomes are seen as resulting from internal and stable causes (e.g., effort and/or capacities), and negative outcomes from external and temporary factors (i.e., shifts in the external environment; Seligman, 1998). Overall, PsyCap encompasses individuals' positive beliefs, agency, motivations, and expectations concerning task performance and goal attainment (Avey et al., 2011).

However, PsyCap should not be considered as a simple summation of its individual components (Avey et al. 2009). Rather, PsyCap captures the common occurrence and shared variance among its constituting dimensions. Similar to the concept of resource caravans introduced by Hobfoll (2002), the positive resources that compose PsyCap interact together to produce a higher-order psychological capacity (Luthans & Youssef-Morgan, 2017).

As previously stated, the evidence base has grown and two recent meta-analyses (Avey et al., 2011; Newman et al., 2014) confirmed the significant influence of PsyCap in terms of positive employee attitudes (e.g., job satisfaction, organizational commitment), productive behaviors (e.g., OCB, problem-solving, innovation), and multiple measures of performance (e.g., self-report, supervisor evaluations, and objective). In addition, these two reviews also found consistent negative relationships between PsyCap and several types of counterproductive work attitudes and behaviors (e.g., cynicism, turnover intentions), and adverse health outcomes (e.g., job-related stress

and anxiety). In summary, empirical findings strongly support the positive effects of PsyCap at the individual-level of analysis.

Although PsyCap is usually conceptualized as a psychological resource that individuals possess, recent theoretical and empirical developments have shown that PsyCap can also be considered as a collective psychological state (Dawkins et al., 2015; Heled et al., 2016). In fact, numerous scholars have long been advocating for a collective version of psychological capital. However, progress is slow as only a limited number of studies have directly examined the influence of PsyCap in the context of work teams. To clarify the actual state of affairs, the goals of the next sections are to define team PsyCap, to develop a theoretical framework that justifies its collective conceptualization, and to provide a comprehensive synthesis of the accumulated research findings.

1.5 Psychological Capital as a Team-Level Construct

Past research provides confirmation that each component of PsyCap is applicable to the collective level of analysis (e.g., *Hope* - Braithwaite, 2004; Bar-Tal, 2001; *Efficacy* – Bandura, 2000; *Resilience* –West et al., 2009; *Optimism* – Anglin et al., 2018). From a conceptual standpoint, individual PsyCap and team PsyCap are considered as isomorphic constructs (Dawkins et al., 2018; West, et al., 2009). Isomorphism represents the degree to which the constituent components of a phenomenon and the relationships among the components are similar across levels of analysis (House et al., 1995). This means that the constituting dimensions of PsyCap have the same nature and meaning at the individual and team-levels of analysis. While this isomorphic conceptualization is useful to clarify the dimensions of team PsyCap, it does little to differentiate it from its individual analog.

In order to achieve a clear differentiation, considerations about levels of analysis and composition models are of central significance (Chan, 1998; Gully et al., 2002). As stated by Chan (1998), "composition models specify the functional relationships among constructs at different levels of analysis that reference essentially the same content but that are qualitatively different at different levels" (p.234). Composition models and functional relationships are critical issues when lower-level data is used to establish the higher-level construct (as is mostly the case with team PsyCap research). More precisely,

our scoping review demonstrates, that to aggregate individual PsyCap to the team-level, scholars have mostly relied (i.e., 17 studies out of 22) on either or both the direct consensus and the referent-shift models of measurement.

The direct consensus measurement model uses within-group agreement of the individual-level construct to represent scores at the team-level of analysis (Chan, 1998). In more simple terms, when intra-team homogeneity exists, researchers using the direct consensus model measure each team member's individual PsyCap and then compute the mean to represent team PsyCap. Despite the widespread use of the direct consensus model, we agree with Dawkins et al.'s (2015, p.933) assertion that "it is questionable that the measurement of an individual's perceptions of their own psychological capital truly reflects collective PsyCap, despite sufficient within-group agreement". Importantly, high agreement may simply represent a team where all members are similar in their individual PsyCap rather than capture a significant team-level phenomenon. In that sense, the mean scores derived from direct consensus models would be indicators of members' perceptions of their own psychological capacities, rather than the PsyCap of their team. Because team PsyCap is a collective phenomenon, it should be considered as conceptually distinct from the simple summation of team members' individual PsyCap (Dawkins et al., 2015).

To capture these subtleties, a referent-shift approach is necessary. The main difference between the two consensus models is that in referent-shift composition, the target shifts from the individual to the group (e.g., from 'I feel confident' to 'My team feels confident; Chan, 1998). The referent-shift model is important because the change in referent results in a new form of the construct that is different from the original (Chan, 1988). It is through the referent-shift model that the theoretical distinction between PsyCap and team PsyCap becomes clear. More precisely, PsyCap is a judgment that individuals make about their *own* levels of hope, efficacy, resilience, and optimism, whereas team PsyCap measured with a referent-shift approach refers to team members' shared perceptions about how psychologically strong *their team is*. As such, members may produce evaluations of their team's positive psychological resources that are independent of their own PsyCap. This accommodates the fact that team members may have low individual PsyCap and still perceive the PsyCap of their team to be high or have

high personal PsyCap but be in a team that as a shared perception of low psychological strength (Waters et al., 2020). In summary, although PsyCap and team PsyCap have identical elemental content, these two constructs differ in terms of their referent and their level of analysis (i.e., individual vs team).

Despite these refinements, limited progress has been made in regard to the theoretical exploration of the frameworks and processes that justify the conceptualization of PsyCap as a team-level construct. In other words, beyond providing a definition of team PsyCap and testing its effect on multiple outcomes, previous studies have generated few theoretical insights for the explanation of why and how PsyCap emerges as a significant team-level phenomenon (Dawkins et al., 2015). As such, team PsyCap research is limited because we are investigating an emergent team state without fully understanding the social dynamics from which it originates. This is a problematic situation considering Kozlowski and Klein's (2000) principle that conceptualizations of constructs that emerge at higher levels need to theoretically specify the nature and form of these emergent processes. Therefore, before proceeding to the synthesis of team PsyCap's literature, it is necessary to first establish the theoretical foundations that support the notions of collective hope, efficacy, resilience, and optimism. In doing so, this review offers an important theoretical contribution and provides a platform from which researchers can theorize and operationalize the emergence of team PsyCap.

1.6 The Emergence of Team PsyCap

Social psychology research has long demonstrated that when a group of people work together with frequent interactions, interdependent objectives, and mutual experiences, they tend to develop common psychological structures (Ashforth & Mael, 1989; Hatfield et al., 1994; Hogg & Terry, 2000; Janis, 1991; Klimoski & Mohammed, 1994). In that sense, we argue that the converging and normative potential of teams supports and reinforces claims that PsyCap may also be considered as a valid and significant construct at the team level. We thus draw from existing theory and research to propose specific cognitive and affective processes that explain how the psychological resources of hope, efficacy, resilience, and optimism converge among members and come to represent a shared psychological team state. As figure 1 illustrates, we explain that the

emergence of team PsyCap is a multilevel and three-phase process that originates in the cognitions and affects of team members, that is amplified by team interactions, and that crystalizes as a result of group dynamics. More precisely, we argue that PsyCap emerges as a team-level phenomenon as a result of 1) the common pool of social information that team members process, 2) the resulting similarity in mental models, 3) contagion processes, and 4) team norms and display rules.

1.6.1 Phase 1: Formation

Social Information Processing and Mental Model Convergence

The social information processing perspective (SIP) informs us that individuals make sense of and evaluate their work environment through the processing of available social information (Salancik & Pfeffer, 1978). As depicted by the different shapes in the social information processing diagram, individuals all possess personal idiosyncrasies that influence how they perceive and respond to situations. As such, team members will tend to appraise and react to social information in different ways. In other words, they all possess different levels of PsyCap. However, as illustrated by the oval and rectangular shapes throughout the model, teams are bounded units that are nested within broader organizational systems (Kozlowski & Klein, 2000; House et al., 1995). This means that team members process a common pool of information in their sense-making activities. This shared stream of information is represented by the curved arrows flowing from the organization to the team. More precisely, teammates are subject to the same leadership processes, they collectively experience successes and failures, and they are exposed to similar pressures from the micro-organizational environment. We argue that it is as a result of these shared stimuli that members will start to develop similar perceptions about their collective endeavor and converge in their psychological states. In summary, because the SIP theory explains that the exposure to shared information will tend to generate homogeneous reactions, it represents a strong foundation for the justification of the collective conceptualization of PsyCap.

Furthermore, when team members collectively process information and make sense of their shared situation, research in the social cognitive domain informs us that they often develop similar mental models (Lim & Klein, 2006; Mathieu et al., 2000). Team mental models are defined as "shared, organized understanding and mental representations of knowledge about key elements of the team's internal and external environment" (Mohammed & Dumville, 2001, p.90). These shared cognitive structures allow team members to describe, explain, and respond to events in a similar manner (Klimoski & Mohammed, 1994). In relation to team PsyCap, when team members have a common understanding of the task at hand, their capacities, and their environment, they will be prone to develop similar appraisals of their circumstances and of their chances of success As a result, they will tend converge in their levels of hope, efficacy, resilience, and optimism (Heled, et al., 2016). This increased similarity is portrayed by the transition from different shapes under the social information processing diagram to different patterns of ovals under the mental model convergence diagram. In summary, as a result of the common internal and external stimuli that team members experience, we contend that the social information processing perspective and the mental model construct capture the individual-level processes that account for the formation of team PsyCap.

1.6.2 Phase 2: Amplification

Social and Emotional Contagion

The homogenizing influence of SIP and mental model convergence are further amplified at the interpersonal level by contagion processes. These contagion processes are represented graphically by the double-headed arrows in the phase 2 diagram. They represent the interpersonal interactions and exchanges that take place between team members.

First, social contagion refers to the process of communicating and exchanging information among members of a collective, thus resulting in shared perceptions among the group (Degoey, 2000). Research findings on social contagion (Burt, 1987) suggest that cognitions can be transferred from one person to another and can ultimately converge and be maintained by a social network. This is because team experiences and collective perceptions are often socially constructed and reinforced through interactions among members (Degoey, 2000). As such, teams provide a milieu within which members can

continuously interact and share feelings about the group's capacities, functions, and circumstances. Hence, team settings represent fertile contexts for the development of shared psychological states. As McKenny and Short explained (2013, p. 159), "the prolonged interaction among members of a team will tend to homogenize collective assessments of positivity, competence, and agency". By means of this process, appraisals related to the four components of PsyCap can become shared among team members. For example, discussions that focus on previous performance episodes or the identification of positive resources within a team can foster a shared sense of hope, efficacy, resilience, and optimism (Clapp-Smith et al., 2009; Dawkins et al., 2015). All in all, social contagion informs us that continuous interactions among members of a team are likely to create homogeneous psychological states and thus support the conceptualization of PsyCap as a team-level resource.

Figure 1



Theoretical Model of the Emergence of Team PsyCap
Second, contagion processes also spread onto the affective components of team PsyCap. Indeed, research shows that emotional contagion promotes convergence in the emotional responses of teammates (Barsade, 2002; Hatfield et al., 1994). Primitive emotional contagion is defined as "a tendency to automatically mimic and synchronize expressions, vocalizations, postures, and movements with those of another person's and, consequently, to converge emotionally" (Hatfield et al., 1994, p. 5). Emotional contagion is a process that induces a congruent affective state through the observation of another person's public emotional display (Neumann & Strack, 2000). This process can create affective spillover and crossover effects (Bakker et al., 2009) that may lead team members to experience the emotions displayed by their peers. Therefore, the emotional contagion theory explains that team members' public displays of hope, efficacy, resilience, and optimism can be contagious and thus extended among the group. For example, a member's public display of resilience during difficult times could energize the entire group and encourage teammates to reproduce that desired state. In short, we argue that contagion processes encompass the interpersonal dynamics that amplify the emergence of team PsyCap.

1.6.3 Phase 3: Crystallization

Team Norms and Display Rules

Lastly, phase 3 captures the crystallization of PsyCap as a team-level phenomenon. We argue that this crystallization is made possible by team norms and display rules. As for the graphical depiction, dashed arrows represent comparison processes and solid arrows illustrate normative pressures.

Because teams are normative and regulative social systems, members tend to quickly establish norms of what constitutes appropriate cognitive and affective responses (Diefendorff et al., 2011; Feldman, 1984). In turn, these rules generate comparison processes and normative pressures within teams. First, because individuals have innate needs for belongingness and group membership (Ashforth & Mael, 1989), team members will often align their psychological responses to what is deemed acceptable by the group in order to become better integrated and socialized (Tajfel & Turner, 1986). This means that the social crystallization of team PsyCap involves comparison processes through which team members will consciously attend to, compare, and align their levels of hope, efficacy, resilience, and optimism to the standards of the group (Bartel & Saavedra, 2000; Festinger, 1954). In other words, team members will tend to scan the group for cognitive and affective information and then use these cues to evaluate the appropriateness of their psychological appraisals (Bartel & Saavedra, 2000). For example, in order to maintain a positive status, members of a team with high levels of PsyCap will usually be aware of such a positive climate and they will be less likely to express concerns regarding the abilities of the group or show discouragement about the progression towards goal attainment. These comparison processes are depicted by the dashed arrows flowing from members with different levels of PsyCap (higher or lower) to the majority or accepted level. Second, although most norms are often implicit, they have a powerful influence on individual's responses (George, 1996) and they serve as a higher-level referent that shape team members' cognitions, affects, and behaviors (Feldman, 1984). Moreover, these norms often serve to enforce conformity in new, deviant, or minority members. In that sense, we propose that it is through the collective enforcement of affective and cognitive norms that team PsyCap can become a significant and durable team-level phenomenon. In other words, majority members who share a certain level of PsyCap will tend to pressure or sanction members who exhibit significantly less or more positivity. This dynamic is illustrated in phase 3 by the solid arrows flowing from members with similar levels of PsyCap to other members who do not share their psychological state. In summary, even if motivated by impression management motives (Leary & Kowalski, 1990), members will mostly abide to the team's cognitive and affective norms, thereby crystalizing the convergence in members' psychological resources of hope, efficacy, resilience, and optimism.

Although multiple researchers have touched upon the theoretical mechanisms that account for the emergence of team PsyCap, our demonstration represents the first comprehensive and integrative framework to date. As such, our framework represents an important step forward and it offers a solid foundation from which to theorize and operationalize the emergence of team PsyCap.

1.7 Review of Team PsyCap Research Findings

To ensure clarity and continuity, we organized our review of the literature in function of team PsyCap's nomological network (see Figure 2). First, we start by presenting the outcomes of team PsyCap. Second, to clarify under which conditions team PsyCap is more or less influential, we investigate the variables that moderate the relationships between team PsyCap and its outcomes. Finally, to inform organizations and team leaders about ways through which they can generate positive psychological resources within their teams, we review the antecedent factors that contribute to the development of team PsyCap.

1.7.1 Outcomes of Team PsyCap

Team outcomes are "results and by-products of team activity that are valued by one or more constituencies" (Mathieu et al., 2000, p. 273). For the purpose of this review, we distinguish between two broad types of outcomes: proximal outcomes and distal outcomes. Broadly speaking, proximal team outcomes take the form of emergent states and team processes while distal team outcomes capture a range of effectiveness criteria (Marks et al., 2001).

1.7.1.1 Distal Outcomes

When it comes to distal team outcomes, effectiveness has been and continues to be the most studied dimension (Mathieu et al., 2017). Team effectiveness is mostly conceived of in terms of performance (e.g., quantity, quality), in terms of innovation, and in terms of members' reactions (e.g., team satisfaction, team viability; Mathieu & Gilson, 2012). This last category encompasses "members' willingness to work together again, their commitment to the team and to the organization, and their personal reactions" (Mathieu et al., 2019, p. 20). As such, we also elaborate on the cross-level influence that team PsyCap exerts on individual work attitudes and behaviors.

Team Performance. Team performance covers the quantity and the quality of the tangible outputs produced by a team. This review reveals that several studies have established positive associations between team PsyCap and multiple indicators of team

Table 1

Thematic Analysis of Team PsyCap Empirical Findings

Author/year of publication	Composition model	Theoretical framework of emergence	Sample/ population	Research method/data coll. technique	Main constructs	Key Findings
Clapp-Smith et al., (2009)	Direct consensus	Social cognitive theory Social contagion	26 retail stores ¹	Cross-sectional/ survey	Authentic leadership, trust in leadership	Trust in leadership was found to fully mediate the relationship between team PsyCap and unit growth sales.
West et al., (2009)	Referent-shift	Social identity theory	112 student teams	Longitudinal/ survey	Team coordination, satisfaction, and conflict	Team PsyCap was positively related to team coordination and satisfaction and negatively related to team conflict. Optimism was a more important predictor in initial phases of team development, whereas resilience and efficacy are more significant in latter stages.
Mathe (2011)	Direct consensus	Social cognitive theory	30 quick service restaurants ¹	Cross-sectional/ survey	Perceived external prestige, customer satisfaction	Group perceived external prestige was positively related to unit- level PsyCap. Unit-level PsyCap was positively related to service quality. Unit PsyCap mediated the relationship between PEP and service quality.
Martin et al., (2011)	Additive	Emotional contagion	58 teams from the public sector	Cross- sectional/survey (multi-level)	Job satisfaction, turnover intentions	No support was found for cross-level effects of team PsyCap on individual satisfaction and turnover intentions.
Peterson & Zhang (2011)	Direct consensus	Collective efficacy	67 top management teams	Cross-sectional/ survey	TMT PsyCap, transformational leadership, and unit performance	TMT PsyCap was positively related to unit performance. Transf. leadership moderated the relationship between team PsyCap and team performance.
Whatley (2013)	Additive	N/A	35 teams from multiple organizations	Cross-sectional/ survey	Humility, team trust, team identification, and team learning	Team PsyCap was positively related to team trust, identification, and learning.
Haar et al., (2014)	N/A	Crossover and broaden and build theories	225 teams (population n/d)	Cross- sectional/survey (multi-level)	Leaders PsyCap, work engagement	Reciprocal effects between leader PsyCap and team PsyCap.
Vanno et al., (2014)	Referent-shift	Collective efficacy	N/A	Cross- sectional/survey (multi-level)	Academic performance (GPA), individual and group PsyCap	All components of individual PsyCap had significant positive correlations with all the components of perceived group PsyCap, but there was no reciprocal effect.

Vanno et al., (2015)	Direct consensus and	N/A	303 student groups	Cross-sectional/ survey	Team effectiveness, team performance, team viability	Group-level PsyCap had a significant positive effect on group effectiveness.
Cesaro (2016)	Additive	N/A	45 manufacturing teams	Cross-sectional/ survey	Team cohesion, team productivity	The results indicated that team cohesion does not predict team productivity and that psychological capital is not a mediator of team cohesion and productivity. Team PsyCap had a significant positive effect on supervisor performance ratings.
Heled et al., (2016)	Referent-shift	Shared mental models Group affective tone Team norms	82 school management teams	Cross- sectional/survey (multi-level)	Learning climate, job satisfaction, team OCB	Results indicated a positive relationship between learning climate and team PsyCap, and between team PsyCap and individual job satisfaction and team OCB.
Gonçalves & Brandão (2017)	Referent-shift	N/A	73 teams from multiple organizations	Cross-sectional/ survey	Leader humility, team psychological safety, team creativity	Team psychological safety was found to be a significant predictor of team PsyCap. Team PsyCap was related to team creativity. Leader humility explained the creativity of the team through the mediating effect of psychological safety and of team PsyCap.
Mathe et al., (2017)	Direct consensus	N/A	67 units from the quick service restaurant industry	Cross-sectional/ survey	Service quality, customer satisfaction, unit revenues	The results indicated that collective PsyCap was positively related to service quality, customer satisfaction and unit revenues.
Rego et al. (2017)	Referent-shift	Social information processing theory	Study 1 (n=97) Study 2 (n=70). Study 3 (n=53).	Multi-study. Experimental, cross-sectional, and longitudinal	Leader humility, task allocation effectiveness	Leader humility enhances team performance serially through increased team PsyCap and team task allocation effectiveness.
Rego et al. (2017b)	Referent-shift	Social cognitive theory Social and emotional contagion Shared mental models	82 teams from 41 different organizations	Cross-sectional/ survey	Leader humility, team humility, team PsyCap strength	Team humility (as well as leader-expressed humility) predicts team PsyCap and team PsyCap predicts team performance. The relationship between team PsyCap and team performance was stronger when team PsyCap strength is high.
Somech & Khotaba (2017)	Referent-shift	N/A	78 teaching teams from junior-high schools	Cross-sectional/ survey	Team OCB, team justice climate, team innovation	Positive relationship between team PsyCap and OCBI and OCBO. Team OCB mediated the relationship between team PsyCap and team innovation.
Widianto et al., (2017)	N/A	Social contagion theory	76 nursing teams	Cross-sectional/ survey	Transformational leadership, team goal clarity	Direct link between collective PsyCap and team performance. Collective PsyCap also moderated the link between transformational leadership and team goal clarity (relationship was stronger when collective PsyCap was low).

