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Toward A Better Understanding Of Psychological Contract Fulfillment (pcf) At The Team Level

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**TOWARD A BETTER UNDERSTANDING OF PSYCHOLOGICAL CONTRACT
FULFILLMENT (PCF) AT THE TEAM LEVEL**

by

LYONEL LAULIÉ

DISSERTATION

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CHAPTER 1: INTRODUCTION

1.1. Establishing the Problem

Psychological contracts have been defined as “an individual’s system of beliefs, based on commitments expressed or implied, regarding an exchange agreement with another.” (Rousseau, 2011, p. 191). At this stage of the development of the psychological contracts literature, it has been generally accepted that when individuals perceive that organizations breach (or fail to fulfill) promises, employees tend to display more negative attitudes and behaviors, undermining organizational effectiveness. Several reviews and meta-analyses in important academic journals and handbooks (e.g. Bal, De Lange, Jansen, & Van Der Velde, 2008; Conway & Briner, 2005; Rousseau, 2011; Taylor & Tekleab, 2004; Zhao, Wayne, Glibkowski, & Bravo, 2007) as well as in important practitioner-oriented outlets (e.g. Harvard Business Review, People Management) have shown the effects of managing psychological contracts in organizations, while others have expanded the literature by linking psychological contracts to other important fields in the organizational sciences such as leadership (e.g. Bordia, Restubog, Bordia, & Tang, 2010; Epitropaki, 2013; Henderson, Wayne, Shore, Bommer, & Tetrick, 2008; McDermott, Conway, Rousseau, & Flood, 2013; Restubog, Bordia, Tang, & Krebs, 2010), human resource management (Chien & Lin, 2013; Guzzo & Noonan, 1994; Suazo, Martínez, & Sandoval, 2009), or organizational change (Chaudhry, Coyle-Shapiro, & Wayne, 2011; Chaudhry & Song, 2014; Freese, Schalk, & Croon, 2011; van den Heuvel, Demerouti, & Bakker, 2014).

A recent issue that has called the attention of psychological contract researchers is how social contexts can determine the development and fulfillment of psychological contracts (Dabos & Rousseau, 2013; De Vos & Tekleab, 2014; Ho, 2005; Ho & Levesque, 2005; Ho, Rousseau, & Levesque, 2006; O’Leary-Kelly, Henderson, Anand, & Ashforth, 2014). Theories describing the

social processes that govern team-level interactions and social influence are key to understand why individuals perceive whether their contracts have been fulfilled or breached. Perceptions of the contract fulfillment, and even the perceptions of why individuals breach their promises, could be better explained if we consider social phenomena and continuous interactions among employees. For instance, in a seminal article, De Vos and Tekleab (2014) suggested that perceptions of psychological contract fulfillment (PCF) can be shared among individuals of a team, facilitating the emergence of a team-level state of PCF.

More recently, Laulié and Tekleab (2016) further expanded this idea in a theoretical paper, arguing for the existence of two distinct team-level PCF-type constructs: shared team PCF and shared individual PCF¹. The two constructs may represent shared perceptions of fulfillment of psychological contracts, although they may differ in the entity(ies) referred when individuals evaluate fulfillment of organizational promise-based obligations. In short, shared team PCF represents the team members' perceptions about the fulfillment of promises made to the *team as a whole*, whereas shared individual PCF represents the convergence of individual perceptions about the extent to which organizations fulfill individual-level psychological contracts.

Despite the fact that these efforts have contributed to extending the psychological contract literature to higher levels of analysis, several questions remain unanswered as to the empirical evidence supporting this theory. First, regarding construct validity, the field still needs more evidence about whether shared PCFs are valid and useful constructs in the organizational sciences. For example, we still do not know whether shared PCFs are different from other apparently related constructs such as POS climate or Justice Climate or how these variables may be correlated. Second, in regards to homology issues (Chen, Bliese, & Mathieu, 2005;

¹ When talking about the two constructs at the same time, I will refer them as “shared PCFs”.

Kozlowski & Klein, 2000), we still do not know whether previously identified relationships between individual PCF and other variables are similar or equivalent at higher levels of analysis. Third, shared PCFs still need a better description of their emergence processes. Factors affecting the emergence of shared PCFs should not only be discussed at a theoretical level, but also at the empirical level. Having more clarity about the conditions under which shared PCFs are more likely to be observed can be useful for organizations and its leaders if they want to better understand how to manage PCF at the team level. Fourth, although previous research has shown that PCF at the team level could affect important team-level outcomes such as team performance and average team commitment (De Vos & Tekleab, 2014) we still do not know whether shared PCFs are important predictors of other relevant outcomes such as unit-level OCBs or collective turnover. Moreover, if that is the case, we still require a better understanding of the mechanisms that shared PCFs use to affect team-level outcomes. In this dissertation, I intend to address these questions by providing empirical evidence about employees' shared perceptions of the extent to which organizations fulfill its psychological contracts.

1.2. Purpose of the Study and Research Objectives

Although a growing line of research has started to empirically assess the existence of PCF at the team level of analysis (e.g. De Vos & Tekleab, 2014), several questions remain unanswered as the literature is still in its infancy. The main purpose of this dissertation is to contribute to the organizational sciences by building theory about PCF at the team level and by providing empirical evidence to solve several research questions. In particular, the formal objectives of the study are:

- *Research objective #1: Empirically assess whether PCF at the team level can be conceptualized in two different constructs: a) Shared Team PCF, and b) Shared*

Individual PCF. In the following chapters, I theoretically describe the difference between the two constructs and empirically test this similarity/difference. Following recommendations by van Mierlo, Vermunt, and Rutte (2009), I test the distinction between and the baseline psychometric quality of the constructs.