Cogswell, J. E. (2018)	Referent-shift	Social contagion	38 student teams	Cross- sectional/survey (multi-level)	Shared leadership, voice behavior, team effectiveness	Shared leadership was found to positively influence team effectiveness via the mediating role of team PsyCap. Team PsyCap was also a significant predictor of voice behaviors at the individual-level.
Dawkins et al. 2018)	Direct consensus and referent-shift	Social contagion	43 teams from the energy and resource industries	Cross- sectional/survey (multi-level)	PsyCap strength, assimilated PsyCap, team performance, team satisfaction, team task and relational conflict, job satisfaction, turnover intentions	Findings revealed significant associations between team PsyCap and team performance and satisfaction, and between team PsyCap and individual job satisfaction and turnover intentions.
Megeirhi et al., (2018)	Referent-shift	Social contagion	45 teams from the hospitality industry	Cross-sectional/ survey	Authentic leadership, employee cynicism, workplace incivility, job search behavior	Team PsyCap moderated the relationship between authentic leadership and tolerance to workplace incivility.
Rebelo et al., (2018)	Referent-shift	Group affective tone Social and emotional contagion	82 teams from 57 organizations	Cross-sectional/ survey	Transformational leadership, team learning, team performance	Results revealed that transformational leadership was positively related to team PsyCap. Team PsyCap indirectly affected team performance through higher levels of team learning.
Wu & Chen (2018)	Direct consensus	N/A	52 food and beverage units from the hospitality industry	3 wave longitudinal study (survey-based; multi-level)	Shared leadership, organizational commitment, individual creativity	Collective PsyCap partially mediated the relationships between shared leadership and both unit-level commitment and creativity.
Bogler & Somech (2019)	Referent-shift	Shared mental models	82 management teams from the educational sector	Cross-sectional/ survey	Team PsyCap, team OCB, learning values, leader optimism	Team PsyCap was related to team OCB. Team learning values and leader optimism moderated this relationship, such that the effect of team PsyCap was stronger when learning values and leader optimism were high.
Waters et al., (2020)	Referent-shift	Social and emotional contagion	94 leadership teams of public and private schools	Cross-sectional/ survey	Leader PsyCap, team PsyCap, team OCB, team innovation, team performance	Leader PsyCap and team PsyCap were both related to team OCB, team innovation and team performance. The relationship between leader PsyCap and team PsyCap was not significant.

¹Although the studies by Clapp-Smith, Avey, Vogelgesang (2009) and by Mathe (2011) were conducted at the store-level, they were considered for inclusion because of the size of the units (n = 3 to 15) and because they were operationalized at the team-level.

performance (e.g., Clapp-Smith et al., 2009; Dawkins et al., 2018; Mathe et al., 2017; Peterson and Zhang, 2011; Rego et al., 2017, 2017b). This positive influence can be explained by the agentic, motivational, and confidence core of team PsyCap. Indeed, teams will high levels of collective PsyCap are expected to perform better because they: (1) set challenging goals and put forth the necessary efforts to succeed; (2) believe in their sense of agency and in their collective capacity to reach their objectives; (3) generate multiple ways to attain their goals; (4) persist, sustain, and bounce back in the face of challenges and failures; and (5) develop positive expectations about succeeding now and in the future (Avey et al., 2011; Dawkins et al., 2018).

Team Innovation. Because organizations increasingly use teams to generate innovative solutions (Edmondson, 2002; Gibson & Gibbs, 2006), the capacity to innovate has become an important component of team effectiveness (Mathieu et al., 2008). Team innovation is defined as the creation and implementation of new ideas for the purpose of improving current methodologies, products, and services (De Dreu & West, 2001; Dougherty, 2001). Despite this relevance, our scoping review indicates that only two studies have investigated the relationship between team PsyCap and team innovation. More precisely, in an academic setting, Somech and Khotaba (2017) found a significant indirect effect of team PsyCap on team innovation. In addition, Waters et al. (2020) recently demonstrated a direct link between team PsyCap and team innovation. Because teams with higher PsyCap are more confident in their capacities and are more intrinsically motivated, team PsyCap will influence members' willingness to propose new ideas and it will also affect the ways through which teams engage in problem resolution (Gonçalves & Brandão, 2017). Moreover, the hope dimension is particularly important for team innovation as is deals with the collective capacity to generate multiple pathways to goal attainment.

Members' Reactions. This dimension of team effectiveness includes both collective and individual outcomes. On the one hand, the collective level refers to reactions that are experienced similarly by all members and that are usually targeted at the team entity. On the other hand, the individual level captures responses that are specific

to certain members and that are mostly aimed at other work-related targets (Mathieu et al., 2019).

First, at the collective level, Avey et al. (2011) explained that PsyCap can facilitate the creation of a fulfilling atmosphere that can contribute to positive perceptions of group membership and to high quality relationships among members. Initial empirical findings provide support for this rationale. For example, Whatley (2013) found a strong and positive association between team PsyCap and team identification. In a similar manner, West et al. (2009) and Dawkins et al. (2018) showed that team PsyCap is also an important predictor of team satisfaction. Taken together, these results suggest that team PsyCap tends to generate overall satisfaction with the team experience. Second, when individuals are part of a psychologically strong team, past research explains that this positive experience will tend to cross-over and positively influence perceptions, attitudes, and behaviors that are directed at other work-related targets (Barsade, 2002; Fredrickson, 2003). For example, Heled et al. (2016) and Dawkins et al. (2018) both found a positive relationship between team PsyCap and job satisfaction. Moreover, Wu and Chen (2018) showed that collective PsyCap has a positive influence on organizational commitment. In a related manner, Dawkins et al. (2018) also found that team PsyCap exerts a negative influence on turnover intentions. When combined, these results confirm that being part of a team with high levels of collective PsyCap can generate positive dispositions that will tend to spillover into job satisfaction, organizational commitment, and subsequent desires to stay in the organization. Third, it seems that team PsyCap can promote members' expression of voice (Cogswell, 2018). Voice refers to an extra-role behavior in which constructive challenge is expressed and is intended to improve rather than merely criticize (Van Dyne & LePine, 1998). Cogswell argues that individuals who are part of teams with high levels of collective PsyCap are more likely to engage in voice behaviors as a way to continuously improve team functioning and performance. Finally, constituting empirical support for the previous contagion argument, Haar, Roche, and Luthans (2014) found a positive association between team PsyCap and the PsyCap of the team leader. Because team members and their leader generally entertain constant interactions and have interdependent objectives, this result indicates that the psychological state of a team can rub off on the leader and subsequently influence his individual level of PsyCap. Altogether, this review confirms that team PsyCap is a significant predictor of multiple dimensions of team effectiveness.

1.7.1.2 Proximal Outcomes

In terms of proximal team outcomes, we differentiate between emergent states and team processes. As defined by Marks and colleagues (2001), team processes are "members' interdependent acts that convert inputs to outcomes through cognitive, verbal, and behavioral activities directed toward organizing taskwork to achieve collective goals", whereas emergent states capture "properties of the team that are typically dynamic in nature and vary as a function of team context, inputs, processes, and outcomes" (p. 357). It is important to specify that while most of these variables were tested as outcomes of team PsyCap, a small portion of them were considered as mediating mechanisms linking team PsyCap to more distal outcomes.

Team Processes. Research findings demonstrate that team PsyCap is positively related to multiple team processes. First, our scoping review reveals that team PsyCap promotes the alignment and the integration of interdependent activities. For example, West et al. (2009) showed that team PsyCap is a contributing factor to team coordination. Also, Rego et al. (2017) found that the positive relationship between team PsyCap and team performance is mediated by an increase in task allocation effectiveness. These authors explained that team PsyCap tends to generate constructive interactions and productive behaviors which, in turn, can facilitate the synchronization of task and temporal processes (West et al., 2009). Second, empirical results also indicate a positive association between team PsyCap and organizational citizenship behaviors (OCB). More precisely, Heled et al. (2016) found that team PsyCap is a significant predictor of team OCB. Lau and Lam (2008, p. 142) define team OCB as "extra effort performed by the whole team that is above and beyond what is required and contributes to the effective functioning of the team". Relatedly, Somech and Khotaba (2017) showed that team OCB transmits the influence of team PsyCap on team innovation. These results suggest that when team members share a positive psychological state, they are more inclined to collaborate, to help each other, and to show social support. Third, two studies reveal that team PsyCap is an important antecedent of team learning (i.e., Rebelo et al., 2018;

Whatley, 2013). Team learning represents an ongoing process of reflection and action, through which teams acquire, share, combine, and apply knowledge (Edmondson, 1999). While Whatley (2013) investigated team learning as distal outcome, Rebelo et al. (2018) found that team learning transmits the effect of team PsyCap onto team performance. These authors argued that to successfully engage in learning behaviors, teams have to be confident in their collective capacities, be hopeful that they can find ways to reach their objectives, be optimistic about their chances of success, and be resilient in the face of challenges and setbacks. Fourth, Gonçalves and Brandão (2017) and Wu and Chen (2018) both found a positive association between team PsyCap and team creativity. They explained that when members have confidence in the capacities of their team, they are more likely to propose new and challenging ideas. In addition, through the development of alternative pathways to achieve collective goals, the hope dimension directly generates creativity. Also, because resilient and optimistic teams are better equipped to learn from their experiences, these two psychological resources also promote creative processes (Wu & Chen, 2018).

Emergent States. First, Clapp-Smith et al. (2009) showed that the positive relationship between team PsyCap and financial performance travels through trust in the leadership of the team leader. They explain that team PsyCap manifests into an overarching positive team climate that is conducive of trust in the leadership of the formal leader. In turn, this shared feeling of trust in the team leader creates an organizing force which enhances members' commitment towards goal attainment (Clapp-Smith et al., 2009). Second, Whatley (2003) found that collective PsyCap positively influences team trust, which refers to a shared belief among members of a team that their colleagues will: (1) make a good faith effort to behave in accordance with any commitments, (2) be honest in whatever negotiations preceded such commitments, and (3) not take excessive advantage of another even when the opportunity is available (Cummings & Bromiley, 1996). Third, in terms of relational quality, West et al. (2009) showed that team PsyCap contributes to a reduction in team conflicts. They argued that team PsyCap provides a buffer from team conflict because members of hopeful, efficient, resilient, and optimistic teams are less likely to internalize disagreements and, as such, more likely to perceive conflict as a resolvable and productive situation (Dawkins et al., 2015).

1.7.2 Moderators in the Team PsyCap - Team Outcomes Relationships

Our scoping review highlights that only four studies have investigated the presence of boundary conditions in the team PsyCap-team outcomes relationships. First, two of these studies (Dawkins et al., 2018; Rego et al., 2017b) have explored the moderating influence of the dispersion measure of team PsyCap (i.e., team PsyCap strength). The dispersion model measures the variance and the true distribution of scores in team members' responses (Chan, 1988; Mathieu et al., 2008). By relying on dispersion measures, team scholars are acknowledging that some degree of variability may exist in team members' perceptions, and that this degree of variability can influence the effects of collective phenomena. Accordingly, team PsyCap strength is defined as the degree of within-unit agreement among team members' collective perceptions of hope, efficacy, resilience, and optimism (Dawkins et al., 2015; Newman et al., 2014). In line with the argumentation of climate strength researchers, who were among the first to use dispersion measures in team studies, Dawkins et al. (2018) and Rego et al. (2017b) hypothesized that team PsyCap should exert stronger influence on team outcomes when accompanied by higher levels of agreement. Consistent with this reasoning, Rego et al.'s (2017b) results demonstrate that the positive relationship between team PsyCap and team performance gets stronger as team PsyCap strength increases. In contrast, Dawkins et al. (2018) found that with increasing team PsyCap strength, the magnitude of the association between team PsyCap and team performance decreased. The authors explained that this counterintuitive finding is most likely the result of an empirical artifact. Their sample of teams was characterized by high and weakly variable levels of team PsyCap strength. This skewed distribution could account for why they found a moderating effect that was contrary to their initial hypotheses. However, because Dawkins et al.'s (2018) result could also indicate that "diversity of team PsyCap perceptions can be beneficial and that it may not be necessary for all team members to be similar in their team PsyCap perceptions" (p.16), more research is needed to disentangle the moderating influence of team PsyCap strength.

Second, Peterson and Zhang (2011) studied the moderating effect of transformational leadership in the relationship between top management team PsyCap and team performance. Their results demonstrate that transformational leadership moderates

the positive association between team PsyCap and team performance. More precisely, when transformational leadership was low, the relationship between team PsyCap and team performance was found to be non-significant. Because transformational leaders are focused on establishing a strong sense of affective commitment towards a shared vision (Bass et al., 2003; Bass & Riggio, 2006), they tend to promote consensus and convergence in team members' perceptions (Bass et al., 2003). In that sense, the collective emphasis of transformational leaders can promote the emergence and the influence of team PsyCap. As Peterson and Zhang (2011) put it, they represent a natural condition to influence the relationships between collective constructs and team outcomes. Third, Bogler and Somech (2019) examined the impact of team resources (i.e., learning values and leader optimism) as moderating variables affecting the relationship between team PsyCap and team OCB. Their results confirm that the relationship between team PsyCap and team OCB is strengthened when both team learning values and team leader's optimism are high. In terms of learning values, which encompass aspects of the learning climate, the authors explain that such values promote an environment that is based on openness, trust, and support. In addition, they tap into to the social contagion theory to argue that members who view their leader as optimistic may take on his optimistic perspective and come to act in unison with his state. In turn, their results indicate that this positive learning environment and this generalized optimistic outlook strengthen the relationship between team PsyCap and team OCB. All in all, our scoping review points to the fact that our understanding is still very limited in terms of the contextual opportunities and constraints that moderate the influence of team PsyCap.

1.7.3 Antecedents of Team PsyCap

Although the investigation of team PsyCap's antecedents initially lagged behind the study of its outcomes, recent work confirms that multiple factors contribute to the emergence of collective hope, efficacy, resilience, and optimism. In a top-down manner, we begin with findings that relate to organizational characteristics, we proceed by reviewing team-level factors (i.e., team leadership, team climate), and we end with compositional inputs that deal with members' characteristics.

1.7.3.1 Organizational Characteristics

Our scoping review indicates that only one study has investigated the influence of organizational characteristics on team PsyCap. More specifically, Mathe (2011) showed that units who believe that their organization has a positive reputation tend to develop higher levels of collective PsyCap. Perceived external prestige captures how employees think outsiders view their organization (and thus themselves as members of it) (Smidts et al., 2001). Mathe explained that when members perceive that their friends, relatives, or acquaintances view their employing organization negatively, and express these negative attitudes, the PsyCap of the group will be jeopardized. Conversely, if group members receive positive feedback for their involvement in a prestigious and/or positively viewed organization, this social confirmation will engender greater feelings of collective hope, efficacy, resilience, and optimism.

1.7.3.2 Team Leadership

Considering that leadership is an important contextual factor that exerts a strong influence on team processes and outcomes (Burke et al., 2006), it is not surprising that team leadership is the most studied antecedent of team PsyCap. Overall, findings reveal that leadership style and leader's attributes influence the emergence of team PsyCap. First, Rego et al. (2017) and Gonçalves and Brandão (2017) both showed that a leader's expression of humility is positively related to the psychological capital of his team. Humility represents a personality trait that connotes a willingness to view oneself accurately, an appreciation of the strengths and contributions of others, and an openness to new ideas and feedback (Owens et al., 2015). Humble leaders behave in a way that emphasizes the strengths and contributions of members, that expresses their confidence in their team's capacities, and that shows that they are open to change (Rego et al., 2017). Through such propensities, humble leaders foster psychologically safe team climates that are conducive of team PsyCap (Gonçalves & Brandão, 2017). Second, Rebelo et al. (2018) found a positive relationship between transformational leadership and team PsyCap. They argued that transformational leaders promote the psychological capital of their team by creating supportive team contexts and by formulating positive and engaging visions of the future. Third, two recent studies reveal a positive association between shared leadership

dynamics and team PsyCap (Cogswell, 2018; Wu & Chen, 2018). Rather than arising from a single, designated leader, shared leadership results from leadership functions being distributed across multiple team members (Carson et al., 2007). By providing members with mastery experiences (Cogswell, 2018) and the opportunity to influence and voice their opinions, shared leadership produces empowering team settings that activate the agentic, motivational, and confidence core of team PsyCap. Fourth, representing additional evidence for the contagious nature of PsyCap, Haar et al. (2014) found a cross-level effect between a leader's PsyCap and the PsyCap of his team. This result suggests that the psychological state of a leader can come to crossover and influence the psychological capital of his team. Combined with their other results, these authors demonstrate that there is a reciprocal relationship between a leader's PsyCap and the PsyCap of his team. In short, empirical results highlight the importance of leadership processes for the emergence and influence of team PsyCap.

1.7.3.3 Team Climate

At the team-level, climate is defined as "shared perceptions and interpretations of the kinds of behaviors, practices, and procedures that are supported within a team" (Basaglia et al., 2010, p.544). Our scoping review reveals that multiple domains of team climate contribute to the development of team PsyCap.

First, Heled et al. (2016) found a positive relationship between learning climate and team PsyCap. Defined as the entire set of perceptions regarding what helps or hinders the learning of team members (Mikkelsen et al., 1998), a positive learning climate generates developmental opportunities and facilitates access to information as well as the sharing and dissemination of knowledge among teammates (Heled et al., 2016). In turn, these authors argue that these internal dynamics will activate the confidence and developmental core of team PsyCap. Second, Gonçalves and Brandão (2017) showed that psychological safety is positively related to team PsyCap. Defined as "a shared belief held by members of a team that the team is safe for interpersonal risk taking" (Edmondson, 1999, p. 350), they make the argument that psychologically safe teams are conducive of team PsyCap because: (1) they promote the expression of opinions and feedback, (2) they create a context where it is safe to question and redefine targets and/or pathways, and (3)

because members do not hesitate to seek help when faced with challenges and obstacles (Edmondson, 2002; Luthans & Youssef-Morgan, 2007). Third, in extension of their previous study (Rego et al., 2017), Rego et al. (2017b) further demonstrate that the teamlevel conceptualization of humility is also a significant predictor of team PsyCap. Framing their argumentation around social modeling and social contagion theory (Degoey, 2000), they found support for humility spill-over and trickle-down effects flowing from the leader to the team. At the group-level, humility creates an atmosphere that is characterized by the social validation of strengths and limitations, an ongoing flow of constructive feedback, and a commitment toward member's growth and development (Rego et al., 2017b), thereby promoting the emergence of collective hope, efficacy, resilience, and optimism. In summary, findings confirm that the overarching team climate plays an important role in the development of team PsyCap.

1.7.3.4 Team Composition

Compositional inputs (e.g., personality traits) refer to the attributes of team members and how the combination and the distribution (i.e., diversity) of such characteristics influence team processes, emergent states, and ultimately outcomes (Mathieu et al., 2008). Team composition variables constitute one of the most studied categories of antecedent in the team literature (Bell et al., 2011). Considering their prevalence, it is surprising that only one study has investigated the relationship between team members' characteristics and team PsyCap. More specifically, in an academic setting, Vanno, Kaemkate, and Wongwanich (2014) provide additional proof for PsyCap's contagious nature by showing that the individual PsyCap of members has a significant influence on the PsyCap of the group. However, they did not find support for a top-down reciprocal effect of group PsyCap on individual PsyCap. This result points to the possibility that although team PsyCap is a collective construct, it may not be entirely independent from members' own levels of psychological capital. Combined with the findings of Haar et al. (2014), Vanno et al.'s (2014) results constitute preliminary evidence for a possible multilevel interplay between individual PsyCap and team PsyCap. All in all, although more research is needed, our review indicates that the study of team PsyCap's antecedents has developed quite effectively.

Figure 2

Nomological Network of Team PsyCap



Despite all these important contributions, our review highlights that several understudied areas still remain. Therefore, the last section of this review is devoted to a research agenda. This agenda discusses avenues of research that will strengthen our comprehension and stimulate developments of the team PsyCap construct.

1.8 Research Agenda

Although additional research is needed in all areas of team PsyCap's nomological network, our scoping review reveals three gaps that should be prioritized. First, when studying the relationships between team PsyCap and team effectiveness criteria,

researchers have focused largely on task performance, to the detriment of other important dimensions. Precisely, out of the 16 papers that tested these relationships, 11 focused uniquely on performance indicators. Considering that team effectiveness is a multidimensional construct (Kozlowski & Ilgen, 2006; Mathieu et al., 2008), it seems that we do not yet possess a complete understanding of the full spectrum of effects of team PsyCap. Second, our review indicates that only four studies have investigated the mediating variables through which team PsyCap influences outcomes. As such, we have a limited knowledge of the mechanisms that account for the positive effects of team PsyCap. Third, our review of the literature points to a clear lack of research on potential moderators between team PsyCap and team outcomes. More specifically, only four studies have explored the presence of boundary conditions in the team PsyCap-team outcomes relationships. This state of affairs reflects a poor understanding of the conditions that enhance or attenuate the influence of team PsyCap. Overall, to respond to these three shortcomings, the next paragraphs detail a research agenda and they explain how articles 2 and 3 of this research program will fulfill these recommendations, and thus contribute to the advancement of team PsyCap research.

1.8.1 Recommendation 1: Focus on other dimensions of team effectiveness

As mentioned, the broader team literature acknowledges the multidimensional nature of team effectiveness. This multidimensional conceptualization stems from the realizations that work teams come in different types, that they tend to experience many different forms of successes, and thus that their effectiveness can and should be gaged in function of multiple factors (e.g., Kozlowski & Ilgen, 2006; Mathieu et al., 2017). Therefore, a complete understanding of team effectiveness requires the consideration of various criteria. However, as a body of knowledge, team PsyCap research has mostly focused on task performance. This means that researchers have concentrated their initial efforts on confirming the effects of team PsyCap on the quality and the quantity of team outputs (e.g., customer satisfaction, sales growth). Notable exceptions include the studies of Somech and Khotaba (2017) and of Waters et al. (2020) that have established positive associations between team PsyCap and team innovation, and the research of Dawkins et al. (2018) and of West et al., (2009) which have confirmed the positive influence of team

PsyCap on the satisfaction of team members. Without wanting to downplay the importance of performance criteria, which remains the most studied dimension of effectiveness in the team literature, we argue that this emphasis on performance indicators might overshadow other important consequences of team PsyCap. We thus encourage researchers to investigate the relationships between team PsyCap and other dimensions of team effectiveness.

1.8.1.1 Exploration of the relationship between team PsyCap and team adaptive performance

To advance our understanding of the influence that team PsyCap exerts on team effectiveness, we contend that the investigation of its effects on team adaptive performance constitutes an important and logical next step. First, work teams operate in increasingly dynamic environments and they are recognized as vehicles that facilitate organizational adaptation (Maynard et al., 2015). In other words, adaptive performance lies more than ever at the heart of team effectiveness (Burke et al., 2006). Second, psychological resources such as those that compose team PsyCap have been shown to play an important role in the adaptive process of individuals (Hobfoll, 2002; van den Heuvel et al., 2014). It is thus timely to test the isomorphic properties of this relationship at the team-level of analysis. Third, our scoping review highlights that no study to date has investigated the relationship between team PsyCap and team adaptive performance. All in all, the exploration of the association between these two constructs has the potential to greatly advance our knowledge of the effects of team PsyCap. As such, the overarching objective of articles 2 and 3 of this dissertation is to investigate the relationship between team PsyCap and team adaptive performance.

When conceptualized as an outcome, team adaptive performance encompasses the performance dimensions that enable flexible responding on the part of the team (Baard et al., 2014). In other words, team adaptive performance reflects the ability of a team to alter its functioning in order to meet the changing demands of the environment (Allworth & Hesketh, 1999; Pulakos et al., 2000). In order to capture different but complementary dimensions of team adaptive performance, we mobilize the constructs of team process improvement (TPI) and team adaptivity. First, team process improvement is defined as

the extent to which team members refine current processes and develop innovative solutions to improve task outcomes (Kirkman et al., 2004). TPI reflects the collective capacity to initiate changes in the way work is carried out. This process of improvement is the result of a proactive effort by a team to observe itself, to identify sources of disequilibrium, and to improve its internal functioning (Edmondson, 2002). In that sense, team process improvement captures the conscious reflection on team activities (Edmondson, 2002) and the planned implementation of improved ways of working (Rousseau & Aubé, 2010). Second, team adaptivity is defined as the degree to which team members cope with and respond effectively to changes that affect their team (Griffin et al., 2007). Generally speaking, team adaptivity captures stimulus-specific responses that directly address a particular or a set of discrete adaptive demands (Maynard et al., 2015). As these authors mention, team adaptivity is particularly relevant when teams face unpredictable and unanticipated changes. In other words, team adaptivity generally occurs as a result of unexpected shifts in the environment. Also, in the context of our research method, the changes that teams face are mostly externally imposed and unpredictable (e.g., redefinition of the task, reduction in time and resources).

To justify our conceptualization of TPI and team adaptivity as distinct but complementary facets of team adaptive performance, we draw from previous research in the organizational change and in the team adaptation literature. More precisely, we build from the distinction between continuous and episodic change (Armenakis & Bedeian, 1999; Pettigrew et al., 2001; Weick & Quinn, 1999) to position team process improvement as the continuous and proactive facet of team adaptive performance, and team adaptivity as its episodic and reactive facet. On the one hand, the continuous approach considers change as the ongoing alteration and refinement of work processes (Orlikowsky, 1996). As such, this perspective regards adaptation as the capacity to generate ongoing improvements in the way work is carried out. In a similar manner, research on team adaptation highlights that in order to adapt to changes and remain efficient, teams must continuously improve their ways of working (Argote et al., 2001; Kozlowski et al., 2009). Accordingly, it appears that TPI fits well with this continuous approach to change, and that it adequately captures the ongoing facet of team adaptive performance. More precisely, teams exhibit process improvement when they seek ongoing revisions to their internal functioning (Hyatt & Rudy, 1997). TPI is thus an open-ended process of incremental adjustments. Rather than occurring within a particular timeframe and rather than being specific to a unique event, team process improvement represents a general adaptive response that is mostly one of continuous refinements to a team's work processes. With that in mind, we argue that TPI accurately represents the ongoing facet of team adaptive performance. On the other hand, the episodic approach views change as discrete periods during which shifts are mostly caused by external forces (Weick & Quinn, 1999, p. 379). As such, the episodic perspective of change regards adaptation as the capacity to respond effectively to discrete and often unexpected events. This approach parallels the conceptualization of team adaptive performance as the effective management of unanticipated changes (Christian et al., 2017; Maynard et al., 2015). Because disruptions that affect work teams often take the form of unique and unpredictable events which members cannot effectively anticipate and plan for (Burnes, 2005), team adaptation also requires an array of discrete, ad hoc, and reactive responses (By, 2005; Christian et al., 2017). We argue that the construct of team adaptivity captures well this episodic and reactive facet of team adaptive performance. Rather than occurring in a mostly continuous manner as is the case with TPI, team adaptivity mostly refers to a team's adaptive performance during specific and temporary episodes of change. In addition, in contrast to the proactive nature of team process improvement, the wording (i.e., cope with, respond) employed by Griffin et al. (2007) suggests that team adaptivity is mostly a reactive type of adaptive performance. In addition, instead of capturing the continuous improvement of team processes, team adaptivity represents discrete adaptations that are dictated by the type of change that is imposed on the team. Overall, considering that team adaptivity generally captures stimulus-specific and non-scripted types of adaptive responses, it adequately represents the episodic and reactive facet of team adaptive performance.

Although the continuous and episodic approaches to change consider adaptation from different perspectives, they are complementary rather than mutually exclusive (Burnes, 1996). This entails that team adaptive performance consists of a mixture of ongoing improvements to work processes, and of episodic responses to emergent and discrete changes (Argote et al., 2001; Kozlowski et al., 2009; Maynard et al., 2015). As such, a comprehensive analysis of team adaptive performance requires a distinction and an integration between a team's capacity to generate ongoing improvements, and a teams' capacity to respond to externally imposed and episodic changes. This is why the inclusion of team process improvement and team adaptivity in articles 2 and 3 provides a comprehensive account of the relationships between team PsyCap and two different but complementary facets of team adaptive performance.

1.8.2 Recommendation 2: Investigation of potential indirect effects

The Input-Process-Outcome (IPO) framework (McGrath, 1984) is perhaps the most influential model for understanding team effectiveness (Lepine et al., 2008; Mathieu et al., 2008). In classic system ways, inputs represent resources available to the team, processes are the behaviors that intervene to transmit the influence of inputs to outcomes, and outcomes encompass the different dimensions of team effectiveness (Ilgen et al., 2005; Kozlowski & Bell, 2012). According to this perspective, inputs will increase team outcomes indirectly through the nature of team processes. Therefore, team processes are crucial bridges between team inputs and outcomes. Considering the prevalence of this model, it is surprising that only three studies have investigated the processes that account for the positive impact of team PsyCap. In other words, researchers have mostly assumed that team PsyCap exerts a direct effect on team effectiveness criteria. To date, only task allocation effectiveness (Rego et al., 2017), OCB (Somech & Khotaba, 2017), and team learning (Rebelo et al., 2018) have been identified as process mechanisms that explain how team PsyCap increases team effectiveness. This state of the literature indicates that while our knowledge of team PsyCap's antecedents and outcomes has developed over the last decade, little is known about the processes that underlie the positive relationships between team PsyCap and team-level outcomes. We thus encourage researchers to investigate potential indirect effects between team PsyCap and team effectiveness.

1.8.2.1 Clarification of the behaviors that account for the positive effects of team PsyCap

As mentioned, the IPO framework positions team processes as variables that explain why team inputs translate into higher levels of effectiveness. Generally speaking, team processes capture the behavioral choices of team members (Ilgen et al., 2005). This means that team member behaviors are considered as important explanatory mechanisms and as the antecedents most proximal to team effectiveness (Marks et al., 2001). Importantly, this perspective entails that positive expectancies of success and shared positive psychological resources such as those that compose team PsyCap are unlikely to translate directly into team effectiveness. Rather, shared psychological resources such as hope, efficacy, resilience, and optimism are more likely to enhance team effectiveness via the nature of team member behaviors. In other words, teams with high levels of PsyCap will tend to perform better because their members are more likely to adopt behaviors that are conducive of effectiveness. However, considering that only 3 process mechanisms have been identified to date, further research is needed to provide a more complex understanding of the underlying behaviors through which team PsyCap influences team effectiveness criteria. Accordingly, the second empirical objective of this research program is to clarify the behavioral pathways that explain how team PsyCap influences team adaptive performance. On the one hand, Article 2 explores the mediating influence of team self-managing behaviors in the relationship between team PsyCap and team process improvement. On the other hand, Article 3 hypothesizes an indirect effect between team PsyCap and team adaptivity that travels through team creativity. By testing the mediating effect of proactive and creative behaviors, this dissertation will provide a more fine-grained analysis of the nature of the relationships between team PsyCap and team adaptive performance.

1.8.3 Recommendation 3: Greater consideration of boundary conditions

Considering that moderator analyses are critical for advancing management theory and practice (Aguinis et al., 2017) and that growing appeals are being made to better contextualize team research (Joshi & Roh, 2009; Maloney et al., 2016; Mathieu et al., 2008), the lack of studies that investigate the presence of boundary conditions in the team PsyCap-team outcomes relationships is problematic. Apart from studies that have confirmed the moderating effects of team PsyCap strength, transformational leadership, team learning values, and leader optimism (Bogler & Somech, 2019; Peterson & Zhang, 2011; Rego et al., 2017b), our knowledge of the variables that moderate the influence of team PsyCap is still very limited. This state of affairs implies that researchers have mostly assumed that the positive effects of team PsyCap tend to generalize across contexts and across different types of teams. Although possessing shared positive psychological resources will surely benefit most types of teams in most organizational settings, certain conditions are likely to enhance or attenuate their influence on team outcomes. Overall, because the lack of knowledge on boundary conditions impedes the ability to convey an efficient application of team PsyCap research, we call for future studies to pay greater attention to potential moderators between team PsyCap and team outcomes.

1.8.3.1 Investigation of contextual influences

Context theorizing describes how contextual constructs and surrounding phenomena condition relations between variables at different levels of analysis (Maloney et al., 2016). As such, the consideration of context is a powerful way to capture the boundary conditions that moderate the effects of team PsyCap.

Because teams are considered as meso entities that are nested between the individual and the organizational levels, Maloney et al. (2016) recommend the distinction between the internal and the external team context. Whereas the external team context is "any external stimuli affecting the team, or external actor or entity with whom the team interacts, mostly outside of the control of the team, and usually at a higher level" (Maloney et al., 2016; p. 896), the internal team context refers to conditions and features that reside within the team boundaries. This duality entails that factors outside and inside the team boundaries can come to moderate the relationships between team PsyCap and team outcomes. However, scholars have completely neglected the role of the external context in their study of team PsyCap. Hence, we have a limited understanding of the types of organizational practices that promote or constrain the impact of team PsyCap. In response to this shortcoming, Article 2 will investigate the moderating effect of the team reward system on the relationship between team PsyCap and team self-managing behaviors. Considering that work behavior is a product of the interaction between intrinsic beliefs and outcome expectations (Ajzen, 1991; Bandura, 1991), this approach fits well with interactionist theories of work motivation. Importantly, by investigating the moderating effect of the team reward system, the results of Article 2 will help inform organizations and team leaders about ways by which they can take full advantage of the positive psychological states of their teams. In addition, Article 3 will tackle the internal team

context by investigating how a collective focus on outcomes influences the magnitude of the relationship between team PsyCap and team creativity. More precisely, Article 3 draws from the field of positive psychology and from key resources theories (i.e., Fredrickson, 1998, 2001; Isen, 1999, 2001) to investigate whether a shared performance orientation narrows the broadening of cognitions that is generated by team PsyCap and that is so critical to the creative process (Ambrose & Kulik, 1999; Woodman et al., 1993). Therefore, Article 3 clarifies the internal team characteristics that affect the association between team PsyCap and team creativity. All in all, the investigation of two new moderating variables, one that captures aspects of the external team context and the other that taps into a team's internal context, constitutes an important contribution to the team PsyCap literature. Now that the table is set, I will proceed with the theoretical and methodological sections of the remaining two articles.

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Article 2 Team Psychological Capital and Action Team Effectiveness: An Interactionist Perspective

2.1 Abstract

This study explores the previously unstudied relationship between team PsyCap and team process improvement. Precisely, drawing on the interactionist perspective of behavioral enactment, the present study investigates if the core confidence generated by team PsyCap and the external incentives provided by the organization interact to predict members engagement in team self-managing behaviors, and through this explain how and under which conditions team PsyCap promotes team process improvement. Stated differently, this study proposes a moderated mediation model in which team PsyCap exerts a positive indirect effect on team process improvement that travels through the self-managing behaviors of members, and that the team reward system moderates the first stage of this relationship. Using data from 514 team members nested in 135 action teams and their immediate superiors working for a Canadian public safety organisation, team selfmanaging behaviors were found to mediate the positive relationship between team PsyCap and team process improvement. In addition, results showed that the team reward system positively moderated the first stage of this relationship, such that the association between team PsyCap and team self-managing behaviors was stronger under high levels of team reward. All in all, by clarifying the behavioral pathway through which team PsyCap enhances team process improvement, and by highlighting a boundary condition that moderates this effect, this research provides a fine-grained analysis of the influence of team PsyCap in the context of action teams.

2.2 Introduction

As a consequence of geopolitical, economic, and technological pressures, the contemporary workplace has become highly dynamic and demanding. In this context, organizational members are often required to increase the tempo of work and to adapt rapidly and effectively to changes (Baard et al., 2014; Maynard et al., 2015). To cope

efficiently and remain productive under these difficult conditions, researchers in the field of positive psychology have highlighted the critical importance of positive psychological resources (French & Holden, 2012; Youssef-Morgan, & Luthans, 2013). Specifically, this stream of research has led to the development of the psychological capital construct (PsyCap; Luthans et al., 2007; Stajkovic, 2006). Psychological capital is defined as a:

Positive psychological state of development characterized by: (1) having confidence (*efficacy*) to take on and put in the necessary effort to succeed at challenging tasks; (2) making a positive attribution (*optimism*) about succeeding now and in the future; (3) persevering toward goals and, when necessary, redirecting paths to goals (*hope*) in order to succeed; and (4) when beset by problems and adversity, sustaining and bouncing back, and even beyond (*resilience*) to attain success. (Luthans et al., 2007, p. 3).

Importantly, PsyCap captures the common occurrence and shared variance among its constituting dimensions (Avey et al., 2009). Similar to the concept of resource caravans (Hobfoll, 2002), the four positive psychological resources that compose PsyCap interact together and reinforce each other to produce a higher-order core confidence construct (Stajkovic, 2006). Over the past decade, the evidence base has grown and two literature reviews (Avey et al., 2011; Newman et al., 2014) have supported the positive influence that PsyCap exerts on employee attitudes, behaviors, and performance.

Concurrently, the contemporary workplace is also increasingly organized around teams. In fact, Deloitte's Global Human Capital Survey indicated that 2017's number one trend was the willingness of managers to reorganize their companies into team-based arrangements. Importantly, this reality entails that the increased organisational demands of today not only fall on individual employees, but also on work teams. In light of this, researchers have started to investigate team-level conceptualisations of PsyCap (team PsyCap; e.g., Clapp-Smith et al., 2009; Heled et al., 2016). In contrast to individual PsyCap which refers to judgments that individuals make about their own psychological resources, team PsyCap captures members' shared perceptions of their team's collective levels of hope, efficacy, resilience, and optimism. Recently, scholarly interest toward the

team PsyCap construct has grown and initial research results have revealed that team PsyCap is positively related to numerous positive team outcomes.

In this study, we argue that due to the nature of their collective task, action teams are likely to particularly benefit from shared positive psychological resources. Action teams are specialized units who perform time-constrained and high-stakes engagements with audiences, adversaries, or challenging environments (Sundstrom, 1999; Vashdi et al., 2013). Oft cited examples of action teams include police and firefighter squads, surgical teams and aircrews. In that regard, the purpose of the present study is to provide a fine-grained analysis of how and under which conditions team PsyCap enhances the effectiveness of action teams. Specifically, because team PsyCap captures a shared confidence belief (Stajkovic, 2006) that translates into an agentic and proactive orientation toward the team task (Luthans et al., 2010; Youssef-Morgan & Luthans, 2017), this study explores its relationship with team process improvement (TPI). Team process improvement is defined as the extent to which team members implement better ways of functioning in order to improve task outcomes (Kirkman et al., 2004; Rousseau & Aubé, 2010). Previous research has shown that this team capacity is particularly important in the context of action teams. Indeed, considering the severe consequences that can result from deficiencies in action team functioning, members of such teams need to constantly monitor and improve their collective ways of working (Farh & Chen, 2018; Weiss et al., 2017). Also, because action teams operate in dynamic and unpredictable settings, they must be able to make adjustments in order to maintain required levels of effectiveness (Klein et al., 2006). All in all, because the relevance of outcomes should be assessed in relation to the context of their investigation (Mathieu et al., 2017), we chose to focus on the relationship between team PsyCap and an effectiveness criterion that is of paramount importance to action teams.

In addition, another objective of the present study is to clarify the behavioral mechanisms and the boundary condition that intervene in the relationship between team PsyCap and team process improvement. Precisely, we adopt a motivational interactionist perspective (e.g., Ajzen, 1991; Bandura, 1986) to investigate how team PsyCap and the rewards provided by the organization interact to produce the collective confidence and

motivation that are needed for members to engage in team self-managing behaviors (TSMB), which act as behavioral mechanisms between team PsyCap and team process improvement. Taken together, we propose a moderated mediation model in which team PsyCap exerts a positive indirect effect on team process improvement that travels trough TSMB, and that the team reward system moderates the first stage of this relationship. Overall, by clarifying the behavioral pathway through which team PsyCap enhances team process improvement, and by shedding light on a boundary condition that moderates this effect, this research provides a comprehensive analysis of the influence of team PsyCap.

The present study offers multiple contributions to the team PsyCap, to the action team, and to the team motivation literatures. First, while previous research has mainly focused on confirming the positive effect that team PsyCap exerts on team performance, this study extends current knowledge by exploring the previously unstudied relationship between team PsyCap and team process improvement. As such, this study will examine to what extend team PsyCap is a significant predictor of team process improvement in the context of action teams. Second, research is just beginning to scratch the surface of the mediators that intervene in the relationships between team PsyCap and its outcomes (Luthans & Youssef-Morgan, 2017). In other words, little is known about the mechanisms that underlie the positive effects of team PsyCap (Newman et al., 2014). In response to this shortcoming, by investigating the mediating effect of TSMB, the present study contributes to clarify the behavioral mechanisms that underlie the positive influence of team PsyCap. Third, when taking into account the clear lack of research on potential boundary conditions between team PsyCap and its outcomes (Luthans & Youssef-Morgan, 2017; Newman et al., 2014), and that organizational contextual variables are among the least studied factors in the team literature (Joshi & Roh, 2009; Maloney et al., 2016; Sundstrom et al., 2000), the current study greatly advances our understanding of the kind of organizational practices that promote the influence of team PsyCap in the context of action teams.

Fourth, despite the pervasiveness of actions teams and that their suboptimal functioning can cause disastrous human, material, and/or economic consequences (James, 2011), research has devoted limited attention to this type of teams (Ishak & Ballard, 2012;

Marques-Quinteiro et al., 2013; Nielsen et al., 2005). This state of affairs indicates a limited knowledge of action teams and of the variables that enhance their effectiveness. This is problematic considering that action teams are central functional entities in many organizational domains such as the military, law enforcement, and healthcare. In this study, we also contribute to filling this gap by investigating factors, processes, and organizational practices that promote the optimal functioning of action teams. Lastly, considering the prevalent use of the motivational interactionist perspective to understand the behaviors of individuals (e.g., Ajzen, 1991; Bandura, 1991), an underlying objective of this study is to test whether the main propositions of this approach hold true at the team level of analysis. By potentially validating the isomorphic properties and the applicability of the motivational interactionist perspective to the team-level of analysis, this study will potentially highlight an important framework from which to explain team behaviors.

2.3 Theoretical Background and Hypotheses

2.3.1 Team PsyCap and Team Self-Managing Behaviors

TSMB refer to a set of actions by which team members take on responsibilities for directing their task accomplishment toward the achievement of team goals (Rousseau & Aubé, 2010). More specifically, members may engage in team self-management by exhibiting planning, monitoring, and adjustment behaviors (Castaneda et al., 1999; Militello et al., 1999). When combined, these behaviors reflect a general orientation of team members toward managing their work activities (Rousseau et al., 2006). Importantly, when members engage in TSMB they take on responsibilities that are usually performed by their supervisor (Dunphy & Bryant, 1996; Uhl-Bien & Graen, 1998). Therefore, teams who self-manage their activities engage in more complex and demanding behaviors. In that regard, the motivational interactionist perspective informs us that the decision to engage in such behaviors is in part based on evaluations and beliefs about internal capacities and resources (Ajzen, 1991; Bandura, 1986; Porter et al., 2003). In the context of this study, this notion entails that members of action teams will start by evaluating whether their team possesses sufficient capabilities and resources to selfmanage successfully. Stated differently, a team's level of confidence toward selfmanagement will determine the amount of effort that members will invest in planning,

monitoring, and adjusting their team activities. As Stajkovic (2006) explains, having high levels of core confidence makes it more likely that action will be initiated, pursued, and sustained. Conversely, a lack of collective core confidence would most likely neutralize a team's potential for self-management. This means that unless team members believe that they can take on management responsibilities effectively, they have little incentive to engage in such behaviors (Ajzen, 1991; Bandura, 1986).

Overall, the motivational interactionist perspective provides strong theoretical support as to why team PsyCap constitutes a key determinant of members' engagement in TSMB. This is because team PsyCap refers to a collective motivational state that taps into a team's core confidence beliefs (Stajkovic, 2006). As such, team PsyCap captures members' positive appraisals of the capacity of their team to accomplish their goals and succeed (Luthans et al., 2007). In the present study, this means that high PsyCap action teams are more likely to possess the core confidence that is needed for members to engage in team self-managing behaviors. In addition, underlying the construct of team PsyCap is an agentic capacity representing members' desires for intentionality and control (Luthans et al., 2010). In other words, high PsyCap teams are confident that they can create their own successes (Avey et al., 2011), and they will therefore tend to strive for autonomy in the accomplishment of their collective work. Accordingly, considering that TSMB capture the actual exercise of control by members, and because these behaviors provide opportunities to influence the management of the team, we argue that the core confidence and the agentic capacity generated by team PsyCap should predispose members to engage in planning, monitoring, and adjustment behaviors.

Hypothesis 1: Team psychological capital is positively related to team selfmanaging behaviors.

2.3.2 Team Self-Managing Behaviors and Team Process Improvement

As shown in Figure 3, the hypothesized model proposes a positive relationship between TSMB and team process improvement. First, previous research shows that by taking charge of their team functioning, members are more likely to be motivated by a sense of ownership and responsibility that will translate into a proactive orientation toward their collective task (Kirkman et al., 2004; Seibert et al., 2011). Stated differently, teams that exercise control over their task accomplishment will tend to be more committed to their work and to their collective performance. In turn, as a result of this proactive orientation and of this increased commitment, members will be more motivated to revise their team processes and to search for better ways of functioning (Hyatt & Rudy, 1997; Kirkman et al., 2014). Second, by directly managing task demands and by participating in higher-level activities, teams that self-manage are better positioned to develop a more complete repertoire of informational and operational knowledge. Therefore, teams who engage in TSMB will be more likely to develop a holistic understanding of their collective task (Dunphy & Bryant, 1996; Rousseau & Aubé, 2010). In turn, this higher level of collective task awareness should contribute to a team's ability to assess its internal functioning, to identify areas of improvement, and to design new and better ways of operating (Marks & Panzer, 2004). Lastly, the monitoring dimension of TSMB is particularly important for the capacity of teams to improve their internal functioning. As Castaneda et al. (1999) explained, teams that engage in monitoring activities track their internal functioning, and are thus better able to make improvements for higher levels of effectiveness. Therefore, through internal systems monitoring, teams that exhibit TSMB are more likely to detect internal discrepancies in work processes and to make the required adjustments. Overall, as a result of a more proactive orientation to work and of a more complete understanding of their collective task, teams who exhibit TSMB will be more motivated and better equipped to improve their internal processes.

Hypothesis 2: Team self-managing behaviors are positively related to team process improvement.

2.3.3 The Mediating Role of Team Self-Managing Behaviors

The hypothesized model positions TSMB as the behavioral bridge linking team PsyCap to team process improvement. Stated differently, we propose that the shared positive psychological resources of hope, efficacy, resilience, and optimism exert an indirect effect on team process improvement that can be explained by the team selfmanaging behaviors that members engage in.

This rationale is in keeping with the Input-Process-Outcome framework of team effectiveness (Hackman, 1987; McGrath, 1964). In classic system ways, inputs represent resources available to the team, processes are the behaviors that intervene to transmit the influence of inputs to outcomes, and outcomes encompass the different dimensions of team effectiveness (Ilgen et al., 2005; Kozlowski & Bell, 2012). Therefore, inputs will tend to increase team outcomes indirectly through the nature of team processes. Importantly, this perspective entails that shared positive psychological resources are unlikely to translate directly into team effectiveness criteria. Rather, team PsyCap is more likely to enhance team effectiveness via the nature of team member behaviors. This means that teams with high levels of PsyCap will tend to perform better because their members are more likely to adopt behaviors that are conducive of team effectiveness. In the context of this study, this perspective entails that the positive influence that team PsyCap exerts on the capacity of action teams to improve their internal functioning should be accounted for by the self-managing behaviors of members. To summarize, Hypothesis 1 predicts a positive relationship between team PsyCap and TSMB, and Hypothesis 2 predicts a positive relationship between TSMB and team process improvement. Taken together, these hypotheses specify a model in which team PsyCap has a positive indirect effect on team process improvement that travels through team self-managing behaviors.

Hypothesis 3: Team self-managing behaviors mediate the positive relationship between team psychological capital and team process improvement.

Figure 3

Hypothesized Research Model



2.3.4 The Moderating Role of the Team Reward System

Hypothesis 1 proposed that the sense of collective confidence that accompanies team PsyCap is a determining factor in members' motivation to engage in TSMB. However, the motivational interactionist perspective (e.g., Ajzen, 1991; Bandura, 1991) highlights that core confidence beliefs are necessary but often insufficient to ensure behavioral enactment. More specifically, the interactionist approach considers behavioral enactment to be the result of the interaction between internal beliefs and outcome expectations (Latham & Pinder, 2005; Porter et al., 2003). This means that the intention to act is not only based on evaluations of capacities and chances of success, but also on an instrumental estimate where people anticipate the contingent consequences of their actions. Importantly, the motivational interactionist perspective acknowledges that outcome expectations can influence the strength of the association between internal beliefs and workplace behaviors (Ajzen, 1991; Bandura, 1991). More specifically, negative outcome expectations are expected to reduce the strength of the relationship between internal evaluations and workplace behaviors, whereas positive outcome expectancies are likely to strengthen the behavioral intentions that are generated by confidence beliefs.

In team settings, this notion entails that it is more likely that members will act based on their shared confidence beliefs if they also expect external motivators in return. In the context of this study, this means that if team members expect external incentives for self-managing their activities, then the motivational power of team PsyCap will be enhanced, and its positive effect on TSMB will be strengthened. To capture this external facet of collective behavioral enactment, we mobilize the construct of team reward system. The team reward system refers to team member perceptions about how their organization recognizes and rewards the contributions of their team (Hackman, 2002; Wageman et al., 2005). Based on the motivational interactionist perspective described above, we anticipate that when members perceive that the contributions of their team are recognized and rewarded by their organization, the positive relationship between team PsyCap and TSMB will be stronger. This proposition is also in line with previous research demonstrating that PsyCap tends to generate stronger outcomes when individuals operate in supportive organizational settings (Newman et al., 2014). In summary, because team PsyCap captures the confidence and agentic evaluations of a team, and because the team reward system refers to the influence of the organizational context, these two constructs accurately represent both intrinsic and extrinsic facets of behavioral enactment. Hence, this leads us to the formulation of our fourth research hypothesis.

Hypothesis 4: The team reward system moderates the strength of the relationship between team PsyCap and TSMB, such that this relationship is stronger under high levels of team reward.

2.3.5 Moderated Mediation Model

Overall, Hypothesis 3 states that TSMB mediate the relationship between team PsyCap and team process improvement. Furthermore, Hypothesis 4 indicates that the team reward system moderates the relationship between team PsyCap and TSMB. When combined, these two hypotheses specify a first-stage moderated mediation model regarding the relationship between team PsyCap and team process improvement (Edwards and Lambert 2007; Preacher et al. 2007). Precisely, the proposed moderated mediation model suggests that the indirect effect of team PsyCap on team process improvement trough TSMB is conditional on the level of recognition and rewards that teams receive (see Figure 3). Thus, the fifth hypothesis is formulated based on this moderated mediation model.

Hypothesis 5: The indirect effect of team PsyCap on team process improvement through TSMB is moderated by the team reward system, such that this effect is stronger when the level of team recognition and reward is high.

2.4 Method

2.4.1 Participants and Procedures

This study was conducted in a Canadian public safety organisation. Its mission is to promote public wellbeing. Selected teams are responsible to deliver front-line services and interventions. The selection of work teams invited to participate in this study was based on four criteria (Hackman, 1987; Ilgen, 1999; Sundstrom et al., 1990). Specifically, these criteria imply that members of a team: (a) constitute a formal group in the organization; (b) have team goals to accomplish; (c) execute tasks that are connected to the mission of the organization, and (d) are interdependent in task accomplishment.

The final sample includes 135 action teams, which represents 514 members and 135 immediate superiors. Each of these immediate superiors are a formal leader that are responsible for one team. Team size ranged from 2 to 11 members (M = 4.95; SD = 2.34). For all these teams, at least two members participated in this study (M = 80%; SD = 19%). In total, the participation rate was 66% at the team-level (135 teams out of 206 teams). Considering that the total number of team members in this organisation was 904, the overall response rate was 57%. Data regarding the demographic characteristics of the team member participants indicated that the proportion of men was 71%, the average age was 33 years (SD = 7.2 years), and that the average tenure was 9 years (SD = 6 years). Concerning the immediate superior participants, data showed that the proportion of men was 81%, the average age was 40 years (SD = 6.7 years), and the average tenure was 15 years (SD = 6 years). All in all, this composition is representative of the personnel in this organization. Data was obtained by means of two questionnaires (one designed for team members and the other for team leaders). The research team was responsible for the administration of the survey to the participants. We presented the goal of the study (which was to improve understanding of the functioning and effectiveness of work teams in organizational settings), we explained ethical considerations (i.e., voluntary participation, anonymity of response), and we answered any questions that the participants might have. All participants signed a consent form. To avoid confounding effects, no information regarding the hypotheses of this study was transmitted to the participants.

2.4.2 Measures

To reduce common method variance, we collected data from two sources of evaluation (Podsakoff et al., 2012), namely the team members and their immediate superiors. Team members provided data regarding the psychological capital of their team, their TSMB, and the level of team reward they received, whereas the superiors provided ratings concerning team process improvement.

Team psychological capital. Team psychological capital was measured using the Psychological Capital Questionnaire-12 (PCQ-12; Avey et al., 2011), a shortened but validated version of the PCQ-24 (Luthans et al., 2007). Following the procedure of Rego et al. (2017), the 12 items were adapted to the team level (West et al., 2009) using a referent-shift approach (Chan, 1998). Sample items include: "If team members should find themselves in a jam at work, they could think of many ways to get out of it" (hope); "Team members can get through difficult times at work because they have experienced difficulty before" (resilience). Participants indicated their responses on a 6-point scale ranging from *strongly disagree* (1) to *strongly agree* (6).

Team self-managing behaviors. TSMB were measured using a short version of the scale developed by Rousseau and Aubé (2010). This six-item scale assesses the extent to which team members engage in planning, monitoring, and adjusting activities (e.g., "We plan the accomplishment of our work activities"; "We monitor the results of our work"; "We search for better ways of operating"). The two items measuring reinforcement, which tap into the administration of rewards by team members were removed due to potential confounding effects with the moderator variable (i.e., team reward system). A 5-point answer scale was used (1 = not true at all to 5 = totally true).

Team reward system. The team reward system was assessed using 3 items from the team support scale developed by Wageman et al. (2005). Sample items include: "Excellent team performance pays off in this organization"; "Even teams that do an especially good job are not recognized or rewarded by the organization" (reverse coded). Team members indicated their responses on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Team process improvement. Team process improvement was evaluated by the superiors using the 5-item scale from Rousseau and Aubé (2010). The items were preceded by the stem "Team members have successfully implemented new ways of working ..." and followed by the statements: (a) "to facilitate achievement of performance goals", (b) "to be more productive", (c) "to produce higher quality work", (d) "to decrease

delivery time", and (e) "to reduce costs". Responses were given on a 5-point rating scale ranging from 1 (*not true at all*) to 5 (*totally true*).

Control variables. Given their possible influence on the present study's variables, team size and average team tenure were considered as control variables. First, team size (i.e., number of members in each team) was included following previous findings that size impacts both team functioning and outcomes (Lepine et al., 2008; Wheelan, 2009). In the context of this study, due to potential dysfunctional team processes (Curral et al., 2001), larger teams might find self-management more difficult and less effective. Second, average team tenure (i.e., the average numbers of years members have been part of the team) was also controlled for because of its potential effects on team processes (Hülsheger et al., 2009; Katz, 1982). Precisely, action teams composed of more experienced members are likely to be more confident and better equipped to self-manage their activities and to improve their internal processes. Data regarding average team tenure was measured with a straightforward question, whereas the information related to team size was provided by the organization.

2.5 Results

2.5.1 **Preliminary Analyses**

2.5.1.1 Data Aggregation

Data regarding team PsyCap, TSMB, and the team reward system were provided by team members. In order to justify aggregating these ratings to the team level, it is necessary to demonstrate sufficient interrater agreement and between-group variability (Bliese, 2000). First, to assess interrater agreement, we calculated r_{wg} indices (James et al., 1993). The average r_{wg} values for team PsyCap (.96), for TSMB (.84), and for the team reward system (.79) were all above the recommended .70 cut-off, and thus indicated strong agreement within teams in regard to these three variables. Second, to evaluate between-group variability, we first calculated the intraclass correlation coefficient ICC(1). Results revealed that the value of ICC(1) was .23 for team PsyCap, .17 for TSMB, and .09 for the team reward system, which all exceeded the recommended .05 cut-off (Bliese, 2000). Also, as indicated by one-way analyses of variance, the *F* ratio was significant for team PsyCap (F[134, 377] = 2.15, p < .001), for TSMB (F[134, 378] = 1.78, p < .001), and for the team reward system (F[134, 377] = 1.38, p = .009). Overall, these results indicated that team membership accounted for a significant proportion of variance in these three constructs.

In addition, we also calculated the ICC(2) coefficient to determine if team means were reliably different from one another. The ICC(2) coefficients were .53 for team PsyCap, .44 for TSMB, and .28 for the team reward system. Although these values lie below the recommended cut-off of .60 (Glick, 1985), we decided to proceed with aggregation for two reasons. First, methodologists have explained that a low ICC(2) value mainly reduces statistical power, and that it should not prevent aggregation if aggregation is theoretically justified and accompanied with high r_{wg} and ICC(1) values (Bliese, 2000; Chen & Bliese, 2002). Second, it has been argued that the .60 cut-off needs to be considered in context of the investigation (LeBreton & Senter, 2008). More precisely, ICC(2) values are influenced by team size (LeBreton et al., 2003). This entails that in a sample characterized by small teams (as is the case with some of our participating teams), the ICC(2) coefficient might underestimate true agreement and wrongly suggest against aggregation (Woehr et al., 2015). Overall, considering the high average r_{wg} values, the high ICC(1) scores, and the significant F statistics, we concluded that the aggregation of individual scores to the team-level was warranted for the team PsyCap, the TSMB, and the team reward system constructs.

2.5.1.2 Discriminant Validity

Considering that data about team PsyCap, TSMB, and the team reward system were all collected from the team members, confirmatory factor analyses (CFAs; Amos 27, maximum likelihood estimation) were conducted to establish the distinctiveness of team PsyCap, of team self-managing behaviors, and of the team reward system. These analyses were carried out at the individual level to have a sufficient number of observations per estimated parameter, which is an approach that is consistent with many studies in the work group literature (e.g., Griffith & Sawyer 2010; Miron-Spektor et al. 2011). As such, all latent variables were modeled using data at the individual level. Twenty-two respondents were omitted from these analyses due to missing values. In

addition, considering the high number of items compared to the study's sample size (Little et al., 2002), and that team PsyCap and TSMB are conceptualized as multidimensional constructs, we created four parcels for team PsyCap (i.e., hope, efficacy, resilience, and optimism) and three parcels for TSMB (i.e., planning, monitoring, adjusting). Goodness-of-fit indices indicated that the intended three-factor structure comprised of team PsyCap, of TSMB, and of the team reward system fits the data well ($\chi 2[32] = 97$, p < .001; incremental fit index [IFI] = .97; Tucker-Lewis index [TLI] = .96; comparative fit index [CFI] = .97; goodness of fit index [GFI] = .96; root-mean-square error of approximation [RMSEA] = .064; and the standardized root mean square residual [SRMR] = .062). All item parcels were significantly related to their latent factors (p < .001) and the lowest standardized value was .40

Table 2

Measurement Model Comparisons

Models	$\chi^2(df)$	IFI	TLI	CFI	GFI	RMSEA	SRMR	χ^2 diff	df_{diff}
Intended model, three factors	97(32)	.97	.96	.97	.96	.064	.062		
Model A, two factors ^a	360(34)	.86	.82	.86	.85	.140	.077	263	2***
Model B, two factors ^b	383(34)	.86	.81	.85	.87	.145	.099	286	2***
Model C, two factors ^c	410(34)	.84	.79	.84	.86	.150	.104	313	2***
Model D, one factor ^d	649(35)	.75	.67	.74	.78	.189	.109	552	3***

n = 492; ***p < .001; χ^2 = chi-square discrepancy; df = degrees of freedom; IFI = incremental fit index; TLI = Tucker-Lewis index; CFI = comparative fit index; GFI = goodness of fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual; χ^2_{diff} = difference in chi-square; df_{diff} = difference in degrees of freedom.

^a Team psychological capital and team self-managing behaviors combined into a single factor; compared to the 3-factor model.

^b Team self-managing behaviors and team reward system combined into a single factor; compared to the 3-factor model.

^c Team psychological capital and team reward system combined into a single factor; compared to the 3-factor model.

^d Single factor model; all items combined into a single latent factor; compared to the 3-factor model.

We also compared this three-factor structure with a range of alternative models. The chi-square difference tests revealed that the intended three-factor model was significantly different that the alternative models in terms of fit. More precisely, as can be seen in Table 2, the fit of the intended model was significantly better than models in which: (a) team PsyCap and TSMB were combined into a single factor ($\Delta \chi 2[2] = 263$, p < .001), (b) TSMB and the team reward system were combined into a single factor ($\Delta \chi 2[2] = 286$, p < .001), (c) team PsyCap and the team reward system were combined into a single factor ($\Delta \chi 2[2] = 313$, p < .001), and (d) all items were gathered within one latent

variable ($\Delta \chi 2[3] = 552$, p < .001). Overall, these results indicated that the three variables that were measured by team members were distinct, and thus appropriate for inclusion in subsequent analyses.

2.5.1.3 Common Method Variance

Before proceeding to hypotheses testing, we also wanted to assess the degree to which common method bias was a pervasive issue in our study. Precisely, we wanted to make sure that the variance of the three variables that were assessed by team members was true variance and not variance that is attributable to the common measurement method. To do so, we first conducted Harman's single factor test (Harman, 1960). This technique uses exploratory factor analysis in which variables are constrained so that there is no rotation. Common method bias is assumed to exist if (1) a single factor emerges, or (2) a first factor explains more than 50% of the total variance (Podsakoff et al., 2003). Results of principal component analysis in SPSS revealed four distinct factors that accounted for 64% of the total variance. Moreover, the first unrotated factor captured 41% of the variance in the data. Therefore, no single factor emerged, and the first factor did not account for the majority of the covariance among the measures. Second, Bagozzi et al. (1991) have described a technique for assessing the impact of common method variance through latent variable correlation. They explained that common method bias is evident when a substantial correlation ($r \ge .90$) is found among principal constructs. In that regard, correlation analyses indicated that the strongest association was between team PsyCap and TSMB (r = .65). Third, one of the major causes of common method variance is obtaining the measures of both independent and dependent variables from the same source (Podsakoff et al., 2003). As previously mentioned, this is the main reason why we chose different sources of evaluation for the predictor and the criterion. For all these reasons, we believe that common method effects were unlikely to be a major issue in our data.

Descriptive statistics (means and standard deviations), reliability estimates, and correlations for the study variables are presented in Table 3.

2.5.2 Hypotheses Testing

We tested our study hypotheses in three interrelated steps. First, we examined the mediational pathway comprised of team PsyCap, of TSMB, and of team process improvement (Hypotheses 1-3). Second, we investigated the moderating effect of the team reward system (Hypothesis 4). To test these four hypotheses, we used a path analytic procedure with the Amos 27 software and the maximum likelihood method. Third, we assessed the indirect effect of team PsyCap on team process improvement at different values of the team reward system (Hypothesis 5). To do so, we relied on the SPSS macro PROCESS (model 7; Hayes & Preacher, 2013).

Table 3

Means, Standard Deviations, Reliability Estimates and Bivariate Correlations

Variable	М	SD	1	2	3	4	5
1. Team Psychological Capital	4.64	.47	(.92)				
2. TSMB	3.58	.48	.65**	(.91)			
3. Team process improvement	2.80	.86	.23**	.28**	(.91)		
4. Team reward system	3.16	.50	.40**	.38**	.25**	(.73)	
5. Team size	5.00	2.34	09	23**	.14	03	N/A
6. Team tenure	2.20	1.91	.09	.03	.05	.03	15

n = 135 teams. M = mean; SD = standard deviation; TSMB = team self-managing behaviors.

 $Reliability \ estimates \ (Cronbach's \ alphas) \ are \ in \ parentheses. \ *p < .05, \ two-tailed; \ **p < .01, \ two-tailed.$

2.5.2.1 Test of Mediation

Table 4 presents the results for Hypotheses 1-3. In support of Hypothesis 1, team PsyCap was found to be positively related to TSMB ($\beta = .65, t = 9.95, p < .001$). Also, in support of Hypothesis 2, the path estimate for the relationship between TSMB and team process improvement was significant ($\beta = .52, t = 2.67, p = .008$).

Hypothesis 3 stated that the relationship between team PsyCap and team process improvement is mediated by TSMB. This indirect effect was assessed using the bootstrapping strategy as recommended by Preacher and Hayes (2008). Based on a 10,000 bootstrap sample, results revealed that the indirect effect of team PsyCap on team process improvement through TSMB was significant (indirect effect = .34, SE = .15, bias-corrected 95% confidence interval [CI] = .07 to .67). Moreover, when TSMB was entered

in the regression equations, the direct effect of team PsyCap on team process improvement was rendered non-significant ($\beta = .10$, t = .53, p = .599, 95% CI = -.29 to .49), therefore confirming Hypothesis 3. As expected, higher team PsyCap corresponded with higher scores on TSMB, which was associated with greater levels of team process improvement. Overall, the variables contributed in explaining 46% of the TSMB variance and 13% of the TPI variance. Taken together, these results mean that the relationship between team PsyCap and team process improvement is mediated by TSMB.

Table 4

	TSMB				TPI				
	В	SE	t	p	В	SE	t	p	
Team size	04	.01	2.87	.004	.08	.03	2.73	.006	
Average team tenure	02	.02	.95	.343	.03	.04	.92	.360	
Team PsyCap	.65	.07	9.95	.001	.10	.20	.53	.599	
TSMB					.52	.20	2.67	.008	
R^2	.46				.13				
	Μ		SE	LL 9	LL 95% CI		UL 95% CI		
	Bootstrap results for indirect effect								
Effect	.34 .15				.07	.67			

Path Analysis Results for Mediation

n = 135 teams. Unstandardized regression coefficients are reported. Bootstrap sample size = 10,000. LL= lower limit; CI = confidence interval; UL = upper limit.

2.5.2.2 Test of Moderation

The prediction in Hypothesis 4 stated that the team reward system would positively moderate the relationship between team PsyCap and TSMB. To test this hypothesis, we created a cross-product interaction term involving team PsyCap and the team reward system. It should be noted that the scores of team PsyCap and of the team reward system were centered to reduce the multicollinearity between these variables and the interaction term. Team size and average team tenure were also included as control variables. Results revealed that the interaction term involving team PsyCap and the team reward system has a significant path estimate ($\beta = .24$, t = 2.62, p = .009) and its inclusion contributed in explaining an additional 4% of the TSMB variance, which provides preliminary support for the moderating effect of the team reward system. To fully support Hypothesis 4, the form of this interaction should conform to the hypothesized pattern. Therefore, based on recommendations by Cohen et al. (2003), the moderating effect was interpreted by plotting the regression equations in relation to three levels of the team reward system, namely the mean, one standard deviation below the mean, and one standard deviation above the mean (see Figure 4). In line with our expectations, the slope of the relationship between team PsyCap and TSMB was stronger for teams who received high levels of recognition and reward ($\beta = .75$, t = 8.3, p < 0.001) than for teams who received average levels ($\beta = .63$, t = 8.9, p < 0.001) and low levels of recognition and rewards ($\beta = .51$, t = 6.6, p < 0.001). In other words, the more a team's performance is rewarded and recognized by the organization, the stronger the relationship between team PsyCap and TSMB. Overall, Hypothesis 4 is thus supported by the results of simple slopes analyses and the results depicted in Figure 4, which means that the team reward system exercised a moderating effect on the relationship between team PsyCap and TSMB.

Figure 4





2.5.2.3 Test of Moderated Mediation

Overall, goodness-of-fit indices revealed that the full moderated mediation model fits the data very well: $\chi 2[2] = 3.4$, p = .19; IFI = .99; TLI = .89; CFI = .99; GFI = .99; RMSEA = .07; SRMR = .03. Moreover, to assess the indirect effect of team PsyCap on team process improvement at different values of team reward (Hypothesis 5), we relied on the SPSS macro PROCESS (model 7; Hayes & Preacher 2013). Based on 10,000 bootstrap samples, the value of the index of moderated mediation was .12 (95% CI = .01 to .33), which is marginally significant. As mentioned, we also examined the conditional indirect effect of team reward system (see bottom of Table 5): the mean, one standard deviation above the mean, and one standard deviation below the mean. Results indicated that although the estimate of indirect effect was significant at all three levels of the team reward system, they increased in magnitude as the level of team reward got stronger.

Table 5

Predictor	В	SE	t	р	LL 95% CI	UL 95% CI				
	TSMB									
Constant	3.77	.08	44.87	.001						
Team size	04	.01	2.77	.006						
Average team tenure	02	.02	.99	.323						
Team PsyCap	.63	.07	8.97	.001						
Team reward system	.16	.07	2.49	.013						
Team PsyCap * team reward system	.24	.09	2.62	.009						
R^2	.50									
	TPI									
Constant	.45	.78	.57	.568						
TSMB	.52	.19	2.63	.008						
<u>R²</u>	.13									
Team reward system	Boot indirect	Boot SE		Boot <i>p</i>						
Conditional indirect effect at team reward system = $M \pm 1$ SD										
-1 SD (-0.5)	.26	.13		.007	.05	.54				
M (0)	.33	.14		.010	.07	.63				
+1 SD(0.5)	.39	.17		.012	.08	.74				

Results for Conditional Indirect Effect

n = 135 teams. Unstandardized regression coefficients are reported. Bootstrap sample size = 10,000.

Moreover, pairwise contrast analyses between these three estimates indicated that the indirect effect of team PsyCap on TPI was significantly different at low, average, and high levels of team reward. In sum, the results of this study supported Hypothesis 5, such that the indirect effect of team PsyCap on TPI through TSMB gets stronger as the level of team reward increases.

2.5.2.4 Supplementary Analyses

In order to rule out alternative interpretations of the mediation model, we carried out analyses regarding two alternative path models. The first alternative model depicted that team PsyCap might increase TSMB through team process improvement (i.e., Alternative Model 1: team PsyCap \rightarrow team process improvement \rightarrow TSMB). The second alternative model proposed that team process improvement might enhance team PsyCap, which in turn might increase TSMB (i.e., Alternative Model 2: team process improvement \rightarrow team PsyCap \rightarrow TSMB). Considering that these models were not nested, we used the Akaike information criterion (AIC) to determine the best fitting model, which is the one with the lowest AIC value (Burnham & Anderson, 2004). Results revealed that the hypothesized model has the lowest AIC value (AIC = 29.44) compared with the AIC values of Alternative Model 1 (AIC = 95.28) and of Alternative Model 2 (AIC = 36.11). As such, these results provide evidence that the hypothesized mediation model was better that the two alternative path models.

2.6 Discussion

The purpose of this research was to investigate how shared psychological resources at the team-level interact with the team reward system to promote the optimal functioning of action teams. Results confirmed the hypothesized moderated meditation model which proposed that the positive indirect effect that team PsyCap exerts on team process improvement through TSMB is contingent on the level of team reward.

2.6.1 Theoretical Contributions

Results of this study offer several contributions to the team PsyCap, to the action team, and to the team motivation literatures. First, by establishing the positive relationship

between team PsyCap and team process improvement, this study highlights the important role that shared positive psychological resources play in the effectiveness of action teams. More precisely, we show that action teams with high levels of PsyCap are more likely to engage in self-managing behaviors, which contribute to their capacity to implement better ways of functioning and reach higher levels of effectiveness. This finding is particularly relevant considering that actions teams operate under dynamic and fast-paced conditions. Specifically, during the performance episodes of action teams, there is often limited possibility for members to refer to formal authority figures for instructions. In such situations, team effectiveness depends largely on members' motivations and capacities to self-manage their team activities (Klein et al., 2006). Furthermore, action teams must also be able to make "on the spot" adjustments in order to maintain optimal levels of functioning (Farh & Chen, 2018; Weiss et al., 2017). With that in mind, the capacity of team PsyCap to promote TSMB and team process improvement in such contexts is particularly noteworthy. Importantly, this finding indicates that shared psychological resources are more than buffers against the stresses and strains that are inherent in the performance environments of action teams. Indeed, the present study shows that team PsyCap also generates the collective confidence that is needed for members of action teams to engage in self-managing behaviors and improvement processes. Overall, by establishing that the relationship between team PsyCap and team process improvement is mediated by TSMB, results of this study clarify the behavioral pathway through which the influence of team PsyCap operates. By doing so, this research contributes to fill the gap related to the scarcity of studies about the mediators of team PsyCap. Also, by establishing these results in the context of action teams, this study helps advance our understanding of the factors and processes that contribute to their effective functioning.

Another objective of this research was to investigate if the main propositions of the motivational interactionist perspective apply to the team-level of analysis. As mentioned, the interactionist perspective explains that behavioral enactment is the result of the interaction between internal beliefs and outcome expectations (Ajzen, 1991; Bandura, 1991). Study results confirmed the applicability of this proposition at the team level by showing that members engagement in TSMB was the result of the interaction between shared confidence beliefs and positive reward expectations. This means that members' collective engagement in autonomous behaviors such as TSMB is not only based on evaluations of capacities and chances of success, but also on an instrumental analysis where members anticipate the consequences that are associated with selfmanaging their activities. In a related manner, another postulate of the interactionist perspective is that outcome expectations influence the strength of the association between confidence beliefs and behavioral enactment (Porter et al., 2003). In that regard, findings of this study highlight the importance of a supportive organizational context where the contributions and performance of action teams are recognized and rewarded. Precisely, we demonstrate that when members of action teams perceive that they are being recognized and rewarded for their collective contributions, the motivational impact and the power of team PsyCap to predict TSMB, and through this team process improvement is enhanced. On the contrary, results of this study entail that when team members perceive that the contributions and performance of their team are not recognized and rewarded by their organization, then they are less likely to take advantage of their team PsyCap to selfmanage their activities and to implement new and improved ways of working. Therefore, this second proposition also holds value at the team level of analysis. In addition, when considering the lack of research on potential boundary conditions between team PsyCap and team outcomes (Luthans & Youssef-Morgan, 2017), and that variables capturing the organizational context are among the least studied factors in the team literature (Joshi & Roh, 2009; Maloney et al., 2016), the current research also advances our understanding of the types of organizational practices that promote the positive influence of team PsyCap. Lastly, the interactionist approach also explains that core confidence beliefs are necessary but often insufficient conditions to ensure behavioral enactment (Ajzen, 1991; Bandura, 1991). In the context of this study, because the slope of the relationship between team PsyCap and TSMB and the estimates of indirect effect remained significant at all three levels of the team reward system, results suggest that shared confidence beliefs are in fact sufficient to ensure some degree of collective behavioral enactment. As such, although the degree of team reward increased the influence of team PsyCap, our results indicate that these external incentives are not a prerequisite for team PsyCap to translate into actual TSMB. Overall, this study provides evidence of the isomorphic properties and of the applicability of cognitive motivational theories and of the interactionist perspective

to the team level of analysis. These findings constitute an important contribution to the team motivation literature considering that despite their widespread use in organizational studies (e.g., theory of planned behavior; Ajzen, 1991; social cognitive theory; Bandura, 1991), cognitive motivational theories are less often mobilized in team research. As such, the elevation of these theories and of their related propositions to the collective level provides team scholars with a solid theoretical framework from which to explain and predict collective behaviors.

2.6.2 Limitations and Directions for Future Research

As is the case with all research designs, the findings of this study need to be interpreted in light of its limitations. First, this study is cross-sectional. As such, the causality between team PsyCap, TSMB, and team process improvement cannot be established with certainty. However, the results of supplementary analyses revealed that the hypothesized meditation model was superior to two alternative models. For future research, in order to fully validate a mediating effect like the one proposed in this study, we recommend designing longitudinal studies where these variables are measured at different points in time. Second, the variables of this study were all measured by means of self-reported questionnaires. Such measures are subject to some forms of biases, namely common method variance. In that regard, we relied on many means to reduce this bias, such as choosing scales validated in previous studies, varying the response scales, and more importantly by collecting data from two distinct sources (Podsakoff et al., 2012). Furthermore, our model involves an interaction effect, which is actually less likely to be detected when relationships are inflated by CMV and when data is collected from different sources (Podsakoff et al., 2012). This is thus a testament to the robustness of our moderating effect. All in all, we feel confident that common method biases did not markedly affect the internal validity of our results. Nevertheless, future research may still benefit from collecting data using different methods (e.g., observation). Third, the dependent variable was assessed by means of subjective evaluations made by team leaders. Although being relatively common and reasonably valid (Rego et al., 2017), this type of measurement may still suffer from response biases. Importantly, team leaders may be prone to the social desirability bias, which will make them susceptible to overemphasize the strengths and to downplay the weaknesses of their team. However, descriptive statistics indicate that the mean value of team process improvement was 2.80 on a 5-point scale, which shows that team leaders were somewhat severe in their assessment of their team's capacity to improve their internal processes. As such, it seems that the subjective evaluations of team leaders were not substantially influenced by the social desirability bias. Nonetheless, we recommend, when feasible, that future research dealing with action teams prioritize objective assessments of effectiveness such as intervention time and the minimization of casualties and damage. Finally, the external validity of the results may be limited, since all the data were gathered from a single organization. Indeed, this public safety organization may have distinctive characteristics that are not necessarily representative of other work settings. For example, the proportion of men was 71% for the team member sample and 81% for the immediate superior sample. Women are thus underrepresented from an external validity standpoint. This may limit the generalizability of our results to other industries with a different gender composition. However, the advantage of this sampling strategy is a strengthened internal validity due to the control of confounding effects. Nevertheless, future research could extend the findings of this study by looking at different types of action teams and by replicating our model in other industries.

Beyond addressing the limitations of this study, it would also be worthwhile to consider other interesting avenues for future research. For example, because of the interactionist perspective that was espoused in this study, we chose to only include the reward dimension of the team support construct (Wageman et al., 2005). In that sense, future research could extend the results of this study by exploring the moderating effect of the other facets (i.e., the developmental system, the communication system, and the resources system) of team support. In addition, future research could also test if the interactionist perspective adopted in this study to predict team self-managing behaviors also applies to other forms of collective actions such as knowledge sharing and collaboration.

2.6.3 Practical Implications and Conclusion

As previously mentioned, it is of paramount importance that action teams operate at optimal levels of functioning. This is why a better understanding of the factors that promote their effectiveness carries several important practical implications. Precisely, our findings suggest that organizations and action team leaders should take action to promote and foster the positive psychological resources of their team. To do so, previous research informs us that promotive actions may include: (1) adopting a humble or transformational style of leadership (Rebelo et al., 2018; Rego et al., 2017b), (2) sharing leadership roles and responsibilities with team members (Wu & Chen, 2018), (3) showing and expressing confidence in the capacities and chances of success of their team (Haar et al., 2014), and (4) creating a psychologically safe team climate where learning behaviors are encouraged (Gonçalves & Brandão, 2017). Importantly, results of this study confirm that in order to promote the optimal functioning of action teams, organizations and team leaders should not only focus on tactical preparation (Gorman et al., 2010; Kaplan et al., 2013), but also on the psychological strength of their team.

In addition, our results highlight that in order to take full advantage of the psychological strength of their action teams, organizations and team leaders should recognize and reward their performance. This is even more true in the context of action teams because these types of teams must operate under pressure-intensive and psychologically-straining contexts. Therefore, the reciprocation of the organization is likely to be even more saliant and important for members of such teams (Cropanzano & Mitchell, 2005; Kennedy et al., 2009). Also, from a motivational perspective, results of this study reveal that in order to promote self-managing behaviors within their teams, and through this the capacity to constantly improve team processes, leaders of action teams should act on two interrelated levers. On the one hand, action team leaders should strengthen the core confidence beliefs of their team. This can be done by expressing his confidence in the capacities of his team, by highlighting the leadership skills possessed by team members, and by recalling the teams' past successes. On the other hand, the interaction finding indicates that external motivators strengthen the influence that team PsyCap exerts on TSMB. Therefore, as mentioned, action team leaders should make sure

to recognize and reward the contributions of their team. As previous research indicates, these recognition and rewards do not necessarily have to be economic in nature. Indeed, socioemotional outcomes such as words of encouragement and/or public recognitions of good team performance often generate more motivational power than simple economic rewards (i.e., Cropanzano & Mitchell, 2005). All in all, this research highlights two important and actionable factors (i.e., shared confidence beliefs and team recognition and reward) that organizations and action team leaders can leverage to optimize the effectiveness of their action teams.

In closing, we conducted an examination of the mediating and moderating mechanisms operating in the relationship between team PsyCap and team process improvement. Through a motivational perspective, results of this study demonstrate that team PsyCap has the potential to generate TSMB and through this team process improvement, contingent on the level of team recognition and reward. Taken together, these findings provide an important contribution to our understanding of how and under which conditions shared positive psychological resources promote the effectiveness of action teams. From this perspective, we hope this study provides useful ideas for building future research.

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Article 3 Team Psychological Capital and Project Team Adaptivity: A Moderated Mediation Model

3.1 Abstract

Despite the increased interest towards understanding team adaptive performance, there is a clear lack of research investigating the factors that promote the effective adaptation of teams. In response, drawing from the field of positive psychology and from key resources theories, the present study explores the previously unstudied relationship between team PsyCap and team adaptivity. More precisely, building on the broaden-and-build theory of positive emotions, we hypothesized that the creative behaviors of members would mediate the indirect relationship between team PsyCap and team adaptivity. Furthermore, we expected that a collective focus on performance outcomes would offset the broadening effect of team PsyCap and thus exert a negative influence on the relationship between team PsyCap and team creativity. To test this moderated mediation model, we gathered data from 1016 students grouped into 198 teams participating in a project management simulation. Results showed that the positive effect that team PsyCap exerts on team adaptivity can be explained by the creative behaviors that members engage in. Moreover, we found that these relationships were contingent on the level of team outcome focus, such that the direct effect of team PsyCap on team creativity and the indirect effect of team PsyCap on team adaptivity were only significant in teams with low levels of outcome focus. Overall, this study greatly advances our understanding of the factors that promote the adaptive performance of project teams.

3.2 Introduction

As a result of pressures that emanate from sources such as globalization, technological advances, and economic and social instability, organizations operate in increasingly dynamic environments (Burke et al., 2006; Stokes et al., 2010). Change is thus an ever-present reality of most modern organizations (Al-Haddad & Kotnour, 2015). To remain competitive under these conditions, many organizations have turned away from

bureaucratic and mechanistic structures to transition towards more flexible and agile arrangements (Kerzner & Saladis, 2011). Specifically, a growing number of organizations have become project based (Schoper et al., 2018). In these types of configurations, project teams are often positioned as the main functional unit (Söderlund, 2015). Considering the dynamic and unpredictable nature of most organizational projects, the effectiveness of project teams rests heavily on the capacity to adapt effectively to changes that occur in their environment (Lenfle & Loch, 2010; Svejvig & Andersen, 2015). By the same token, a project team's failure to adapt can engender suboptimal results such as deficiencies in respect to time, cost, and scope demands, and more severe consequences such as project failure or cancelation (Keil et al., 2000). Accordingly, researchers in the fields of project management and in the broader organizational sciences have become increasingly interested in understanding team adaptive performance: the performance dimensions that enable flexible responding on the part of the team (Baard et al., 2014; Burke et al., 2006). In other words, researchers are now positioning adaptive performance at the heart of team effectiveness (Maynard et al., 2015).

Despite this increased interest, the lack of empirical studies that investigate the antecedents and the processes that contribute to team adaptive performance is striking (Christian et al., 2017; Maynard et al., 2015). This state of affairs indicates that our knowledge of the factors that promote the effective adaptation of teams is still very limited. To address this need, the purpose of the current study is to examine team level variables that contribute to the adaptivity of project teams. Specifically, we draw from the field of positive psychology (Luthans & Youssef, 2004) and from key resources theories (Fredrickson, 1998, 2001; Hobfoll, 2002) to suggest that team psychological capital (team PsyCap) constitutes an important driver of project team adaptivity. Team PsyCap is defined as a:

Shared positive psychological state of development characterized by: (1) having confidence (efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2) making positive attributions (optimism) about succeeding now and in the future; (3) persevering toward goals and, when necessary, redirecting paths to goals in order to succeed (hope); and

(4) when beset by problems and adversity, sustaining and bouncing back, and even beyond (resilience) to attain success. (Luthans et al., 2007, p. 3).

Team PsyCap captures the common occurrence and the shared variance among its constituting dimensions (Avey et al., 2009). Similar to the concept of resource caravans (Hobfoll, 2002), the four positive psychological resources that compose team PsyCap interact together and reinforce each other to produce a higher-order construct (Stajkovic, 2006). In contrast to individual PsyCap which refers to judgments that individuals make about their own psychological resources, team PsyCap concerns members' perceptions of their team's collective levels of hope, efficacy, resilience, and optimism. Importantly, considering that previous research on team adaptation has mainly focused on structural determinants (Maynard et al., 2015), and that psychosocial aspects are increasingly recognized as key factors in promoting project success (Chiocchio & Essiembre, 2009), this study's focus on shared positive psychological resources as drivers of project team adaptivity contributes to the field and is in line with current research and practice.

The objectives of this study are threefold. First, considering that key resources theories explain that individuals tap into their pool of psychological resources in order to adapt effectively (Fredrickson, 2001; Hobfoll, 2002; van den Heuvel et al., 2014), the overarching objective of this study is to investigate the isomorphic properties of this association by exploring the relationship between team PsyCap and team adaptivity. Second, although we anticipate a positive association between team PsyCap and team adaptivity, we expect that this relationship will travel through team member behaviors. Specifically, in keeping with the Input-Mediator-Outcome (IMO) framework of team adaptation (Maynard et al., 2015) and with the notion that positive affectivity leads to more complex and flexible thought patterns (e.g., Fredrickson, 1998; George, 2002; Isen, 2001), this article positions team creativity as the behavioral bridge linking team PsyCap to team adaptivity. In other words, we propose that team PsyCap carries important adaptive benefits for project teams that can be explained by the creative behaviors that members engage in. Lastly, because collective work orientations are likely to play an important role in the creative and adaptive processes of teams (Amabile & Pratt, 2016; Bunderson & Sutcliffe, 2002; Gong et al., 2013), this study investigates the moderating role of team outcome focus (Wooley, 2009) in the indirect relationship between team PsyCap and team adaptivity. Taken together, the hypothesized moderated mediation model proposes that team PsyCap exerts a positive indirect effect on team adaptivity that travels trough team creativity, and that outcome focus moderates the first stage of this relationship (see Figure 5).

3.3 Theoretical Background and Hypotheses

3.3.1 Team Psychological Capital and Team Creativity

Considering that positive affectivity pervades the four dimensions of team PsyCap (e.g., Snyder, 1991; Tugade et al., 2004), this study draws from previous research on the broadening effect of positive emotions (Davis, 2009; Fredrickson, 1998, 2001; George & King, 2007; Isen, 1987; Isen et al., 1987) to explain why team PsyCap exerts a positive influence on the capacity of teams to develop new and useful ideas (i.e., team creativity; Amabile & Pratt, 2016; Gilson, & Shalley, 2004).

At the individual level, the broaden-and-build theory (Fredrickson, 1998, 2001) proposes that positive emotions all share the ability to broaden people's cognitive scope. This entails that when individuals approach work from a positive mindset, they will tend to generate a greater number and a wider range of ideas. In other words, they will be cognitively more productive and flexible. The strongest evidence to support this notion comes from Isen's experiments (e.g., Isen, 1999, 2001; Isen et al., 1985, 1987). Across all of her research, the most consistent finding was that positive affectivity leads to higher levels of creativity. More precisely, she found that when individuals feel positive, they tend to rely on broader and more inclusive cognitive categories (Isen et al., 1985). As a result, people that experience positive affectivity will generally be more apt to associate and combine cognitive elements in unusual and novel ways, which is a key aspect of creative thinking (Isen et al., 1987). At the team level, George proposes a similar pattern with the concept of group affective tone (George, 1990, 2002). More specifically, her research showed that if all or most members of a team experience homogeneous positive affective reactions (i.e., high positive affective tone), their cognitive flexibility and their creative levels are likely to increase (George & King, 2007; Rhee, 2006). In a similar manner, research by Losada (1999) and by Losada and Heaphy (2004) indicated that positive affect in business teams resulted in higher levels of behavioral flexibility. All in all, previous research highlights the critical role that positive affectivity plays in the creative process. In the context of this study, these findings entail that when members of project teams share positive feelings of hope, efficacy, resilience, and optimism, they will tend to develop broader and more flexible thought patterns, which in turn will contribute to their collective capacity to integrate diverse information more efficiently and explore alternative ways of thinking. In other words, to be more creative.

Hypothesis 1: Team psychological capital is positively related to team creativity.

Figure 5

Hypothesized Research Model



3.3.2 Team Creativity and Team Adaptivity

Team adaptivity is defined as the degree to which team members cope with and respond effectively to changes that affect their team (Griffin et al., 2007). Team adaptivity captures stimulus-specific responses that directly address a particular or a set of discrete adaptive demands (Maynard et al., 2015).

To substantiate the hypothesized relationship between team creativity and team adaptivity, this article builds on the notion that creativity is considered as a precursor of adaptation (Burke et al., 2006; Hülsheger et al., 2009). As Maynard et al. (2015) explain, teams that encounter early creativity will tend to adapt more easily to changes. This positive association can be explained by how creative teams approach problem-solving situations (Burke et al., 2006; Lepine et al., 2005; Pulakos et al., 2000). First, because of their broader cognitive scope, creative teams are more likely to process a comprehensive

amount of decision relevant information when they are confronted with a novel element in their external environment (Gilson & Shalley, 2004). In that sense, creative teams are better positioned to develop a holistic comprehension of the adaptive situation (Hargadon & Bechky, 2006). As a result, creative teams are thus more likely to consider aspects of the adaptive situation that are important but not usually salient. Second, because creative teams tend do delve into unknown areas to produce a greater number and a larger range of ideas (Gilson & Shalley, 2004; Mathieu et al., 2008), they are likely to develop a more diverse repertoire of adaptive responses (Paulus, 2000). In other words, teams with high creativity levels have fuller cognitive toolboxes (Richard et al., 2018) from which they can choose many alternative solutions to adapt to changes. As such, project teams that show creativity are more likely to choose an adaptive response that matches the demands of the adaptive situation. To summarize, as a result of a more complete understanding of the adaptive situation and of a more diverse repertoire of adaptive responses, project teams characterized by high levels of creativity should be better positioned to adapt effectively to changes that occur in their environment.

Hypothesis 2: Team creativity is positively related to team adaptivity.

3.3.3 The Mediating Role of Team Creativity

The hypothesized model positions team creativity as the behavioral bridge linking team PsyCap to team adaptivity. Stated differently, we propose that shared positive psychological resources such as those that compose team PsyCap carry important adaptive benefits that can be explained by the creative behaviors that members engage in.

This rationale is in keeping with key resources theories which describe that psychological resources are likely to enhance adaptive performance indirectly by motivating individuals to engage in behaviors that are conducive of adaptation (Hobfoll, 2002; van den Heuvel et al., 2014). Specifically, the broaden-and-build theory explains that positive affectivity leads to a broadening of cognitive though-action repertoires that is critical to the adaptive process (Fredrickson, 1998, 2001). This notion entails that high PsyCap teams will tend to respond to changes from a broader and more creative perspective, which will in turn increase their chances to adapt successfully. In addition,

the IMO framework of team adaptation (Burke et al., 2006; Maynard et al., 2015) provides additional support for the hypothesized mediating role of team creativity. According to this perspective, adaptation inputs such as team resources influence adaptive mechanisms (e.g., team member behaviors), which in turn affect team adaptive performance. This means that team member behaviors are considered as important explanatory mechanisms in the adaptive process. Importantly, this perspective entails that shared positive psychological resources such as those that compose team PsyCap are unlikely to translate directly into team adaptivity. Rather, shared psychological resources such as hope, efficacy, resilience, and optimism are more likely to enhance team adaptive performance via the nature of team member behaviors. In other words, teams with high levels of PsyCap will tend to adapt more effectively because their members are more likely to adopt behaviors that are conducive of adaptivity. Overall, key resources theories, the broadenand-build theory of positive emotions, and the IMO framework of team adaptation all provide support for the conceptualisation of team creativity as the behavioral mechanism that accounts for the positive influence that team PsyCap exerts of project team adaptivity.

To summarize, Hypothesis 1 predicts a positive relationship between team PsyCap and team creativity, and Hypothesis 2 predicts a positive relationship between team creativity and team adaptivity. Taken together, these hypotheses specify a model in which team PsyCap has a positive indirect effect on team adaptivity that travels through the creative behaviors of team members.

Hypothesis 3: Team creativity mediates the positive relationship between team psychological capital and team adaptivity.

3.3.4 The Moderating Role of Outcome Focus

Outcome focus teams "allow outcomes to take precedence over and constrain process" (Woolley, 2009, p. 500). As a result, outcome focus teams prioritize: the criteria by which they will be evaluated, gaining favorable evaluations, the performance levels they have to attain, and in the end outperforming other teams (Bunderson & Sutcliffe, 2003; Wooley, 2009). Importantly, research shows that this collective work orientation creates a normative framework that influences the focus of team members' cognitions,

interactions, and behaviors (Basaglia et al., 2010; González-Romá et al., 2009). In other words, the patterns through which they engage with their collective task. With that in mind and considering that the creative and adaptive benefits associated with a collective focus on outcomes and performance are not well understood (Christian et al., 2017), this study investigates if a team's focus on outcomes moderates the association between team PsyCap and team creativity, and in turn the indirect relationship between team PsyCap and team adaptivity.

In this study, we hypothesize that a collective focus on outcomes will offset the broadening effect of team PsyCap, and thus exert a negative influence on the relationship between team PsyCap and team creativity. First, teams with high levels of outcome focus are mostly motivated by how performance will be judged and by their progress toward goal attainment. As a result, ideas of members are likely to be evaluated in terms of their utility for responding to the criteria of evaluation and for attaining desired levels of performance. However, previous research have consistently shown that expectations of evaluation can be detrimental to the creative process (Amabile & Pratt, 2016; Paulus, 2000; Woodman et al., 1993). This is because creative behaviors often seem more distal to goals and because they can be perceived as slowing the team down. Importantly, this notion entails that members of outcome focus project teams are less likely to capitalize on the broadening of cognitions that is generated by team PsyCap in order to propose new and useful ways of operating (Lepine, 2005; Porter, 2005). In contrast, under lower levels of outcome focus, team members may feel psychologically safer when proposing novel ideas (Edmondson, 1999; West, 1990), which will make them more susceptible to take advantage of their shared positive psychological resources to explore and experiment alternative ways of thinking (Bell & Kozlowski, 2008). Second, considering that outcome focus teams prioritize goals and performance, they will tend to frame errors in a negative way (Button et al., 1996). Specifically, members of outcome focus teams will mostly perceive errors as performance impediments. This entails that they will mainly focus on avoiding failures and reducing risk (Sternberg & Lubart, 1995). However, because creativity is a risk-taking behavior and because the creative process is fraught with repeated iterations, errors and reframing are of critical importance (Woodman et al., 1993). Therefore, considering their preference for avoiding errors, outcome focus project

teams are less likely to tap into their pool of shared psychological resources to explore and experiment (Bunderson & Sutcliffe, 2003). On the contrary, teams characterized by low levels of outcome focus are more likely to perceive errors as learning opportunities, which will make them less reliant on routines and thus more likely to benefit from the broadened cognitive scope that accompanies team PsyCap. In summary, we argue that the evaluative atmosphere and the negative framing of errors that are likely to accompany outcome focus teams will narrow the broadening of cognitions that is generated by team PsyCap, and thus weaken its positive influence on team creativity.

Hypothesis 4: Outcome focus moderates the strength of the relationship between team PsyCap and team creativity, such that this relationship will be stronger under low levels of outcome focus.

3.3.5 Moderated Mediation Model

As mentioned above, Hypothesis 3 states that team creativity mediates the relationship between team PsyCap and team adaptivity. Furthermore, Hypothesis 4 indicates that outcome focus moderates the relationship between team PsyCap and team creativity. When combined, these two hypotheses specify a first-stage moderated mediation model regarding the relationship between team PsyCap and team adaptivity (Edwards and Lambert 2007; Preacher et al. 2007). Specifically, the proposed moderated mediation model suggests that the indirect effect of team PsyCap on team adaptivity trough team creativity is conditional on the level of outcome focus (see Figure 5). Thus, the fifth hypothesis is formulated based on this moderated mediation model.

Hypothesis 5: The indirect effect of team PsyCap on team adaptivity through team creativity is moderated by outcome focus, such that this indirect effect is stronger when the level of outcome focus is low.

3.4 Method

3.4.1 Participants and Procedures

Research data were gathered from a sample of 1,016 participants grouped into 198 project teams. Participants are graduate and undergraduate students from a Canadian

business school who took part in a project management simulation called "Pegasus Simulation" (Aubé et al., 2014; Aubé et al., 2018). In order to have an adequate sample size, this study was conducted over a three-year period (i.e., nine academic terms). Regarding the sample characteristics, team size varied from 4 to 6 members, men made up 52% of the sample, and the average age of participants was 26 years (SD = 5.7 years). Each participant signed a consent form confirming that they agree to participate in the study.

At the start of the simulation, teams receive a scenario explaining that they work for a large firm that specializes in the transportation of hazardous materials. They have been mandated by the management of their organization to design and build a vehicle that will transport a container for a petroleum company. Teams then had 6.5 hr to develop and build a scale model of the vehicle using a Meccano set (construction game). Each team had its own room and had to remain in the university from the duration of the simulation. However, they were fully autonomous in the management of their allotted time and resources. More specifically, teams could spend their budget to order parts, to hire consultants, and to test the performance of their vehicle on a test track. Also, members of each team were interdependent in terms of the task, in the sense that they had to combine their efforts to produce the requested vehicle. Throughout the simulation, members of each team had to jointly make decisions and solve problems they encountered in the development of their vehicle. At the end of the simulation, the vehicle built by the team had to be able to successfully travel two given routes, the second route being more rugged than the first. This objective was communicated to participants in the scenario presented at the beginning of the simulation. Teams reached their goal completely when the vehicle was able to travel both paths without overrun. The Pegasus Simulation is particularly well suited to the study of project team adaptivity, because this simulation was designed to reproduce the main characteristics of a new product development project. For example, teams had to produce an executive summary, design their vehicle, manage a budget, entertain relations with diverse stakeholders, progress in spite of a lack of information, build a scale model of their vehicle, and compete with other teams for the contract. More importantly, as in real project management situations, teams were confronted with unforeseen events. These externally imposed events (stockouts, budget compressions, and reduction in timeframe) were planned in the simulation scenario and occurred at the same time for each team. This entails that team performance is greatly dependent on the capacity of members to adapt to unanticipated changes. Overall, by recreating important features of a team-based project context, the Pegasus simulation offers an adequate level of ecological validity.

3.4.2 Measures

To reduce common method variance (Podsakoff et al., 2012), data were collected from two sources and through two methods of evaluation. More precisely, team members provided data regarding the psychological capital of their team through a self-report questionnaire administered at the end of the simulation, whereas ratings concerning team creativity, team adaptivity, and team outcome focus were provided by one observer, who was a doctoral student blind to the research hypotheses. This observer assessed each team based on observations done during four 10-min periods distributed over the entire simulation. To establish the moments of the observations, the simulation was divided into four parts of equivalent duration. An observation period was thus included in each of these four parts of the simulation. In total, the observer carried out 40 minutes of observation per team to judge team creativity, team adaptivity, and team outcome focus.

Team psychological capital. Team psychological capital was measured using the eight-item psychological capital questionnaire which is designed to evaluate a team's collective PsyCap (Heled et al., 2016). As such, the referent of evaluation was the team rather than the individual. Sample items include: "Members of this team confidently contribute to discussions about the team's strategy" (efficacy); and "Members of this team usually take stressful things in stride" (resilience). The items were rated on a five-point Likert scale ranging from *not true at all* (1) to *totally true* (5).

Team creativity. Team creativity was evaluated by using the scale developed by Shin and Zhou (2007). Precisely, the observer rated the extent to which teams were able to generate new and useful ideas on a seven-point scale ranging from *extremely weak* (1) to *excellent* (7). Sample items include: "How well does this team produce new ideas"; "How useful were those ideas"; and "How creative do you consider this team to be".

Outcome focus. Outcome focus was evaluated using an adapted version of the scale developed by Woolley (2009). Specifically, the observer rated the amount of attention that teams gave to each of the following three issues on a five-point scale ranging from *not at all* (1) to *very much* (5): (a) "what constitutes a successful performance on this task" (b) "what criteria will be used for evaluating the final product"; and (c) "the relative importance of the different parts of the task for the final score".

Team adaptivity. Team adaptivity was measured using the scale developed by Griffin et al. (2007). The three items were adapted to a team setting: "Members of this team dealt effectively with changes affecting their team"; "Members of this team learned new skills or took on new roles to cope with changes in the way their team works"; and "Members of this team responded constructively to changes in the way their team works". The observer used a five-point scale ranging from *not true at all* (1) to *totally true* (5) to measure this variable.

Control variables. Given their potential influence on the present study's variables, team size and prior task experience were considered as control variables. First, team size (i.e., number of members in each team) was included following previous findings that size impacts both team functioning and outcomes (Lepine et al., 2008; Wheelan, 2009). In the context of this study, teams composed of more members might be better equipped to generate a greater number and a larger range of ideas (Hülsheger et al., 2009), which would contribute to their capacity to adapt.

Second, previous task experience was also controlled for given its possible effects on team member behaviors (Espinosa et al., 2007). More specifically, teams composed of members with previous experience with the Meccano set are much better positioned to generate creative ways of constructing their vehicle (i.e. team creativity) and to adapt effectively to task-related changes (i.e., team adaptivity). The extent of participants' experience with the task before the simulation was assessed by one item (i.e., "Before the project, how much experience did you have with the Meccano construction game?") with a 5-point response scale ranging from *not at all* (1) to *very much* (5).

3.5 Results

3.5.1 Preliminary Analyses

3.5.1.1 Data Aggregation

Data regarding team PsyCap was collected at the individual level. To justify aggregating these ratings to the team level, it is necessary to demonstrate sufficient interrater agreement and between-group variability (Bliese, 2000). To evaluate interrater agreement, we calculated the r_{wg} index (James et al., 1993). Results indicated that the average r_{wg} score for team PsyCap was .94, which is deemed an acceptable value (LeBreton & Senter, 2008). To assess between-group variability, we first calculated the intraclass correlation coefficient ICC(1). The usual rule of thumb establishes that an ICC(1) value that exceeds .05 warrants aggregation (Bliese, 2000). Results revealed that the ICC(1) value for team PsyCap was .32, which indicated strong team membership effects. Also, as indicated by one-way analysis of variance, the F ratio was significant for team PsyCap (F[197, 818] = 3.45, p < .001). Overall, these results indicated that team membership accounted for a significant proportion of variance in the team PsyCap construct. Lastly, to assess if team means were reliably different from one another, we calculated the ICC(2) coefficient. For the ICC(2), values greater than .60 are considered as evidence of significant between-unit variability (Chen et al., 2004). The ICC(2) value for team PsyCap was .71, which indicated that there was more agreement within teams than between teams. Taken together, these results warrant the aggregation of individual scores to the team level for team PsyCap.

3.5.1.2 Discriminant Validity

Because the data about the moderator, the mediator, and the dependent variable were all collected from the same observer, confirmatory factor analyses (CFAs; Amos 27, maximum likelihood estimation) were conducted to establish the discriminant validity of team creativity, of team outcome focus, and of team adaptivity. It is important to mention that because two items of the team creativity scale tap into similar content (i.e., usefulness of the ideas generated), we allowed their error terms to covary. Additionally, due to low factor loading and to its overlap with the team creativity and the team adaptivity constructs, one item of the team outcome focus scale was removed. Overall, goodness-offit indices indicated that this intended three-factor model fits the data well ($\chi 2[31] = 75$, p < .001; incremental fit index [IFI] = .96; Tucker-Lewis index [TLI] = .95; comparative fit index [CFI] = .96; goodness of fit index [GFI] = .93; root-mean-square error of approximation [RMSEA] = .085; and the standardized root mean square residual [SRMR] = .059). All items were also significantly related to their respective latent constructs (p <.001).

Table 6

Measurement Model Comparisons

Models	$\chi^2(df)$	IFI	TLI	CFI	GFI	RMSEA	SRMR	χ^2 diff	df_{diff}
Intended model, three factors	75(31)	.96	.95	.96	.93	.085	.059		
Model A, two factors ^a	181(33)	.88	.83	.88	.84	.151	.115	106	2***
Model B, two factors ^b	224(33)	.84	.78	.84	.82	.172	.101	149	2***
Model C, two factors ^c	377(33)	.72	.61	.71	.72	.230	.237	302	2***
Model D, one factor ^d	329(34)	.76	.67	.75	.74	.210	.138	254	3***

n = 198, ***p < 0.001; χ^2 = chi-square discrepancy; df = degrees of freedom; IFI = incremental fit index; TLI = Tucker-Lewis index; CFI = comparative fit index, GFI = goodness of fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual; χ^2_{diff} = difference in chi-square; df_{diff} = difference in degrees of freedom.

^a Team outcome focus and team creativity combined into a single factor, compared to the 3-factor model.

^b Team creativity and team adaptivity combined into a single factor; compared to the 3-factor model.

^c Team outcome focus and team adaptivity combined into a single factor; compared to the 3-factor model.

^d Single factor model: all items combined into a single latent factor; compared to the 3-factor model.

In addition, we compared the intended three-factor structure with a range of alternative models. As can be seen in Table 6, results of chi-square difference tests showed that the three-factor model was significantly different than the alternative models in terms of fit. Specifically, the fit of the intended model was significantly better than models in which: (a) team outcome focus and team creativity were combined into a single factor $(\Delta \chi 2[2] = 106, p < .001)$, (b) team creativity and team adaptivity were combined into a single factor ($\Delta \chi 2[2] = 149, p < .001$), (c) team outcome focus and team adaptivity were combined into a single factor ($\Delta \chi 2[2] = 149, p < .001$), (c) team outcome focus and team adaptivity were combined into a single factor ($\Delta \chi 2[2] = 302, p < .001$), and (d) all items were gathered within one latent variable ($\Delta \chi 2[3] = 329, p < .001$). Overall, these results indicated that the three variables that were measured by the observer were distinct, and thus appropriate for inclusion in subsequent analyses.

3.5.1.3 Common Method Variance

Before proceeding to hypotheses testing, we also wanted to assess the degree to which common method bias was a pervasive issue in our study. Precisely, we wanted to make sure that the variance of the three variables that were assessed by the observer was true variance and not variance that is attributable to the common measurement method. To do so, we first conducted Harman's single factor test (Harman, 1960). This technique uses exploratory factor analysis in which variables are constrained so that there is no rotation. Common method bias is assumed to exist if (1) a single factor emerges, or (2) a first factor explains more than 50% of the variance (Podsakoff et al., 2003). Results of principal component analysis in SPSS revealed three distinct factors that accounted for 74% of the total variance. Moreover, the first unrotated factor captured 43% of the variance in the data. Therefore, no single factor emerged, and the first factor did not account for the majority of the covariance among the measures.

Table 7

Means,	Standard Deviations	, Reliability	Estimates,	and Bivariate	Correlations

Variable	М	SD	1	2	3	4	5
1. Team psychological capital	4.14	.39	(.85)				
2. Team creativity	4.59	.92	.28**	(.93)			
3. Team adaptivity	3.42	.72	.21**	.52**	(.78)		
4. Team outcome focus	2.13	.66	.06	.16*	02	(.72)	
5. Team size	5.13	.74	.06	.10	.07	.08	N/A
6. Previous task experience	1.64	.50	.26**	.13	.07	.12	.20

n = 198 teams. M = mean; SD = standard deviation. Reliability estimates (Cronbach's alphas) are in parentheses. *p < .05, two-tailed. **p < .01, two-tailed.

Second, Bagozzi et al. (1991) have described a technique for assessing the impact of common method variance through latent variable correlation. They explained that common method bias is evident when a substantial correlation ($r \ge .90$) is found among principal constructs. In that regard, correlation analyses indicated that the strongest association was between team creativity and team adaptivity (r = .52). Third, one of the major causes of common method variance is obtaining the measures of both independent and dependent variables from the same source (Podsakoff et al., 2003). As previously mentioned, this is the main reason why we chose different sources and methods of evaluation for the predictor and the criterion. For all these reasons, we believe that common method effects were unlikely to be a major issue in our data.

Descriptive statistics (means and standard deviations), reliability estimates, and correlations for the study variables are presented in Table 7.

3.5.2 Hypotheses Testing

We tested our study hypotheses in three interrelated steps. First, we examined the mediational pathway comprised of team PsyCap, of team creativity, and of team adaptivity (Hypotheses 1-3). Second, we investigated the moderating effect of team outcome focus (Hypothesis 4). To test these four hypotheses, we used a path analytic procedure with the Amos 27 software and the maximum likelihood method. Third, we assessed the indirect effect of team PsyCap on team adaptivity at different values of team outcome focus (Hypothesis 5). To do so, we relied on the SPSS macro PROCESS (model 7; Hayes & Preacher, 2013).

3.5.2.1 Test of Mediation

Table 8 presents the results for Hypotheses 1-3. In support of Hypothesis 1, team PsyCap was found to be positively related to team creativity ($\beta = .63$, t = 3.78, p < .001). Also, in support of Hypothesis 2, the path estimate for the relationship between team creativity and team adaptivity was significant ($\beta = .39$, t = 7.85, p < .001).

Hypothesis 3 stated that the relationship between team PsyCap and team adaptivity is mediated by team creativity. This indirect effect was assessed using the bootstrapping strategy as recommended by Preacher and Hayes (2008). Based on a 10,000 bootstrap sample, results revealed that the indirect effect of team PsyCap on team adaptivity through team creativity was significant (indirect effect = .25, SE = .07, bias-corrected 95% confidence interval [CI] = .13 to .41). Moreover, when team creativity was entered in the regression equations, the relation between team PsyCap and team adaptivity was rendered non-significant ($\beta = .13$, t = 1.06, p = .29, 95% CI = -.11 to .37), therefore confirming Hypothesis 3. As expected, higher team PsyCap corresponded with higher scores on team creativity, which was associated with greater levels of team adaptivity. Overall, the variables contributed in explaining 9% of the team creativity variance and 27% of the team adaptivity variance. Taken together, these results mean that the relationship between team PsyCap and team adaptivity is mediated by team creativity.

Table 8

Path Analysis Results for Mediation

		Team creativity				Team adaptivity			
	В	SE	t	p	В	SE	t	p	
Team size	.09	.09	1.09	.276	.02	.06	.26	.794	
Previous task experience	.08	.13	.63	.528	03	.09	.29	.770	
Team PsyCap	.63	.17	3.78	.001	.13	.12	1.06	.290	
Team creativity					.39	.05	7.85	.001	
R^2	.09				.27				
	Μ		SE	LL 95% CI		UL 95% CI			
		Bootstrap results for indirect effect							
Effect	.25		.07		.13		41		

n = 198 teams. Unstandardized regression coefficients are reported. Bootstrap sample size = 10,000. LL= lower limit; CI = confidence interval; UL = upper limit.

3.5.2.2 Test of Moderation

The prediction in Hypothesis 4 stated that team outcome focus would negatively moderate the positive relationship between team PsyCap and team creativity. To test this hypothesis, we created a cross-product interaction term involving team PsyCap and team outcome focus. It should be noted that the scores of team PsyCap and team outcome focus were centered to reduce the multicollinearity between these variables and the interaction term. Team size and prior task experience were also included as control variables. Results revealed that the interaction term between team PsyCap and team outcome focus has a significant path estimate ($\beta = -.59$, t = 2.77, p = .006) and its inclusion in the model contributed in explaining an additional 5% of the team creativity variance, which provides support for the moderating effect of team outcome focus.

To fully support Hypothesis 4, the form of this interaction should conform to the hypothesized pattern. Therefore, based on recommendations by Cohen et al. (2003), the moderating effect was interpreted by plotting the regression equations in relation to three levels of team outcome focus, namely the mean, one standard deviation below the mean,

and one standard deviation above the mean (see Figure 6). In line with our expectations, the slope of the relationship between team PsyCap and team creativity was significant for teams with low levels ($\beta = .99$, t = 4.73, p < .001) and average levels ($\beta = .55$, t = 3.38, p < .001) of outcome focus, whereas the slope of the relationship between team PsyCap and team creativity was non-significant for teams with high levels of outcome focus ($\beta = .21$, t = .96, p = .34). Therefore, team PsyCap only promotes team creativity in teams where the level of outcome focus is low. In other words, the relationship between team PsyCap and team creativity is stronger when teams' focus on outcomes is low rather than high. Consequently, Hypothesis 4 is supported by the results of simple slopes analyses and the results depicted in Figure 6, which means that team outcome focus exercised a moderating effect on the relationship between team PsyCap and team creativity.

Figure 2





3.5.2.3 Test of Moderated Mediation

Overall, goodness-of-fit indices revealed that the full moderated mediation model fits the data well: $\chi 2[2] = 4$, p = 0.11; IFI = .98; TLI = .76; CFI = .98; GFI = .99; RMSEA

= .08; SRMR = .02. In addition, in order to assess the indirect effect of team PsyCap on team adaptivity at different values of team outcome focus (Hypothesis 5), we relied on the SPSS macro PROCESS (model 7; Hayes & Preacher 2013).

Table 9

Predictor	В	SE	t	р	LL 95% CI	UL 95% CI			
Team creativity									
Constant	4.15	.45	9.14	.001					
Team size	.07	.08	.78	.435					
Prior task experience	.07	.13	.54	.588					
Team PsyCap	.60	.16	3.69	.001					
Team outcome focus	.22	.09	2.32	.020					
Team PsyCap * team outcome focus	59	.22	2.77	.006					
R^2	.14								
Team adaptivity									
Constant	1.58	.38	4.13	.001					
Team creativity	.39	.05	7.85	.001					
R^2	.27								
Team outcome focus	Boot indirect	Boot SE		Boot p					
Conditional indirect effect at team outcome focus = $M \pm 1$ SD									
-1 SD (-0.66)	.39	.09		.001	.22	.57			
M (0)	.24	.06		.001	.12	.36			
+1 SD (0.66)	.08	.08		.222	07	.23			

Results for Conditional Indirect Effect

n = 198 teams. Unstandardized regression coefficients are reported. Bootstrap sample size = 10,000.

Based on 10,000 bootstrap samples, the value of the index of moderated mediation was -.23 (95% CI = -.42 to -.08), which confirms the statistical significance of the proposed model. As mentioned, we also examined the conditional indirect effect of team PsyCap on team adaptivity through team creativity at three values of team outcome focus (see bottom of Table 5): the mean, one standard deviation above the mean, and one standard deviation below the mean. Results indicated that the estimate of conditional indirect effect was not significant at high levels of team outcome focus (indirect effect = .08, 95% CI = .07 to .23). However, this estimate was significant at average levels (indirect effect = .24, 95% CI = .12 to .36) and at low levels of team outcome focus (indirect effect = increases in magnitude as the level of team outcome focus decreases. Pairwise contrast analyses confirmed these results by demonstrating that the indirect effect of team PsyCap

on team adaptivity was significantly different at high and low levels of team outcome focus (95% CI = -.55 to -.11). Overall, these results entail that team PsyCap only exerts an indirect effect on team adaptivity when teams show moderate or low levels of focus on outcomes. Therefore, Hypothesis 5 is supported such that the indirect and positive effect of team PsyCap on team adaptivity via team creativity depends on the level of team outcome focus.

3.5.2.4 Supplementary Analyses

In order to rule out alternative interpretations of the mediation model, we carried out analyses regarding two alternative path models. The first alternative model depicted that team PsyCap might increase team creativity through team adaptivity (i.e., Alternative Model 1: team PsyCap \rightarrow team adaptivity \rightarrow team creativity). The second alternative model proposed that team adaptivity might enhance team PsyCap, which in turn might increase team creativity (i.e., Alternative Model 2: team adaptivity \rightarrow team PsyCap \rightarrow team creativity). Considering that these models were not nested, we used the Akaike information criterion (AIC) to determine the best fitting model, which is the one with the lowest AIC value (Burnham & Anderson, 2004). Results revealed that the hypothesized model has the lowest AIC value (AIC = 35.45) compared with the AIC values of Alternative Model 1 (AIC = 41.57) and of Alternative Model 2 (AIC = 87.92). As such, these results provide evidence that the hypothesized mediation model was better that the two alternative path models.

3.6 Discussion

The purpose of this research was to investigate how and under which conditions team PsyCap influences team adaptation. Study results confirmed the hypothesized moderated meditation model which proposed that the positive indirect effect that team PsyCap exerts on team adaptivity through team creativity is contingent on the level of team outcome focus.

3.6.1 Theoretical Contributions

In their fifteen-year review of team adaptation research, Maynard et al. (2015) concluded that the lack of empirical studies that test the antecedents of team adaptation is striking. In light of this and considering that the present study clarifies factors that promote team adaption, this research represents an important contribution to the team adaptation literature. Precisely, results of this study show that when members of a team share feelings of hope, efficacy, resilience, and optimism, that tend to adapt more easily to changes. This finding becomes even more important in the context of project teams because the complex and dynamic nature of their task make psychological factors and adaptation key aspects of project success (Chiocchio & Essiembre, 2009; Svejvig & Andersen, 2015). As such, the capacity of team PsyCap to promote team adaptivity in such contexts is particularly noteworthy. In addition, our results also provide preliminary evidence of the applicability of the propositions put forth by key resources theories to the team level of analysis (Fredrickson, 1998, 2001; Hobfoll, 2002; van den Heuvel et al., 2014). As mentioned, these theories explain that individuals tap into their pool of psychological resources in order to adapt to changes. By validating the isomorphic properties of this association, this study elevates key resources theories to the team level and it shows that positive psychological resources are also important factors for the effective adaptation of teams.

Our study results also confirmed that the relationship between team PsyCap and team adaptivity travels through team creativity. This finding extends prior research in two main ways. First, previous research has neglected the mediators involved in the relationships between team PsyCap and its outcomes (Luthans & Youssef-Morgan, 2017; Newman et al., 2014). The current research addresses this need by demonstrating that it is as a result of the collective engagement in creative behaviors that team PsyCap is able to enhance the adaptive potential of project teams. By doing so, this study sheds light on a behavioral mechanism that underlies the positive effect of team PsyCap, and it thus contribute to fill the gap related to the scarcity of studies about its mediators. Second, the finding that team creativity mediates the positive association between team PsyCap and team adaptivity also offers several contributions to the team creativity scholarship. More precisely, despite the collective nature of many creative endeavors, research on creativity

has focused primarily on the individual (Hargadon & Bechky, 2006). As a result, much less energy has been devoted to identifying antecedent conditions that enhance the creativity of teams (West, 2002). Thus, our finding that team PsyCap enhance the creativity of teams: (1) responds to the lack of research exploring factors that enhance team creativity, (2) confirms the importance of positive affectivity for the collective engagement in creative behaviors, and (3) it aligns well with Amabile and Pratt's (2016) call to explore how collective affect and psychological factors influence creativity. Lastly, results of this study also contribute to clarify the nature of the relationship between team creativity and team adaptation. As Maynard et al. (2015) explained, team creativity is theoretically as likely to be a by-product than an underlying process of team adaptation. Findings of the present study suggest that it is through the creative behaviors of members that teams are able to adapt effectively, thus providing tentative evidence of the precedence of team creativity.

Another contribution of this study resides in the finding that the creative benefits of team PsyCap, and through this its positive effect on team adaptivity are contingent on the level of team outcome focus. More specifically, results showed that under high levels of team outcome focus, team PsyCap was not significantly related to team creativity. This entails that although team PsyCap may be an important predictor of team creativity, the degree of team outcome focus also plays a critical role for the collective engagement in creative behaviors, and ultimately on the capacity of teams to adapt to changes. Overall, the validation of the negative influence that team outcome focus exerts on the relationship between team PsyCap and team creativity contributes to the literature in two ways. First, this finding highlights the presence of a previously unstudied boundary condition influencing the impact of team PsyCap. In doing so, this study responds to the lack of research investigating the moderators between team PsyCap and its outcomes (Newman et al., 2014). Second, this finding also provides evidence that may serve to clarify the inconsistent results related to the adaptive benefits of a collective focus on outcomes and performance (Christian et al., 2017). On the one hand, some studies found that teams emphasizing outcomes and performance tend to adapt less effectively (e.g., Bunderson & Sutcliffe, 2003; Lepine, 2005; Porter, 2005). As Lepine (2005) explained, teams that emphasize outcomes and performance tend to approach adaptive situations in terms of

"how the disruption would affect progress of performance and less about possible actions the team should take in order to cope with the disruption itself" (p.1163). As a result, when outcome focus teams face an adaptive trigger, they will tend to avoid failures and they will be more likely to fall back on their habitual routines, thereby deterring their capacity to adapt to changes (Gully & Phillips, 2005; Lepine, 2005). On the other hand, other studies report that a collective focus on outcomes contributes to the adaptive performance of teams (Porter et al., 2010; Wooley, 2009). For example, Wooley (2009) argued that due to their high-level performance drive and to their tendency to identify actions at higher-levels, outcome focus teams are better positioned to deal effectively with task-related changes. In relation to these contradicting results, this study demonstrates that a focus on outcomes can offset the positive influence that shared psychological resources exert on team creativity, and thereby hinder the capacity of teams to adapt. Specifically, we show that outcome focus teams will tend to adapt less effectively because they are less likely to take advantage of their team PsyCap to propose creative adaptive solutions. All in all, the present study reveals that team creativity is an important factor to consider as to why a collective focus on outcomes negatively influences team adaptation.

3.6.2 Strengths, Limitations, and Directions for Future Research

From a methodological standpoint, a major strength of this study is that we collected data from two distinct sources (i.e., an external observer and team members) and through two methods of evaluation (i.e., self-reported questionnaire and observation), thereby reducing common method effects (Podsakoff et al., 2012). Furthermore, our model involves an interaction effect, which is actually less likely to be detected when relationships are inflated by common method variance and when data is collected from different sources (Podsakoff et al., 2012). This is thus a testament to the robustness of our moderating effect. Second, the use of a controlled environment that reproduces the requirements of project management in organizations made it possible to standardize the conditions for all teams included in this study. As such, the sources of measurement error were reduced and the potential confounding effects of task characteristics were controlled (Aubé et al., 2018). Third, our sample of 198 teams is quite large for research conducted at the team level of analysis (see for examples the samples size in recent meta-analyses

with teams; e.g., Breuer et al. 2016; Marlow et al. 2018; Wang et al. 2014), and it represents one of the largest samples in the team PsyCap literature. As such, the number of teams was more than adequate to achieve sufficient statistical power to carry out the required analyses.

As is the case with most research designs, some methodological limitations are also present in this study. First, although the duration of the simulation was 6.5 hours, this research is still cross-sectional in nature. As such, we cannot make conclusive statements about the causality between team PsyCap, team creativity, and team adaptivity. However, we draw on our theoretical arguments and on the established IPO framework of team adaptation to suggest that our data supports a model in which team PsyCap increases team creativity, and though this team adaptivity. Moreover, the results of supplementary analyses revealed that the hypothesized meditation model was superior to two alternative models. Nonetheless, for future research investigating the relationship between team PsyCap and team adaptive performance, we recommend the use of multistage longitudinal designs where variables are measured at multiple points in time. Second, considering that team creativity, team adaptivity, and team outcomes focus were all assessed by the observer, common method biases may still have influenced to some extent the results of this study. However, we relied on many means to minimize this bias, such as using measures validated in previous studies and varying the response scales (Podsakoff et al., 2012). In addition, the assessment of three variables through external observation has the advantage of reducing other forms of biases (e.g., social desirability, consistency motif; Podsakoff et al., 2003). Lastly, because this study was conducted by means of a simulation and with a sample of student teams, the generalizability of our results may be limited. For example, a secure environment like the one that was used in this study may not replicate the adaptive demands and the levels of perceived importance of outcomes that are faced by project teams working in organizations (West et al., 2009). However, previous research has shown that correlations between effect sizes obtained in laboratory and field settings exceed .70, which suggests that the use of a student sample may not severely affect generalizability (Anderson et al., 1999). Nonetheless, the external validity of the findings of this study should be assessed with caution until the results have been replicated in organizational settings.

Beyond addressing the limitations of this study, it would also be worthwhile to consider other interesting avenues for future research. For example, our model is not exhaustive in terms of considering the range of mediators that might intervene in the relationship between team PsyCap and team adaptivity. Therefore, consistent with the principle of equifinality (Morgeson et al., 2010), future research investigating the relationship between team PsyCap and team adaptation would do well to include other types of mediators (e.g., cognitive mediator; team learning) in addition to the behavioral mechanism proposed in this study. Furthermore, considering the scarcity of studies that investigate the boundary conditions of team PsyCap, we call on future research to explore other moderators that might influence the effects of team PsyCap in the context of project teams. For example, it would be interesting to capture how features of the organizational context influence the relationship between team PsyCap and team adaptation. Lastly, this study provided evidence of the negative influence that a collective focus on outcomes exerts on the relationship between team PsyCap and team creativity. Considering the inconsistent results related to the concept of team outcome focus, future research should validate if the results of this study translate in other types of teams that require high levels of creativity and adaptability.

3.6.3 Practical Implications and Conclusion

Because project teams operate in highly dynamic environments, the capacity to adapt to changes is critical for their effectiveness (Svejvig & Andersen, 2015). Therefore, a better understanding of the factors that promote the effective adaptation of project teams carries significant implications for project management practice. Specifically, this study showed that when members of project teams share feelings of hope, efficacy, resilience, and optimism, they tend to cope more efficiently with changes affecting their group. Accordingly, project managers should take action to promote and foster the psychological capacities of their team. In order to do so, previous research informs us that promotive actions may include: (1) adopting a humble or transformational style of leadership (Rebelo et al., 2018; Rego et al., 2017b), (2) sharing leadership roles and responsibilities with team members (Wu & Chen, 2018), (3) showing and expressing their confidence in the capacities and chances of success of their team (Haar et al., 2014), and (4) creating a

psychologically safe team climate where learning behaviors are encouraged (Gonçalves & Brandão, 2017). Overall, results of this study show that in order to foster the adaptive capacities of their teams, project managers should not only focus on the technical systems of the project (structure, planning), but also on the psychological strength of their team.

In addition to adaptation, many organizational projects (i.e., research and development) require that team members engage in creative behaviors (Pirola-Merlo & Mann, 2004). In that regard, our results also revealed that the creative benefits of team PsyCap, and through this its effect on team adaptivity are contingent on the level of team outcome focus. This finding has important practical implications for project managers considering that their leadership exerts a normative influence on team dynamics (Burke et al., 2006), and that consequently their actions are likely to affect the degree to which teams emphasize outcomes. Therefore, when project success depends on the capacity of the team to be creative, the results of this study suggest that project managers should be very careful that performance outcomes don't come to take precedence over and constrain the creative process. In order to do so, in the early stages of the project, leaders should encourage team members to discuss about the different pathways that they could take to reach their collective goal, rather than to discuss straight away about performance outcomes and evaluation. In other words, to take advantage of the creative benefits that the shared psychological resources of their teams generate, project managers should emphasize that the process (how) is as important as the results (what).

In closing, we conducted an examination of the mediating and moderating mechanisms operating in the relationship between team PsyCap and team adaptivity. Results demonstrate that team PsyCap has the potential to generate team creativity and through this team adaptivity, contingent on the level of team outcome focus. Taken together, these findings provide an important contribution to our understanding of how and under which conditions shared psychological resources promote the capacity of project teams to adapt to changes. From this perspective, we hope this study provides useful ideas for building future research.

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Conclusion

The two overarching objectives of this dissertation were to comprehensively review the team PsyCap literature and to examine its relationship with team adaptive performance. Precisely, in response to the understudied areas identified in Article 1, we proposed and tested our research hypotheses in order to extend understanding of : (1) the relationship between team PsyCap and team adaptive performance, (2) the behavioral mechanisms that underlie this association, and (3) the boundary conditions that moderate the adaptive consequences of team PsyCap. In doing so, this dissertation provides a finegrained analysis of the relationship between team PsyCap and team adaptive performance.

In Article 1, we scoped the team PsyCap literature with two specific goals in mind. First, we wanted to assess how researchers theoretically justify their conceptualization of PsyCap as a team-level phenomenon. Based on our review findings, we developed a multilevel and multiphase model that integrates the process mechanisms that account for the emergence of team PsyCap. Specifically, we proposed that team PsyCap emerges as a team-level phenomenon as a result of the common pool of social information that team members process, the resulting similarity in mental models, contagion processes, team norms and display rules. In doing so, we solidified the theoretical foundation of the team PsyCap construct and we offered a platform from which to theorize and operationalize the emergence of team PsyCap. Second, we aimed to synthesize all the empirical findings related to team PsyCap in order to identify understudied areas and to propose an agenda for future research. In that regard, we found that: (a) when studying the outcomes of team PsyCap, scholars have focused on task performance, to the detriment of other important dimensions of team effectiveness, (b) little is known about the mechanisms that underlie the positive effects of team PsyCap, and (c) there is a clear lack of research on boundary conditions between team PsyCap and team-level outcomes.

Articles 2 and 3 of this dissertation were designed to respond to these shortcomings. First, they explored the previously unstudied relationship between team PsyCap and team adaptive performance. Specifically, based on previous research in the organizational change and in the team adaptation literatures, we distinguished between

continuous and episodic adaptive performance. On the one hand, in Article 2, we explored the relationship between team PsyCap and continuous adaptive performance as conceptualized by team process improvement. On the other hand, Article 3 examined the association between team PsyCap and episodic adaptive performance as conceptualized by team adaptivity. Second, these two studies also investigated the behavioral mechanisms through which team PsyCap influences team adaptive performance. More precisely, in Article 2, based on the agentic capacity of team PsyCap and on the notion that high PsyCap teams tend to strive for autonomy and control in the accomplishment of their collective task (Avey et al., 2011; Luthans et al., 2010), we explored the mediating role of team self-managing behaviors. In Article 3, based on the broadening effect of positive emotions (Fredrickson, 1998, 2001; George & King, 2007; Isen, 1999, 2001), we hypothesized an indirect relationship between team PsyCap and team adaptivity that travels through the creative behaviors of team members. Third, we also examined if features residing outside and inside the team boundaries can come to moderate these indirect relationships. In Article 2, we explored the influence of the organizational context by investigating the moderating effect of the team reward system. In Article 3, we tackled the internal team context by examining how a team's focus on outcomes moderates the indirect relationship between team PsyCap and team adaptivity. Taken together, Articles 2 and 3 of this dissertation explore the relationship between team PsyCap and two different but complementary facets of team adaptive performance, they identify two behavioral mediators that underlie these relationships, and they clarify external and internal team conditions that moderate the positive effects of team PsyCap.

In Article 2, based on a sample of 135 action teams and immediate superiors working in a Canadian public safety organization, study results showed that team PsyCap was positively related to team process improvement, and that this relationship was mediated by team self-managing behaviors. This finding entails that psychologically strong action teams are more likely to self-manage their activities, which contributes to their capacity to continuously improve their internal processes and reach higher levels of effectiveness. In addition to this novel finding with respect to the mechanisms and outcomes of team PsyCap, we found that the team reward system positively moderated the first stage of this relationship. That is, when members of action teams perceive that

they are being recognized and rewarded for their collective contributions, the positive effect that team PsyCap exerts on TSMB, and through this on team process improvement is enhanced. On the contrary, under low levels of team reward, results showed that members are less likely to tap into their pool of shared psychological resources to engage in self-managing behaviors and to implement new and improved ways of working. This finding indicates that the collective engagement in autonomous behaviors such as TSMB is the result of the interaction between shared confidence beliefs and positive outcome expectancies. Overall, results of this study highlight the important role that shared positive psychological resources play in the effective functioning of action teams. In practice, our findings suggest that in addition to tactical preparation, organizations and action team leaders should take action to promote and foster the psychological strength of their teams. Also, we show that in order to take full advantage of their psychological strength, teams should be recognized and rewarded for their contributions.

Figure 7

Integrative Model



In Article 3, we focused on a different type of team and a different context of investigation. More precisely, research data for Article 3 were gathered from a sample of 198 student teams that took part in a project management simulation. Results of hypotheses testing revealed that team PsyCap was positively related to team adaptivity and that this relationship was mediated by team creativity. In other words, this means that psychologically strong project teams are more likely to adapt effectively to changes, and that this effect can be explained by members engagement in creative behaviors. Moreover, we also found that team outcome focus negatively moderated the first stage of this relationship. Specifically, results showed that in project teams with high levels of focus on outcomes and performance, the positive effect that team PsyCap exerted on team creativity, and through this on team adaptivity was rendered non-significant. On the contrary, under low levels of team outcome focus, the power of team PsyCap to predict team creativity and team adaptivity was strengthened. These findings entail that a collective focus on outcomes and performance can narrow the broadening of cognitions that is generated by team PsyCap and offset the intrinsic orientation to work that characterises high PsyCap project teams, thereby hindering their capacity to collectively engage in creative behaviors and adapt effectively. In terms of practical implications, results of Article 3 highlight the importance of shared positive psychological resources for the effective adaptation of project teams. Accordingly, in addition to managing the technical systems of the project, results of this study suggest that project managers should also act to promote and foster positive psychological resources within their teams. Moreover, results of Article 3 indicate that to promote the creativity of their teams, project managers should be very careful that performance outcomes don't come to take precedence over and constrain the creative process. Stated differently, in order to take full advantage of the creative benefits of team PsyCap, project managers should be very careful that performance outcomes don't come to take precedence over and constrain the creative process.

Overall, this dissertation offers important contributions to multiple literature streams. First, results of articles 2 and 3 contribute to the team PsyCap scholarship in several ways. More precisely, we established, in the context of action teams and project teams, the previously unstudied relationship between team PsyCap and team adaptive

performance. In that regard, we found that team PsyCap promotes the capacity of teams to continuously improve their internal functioning and also to adapt effectively to discrete changes. In doing so, we identified two novel outcomes of team PsyCap, and we thus contributed to extend the nomological network of the construct. Moreover, our scoping review revealed that only three studies have investigated the processes that account for the positive impact of team PsyCap. Therefore, by establishing that the positive relationship between team PsyCap and team process improvement travels through TSMB, and that the relationship between team PsyCap and team adaptivity is mediated by team creativity, results of this dissertation clarify the underlying behavioral mechanisms that explain how team PsyCap contributes to the adaptive performance of teams. Our scoping review also pointed to a clear lack of research on boundary conditions that moderate the effects of team PsyCap. In that sense, by testing the moderating influence of an external contextual variable and of an internal team dynamics variable, results of this dissertation significantly advance our understanding of the conditions that moderate the positive effects of team PsyCap. Taken together, this dissertation provided answers as to how and under which conditions team PsyCap represents an important deriver of team adaptive performance. In a related manner, results of this dissertation also responded to the "striking lack of research" investigating the antecedents of team adaptation (Maynard et al., 2015). In that regard, articles 2 and 3 identified factors, processes, and organizational practices that enhance the adaptive potential of teams. Importantly, we showed, in two different contexts, that positive psychological resources at the team-level constitute critical determinants of team adaptive performance. Moreover, we also demonstrated the critical role that team creativity and team self-management play in the adaptive process of teams. Lastly, on a theoretical note, we showed that the motivational interactionist perspective (Ajzen, 1991; Bandura, 1991) and the main proposition of key resources theories also apply to the team-level of analysis. Specifically, Article 2 provided evidence that collective behavioral enactment is the result of the interaction between shared confidence belief and positive outcome expectations. In addition, by showing that teams tap into their pool of shared psychological resources in order to adapt effectively, results of this dissertation also established the applicability of key resources theories to the teamlevel of analysis. All in all, considering the widespread use of these theoretical

perspectives in organizational studies (e.g., theory of planned behavior; Ajzen, 1991; social cognitive theory; Bandura, 1991; key resources theory; Carver and Scheier, 1998), their application to the team level provides solid theoretical frameworks from which researchers can study collective behaviors and the relationship between shared psychological resources and team adaptation.

In terms of future research, we invite researchers to extend the results of this dissertation. First, to fully validate the mediating effects proposed in articles 2 and 3, we recommend the use of longitudinal designs wherein variables are measured at multiple points in time. Second, although articles 2 and 3 confirmed the critical role of TSMB and of team creativity in the relationship between team PsyCap and team adaptive performance, we do not assume that our integrative model (see Figure 7) is exhaustive in terms of considering the full range of mediators that intervene in this relationship. As such, in line with the principle of equifinality (Morgeson et al., 2010), future research delving into the relationship between team PsyCap and team adaptive performance would benefit from including other types of mediators (e.g., cognitive and/or affective mediators) in addition to the behavioral perspective that was espoused in this research program. Third, considering the scarcity of studies that investigate the boundary conditions of team PsyCap, we call on future research to explore other moderators that might influence the emergence and the influence of team PsyCap. For example, future studies could investigate the moderating effect of the other facets of the team support construct (i.e., the developmental system, the communication system, and the resources system). Fourth, future research could also test if the interactionist perspective adopted in Essay 2 to predict team self-managing behaviors also applies to other forms of collective actions such as knowledge sharing and collaboration.

To conclude, we invite researchers to continue exploring the role of shared positive psychological resources in the context of work teams. Indeed, it is safe to say that the contemporary workplace has become highly dynamic, complex, and demanding. In that regard, as discussed throughout this dissertation, researchers have highlighted that individuals tap into their pool of psychological resources in order to face the difficult attributes of work. However, despite their important role at the individual level, the reality is that work is increasingly organized around teamwork and that work teams are often put together to respond effectively to the more demanding attributes of work (e.g., dynamism, complexity, innovativeness). In this context and considering the inherent difficulties that are associated with teamwork, the goal of this dissertation was to highlight that positive psychological resources are also of critical importance for work teams. To conclude, because we believe that work teams will continue to be central functional entities in many organizational domains, we urge scholars to continue and expand their interest in the team PsyCap construct.

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