- *Research objective #2: Explore the relationship that shared PCFs have with other social exchange indicators at the team level (i.e. Justice Climate, POS Climate).* In order to provide evidence for discriminant validity of the key constructs, I evaluate whether shared PCFs are different from other recently developed social exchange indicators at the team-level. Also, I study the directionality of the relationship among these constructs.
- *Research objective #3: Explore antecedents of the emergence of shared PCFs.* Following propositions developed in Lauhié and Tekleab (2016), I empirically assess whether some team-level variables facilitate or undermine the emergence of shared team PCF and shared individual PCF. This study explores whether team size, team interdependence, and LMX differentiation influence indicators of emergence.
- *Research objective #4: Empirically evaluate the relationship between shared PCFs and relevant team-level outcomes.* In addition to study whether Shared Team/Individual PCF affects team performance, I will test whether shared PCFs affect other important dependent variables such as a) Team-level OCB, b) Organizational Engagement, and c) Collective turnover intention.
- *Research objective #5: Explore the mechanisms that explain why shared PCFs affect team-level outcomes.* In particular, I suggest that team-level PCF can affect team processes and team motivation (Chen & Kanfer, 2006; Park, Spitzmuller, & DeShon, 2013), which in turn facilitate higher team performance and other outcomes. I plan to

operationalize team motivation through team potency, team external collective fit, and team affective tone.

- *Research objective #6: Study the cross-level moderating effects of shared PCFs on PCF-outcome relationships at the individual level.* Following the idea that social environments can provide important social cues to individuals (Salancik & Pfeffer, 1978), I argue that shared PCFs can alter individual-level reactions to PCF. Then, I will evaluate whether shared individual PCF and shared team PCF can attenuate or exacerbate the relationship between individual-level perceptions of PCF and important individual-level outcomes.
- *Research objective #7: Study homology relationships at individual level: I explore whether different propositions of team-level relationships are also held at individual levels of analysis.* Following general recommendations about homology tests by Chen et al. (2005), I explore whether relationships between PCF and other variables hold at different levels of analysis (i.e. individual vs team).

1.3. Significance of the Study

Although the PCF literature is extensive (Rousseau, 2011; Sherman & Morley, 2015), we know relatively little about what PCF represents at higher levels of analysis. This dissertation contributes to the literature of psychological contracts at higher levels of analysis, which is relevant for several reasons. First, shared perceptions of fulfillment of psychological contracts can be viewed as a mechanism to study how companies are at managing the employment relationship with their teams and employees, which is at the root of human resource management and organizational behavior. Employees may decide which company to work for or how much effort to put based on their general perceptions about the organization as an exchange partner.

This is especially relevant in times when employees increasingly evaluate organizations based on their perceptions of how they treat employees. In general, practitioners have general representations of good or bad companies, and even the media create rankings of best employers (e.g. Forbes' Top 10 companies to work for). Employees evaluate employers based not only on the promised benefits they offer, but also on the degree of fulfillment or breach of those promises. Thus, team-level PCF constructs may measure the collective perception of incumbents about how organizations honor psychological contracts of teams and employees.

Second, organizations are better understood when relationships among variables and their social processes are studied at different levels of analysis (Chen et al., 2005; Hackman, 2003; Porter & Schneider, 2014; Schneider, Ehrhart, & Macey, 2011). Individuals perform in networks of a plethora of interactions which may, in turn, create emergent social phenomena affecting important outcomes. Thus, it is relevant to clarify how PCF can shape the performance and collective behaviors and attitudes of teams. Similarly, the determinants and outcomes of individual PCF versus team-level PCF constructs could dramatically vary, creating a need to manage both individual-level and team-level psychological contracts at the same time.

Finally, shared PCFs could be linked to several related variables in the organizational sciences. Scholars have theorized that several social exchange indicators can be conceptualized at team levels of analysis (cf. Bashshur, Hernández, & González-Romá, 2011; Colquitt, Noe, & Jackson, 2002; Mathieu, Maynard, Rapp, & Gilson, 2008). For example, other team-level climate constructs such as justice climate and POS climate have been demonstrated to be powerful antecedents of team performance (e.g. Colquitt et al., 2002; González-Romá, Fortes-Ferreira, & Peiro, 2009). As an indicator of social exchanges, PCF could also be conceptualized at the team level. Thus, more research is needed to understand how shared individual PCF and

shared team PCF can explain variance above and beyond other related constructs. Links to other literatures such as leadership, climate and cultures, or HR topics could also be formed in the future. All these links could be better traced if we have a better understanding of the emergence, antecedents, and outcomes of these key constructs.

1.4. Organization of the Study

This dissertation will have the following structure. In chapter 2, I provide a review of the literature on psychological contract research at individual and team-levels of analysis. This review will emphasize the social nature of the development of psychological contracts and psychological contract fulfillment. Chapter 3 introduces shared individual PCF and shared team PCF, discussing similarities and differences, and describing emergence processes at a theoretical level. Then I discuss theoretical arguments to predict and test several Hypotheses. Chapter 4 describes the methodology of the main study, including a description of measures and data collection strategies. In this chapter, I also describe the analytic approaches to test each of the specific Hypotheses. Chapter 5 describes the main results of the hypothesis testing procedures and Chapter 6 discusses the results, evaluate its implications, and propose future lines of research.

CHAPTER 2: LITERATURE REVIEW

2.1. Overview

The psychological contract term was first introduced by Argyris and Levinson over 50 years ago (Argyris, 1960; Levinson, Price, Munden, Mandl, & Solley, 1962). Since then, the field has been boosted, revitalized, and criticized (e.g. Cullinane & Dundon, 2006; Guest, 1998; Rousseau, 1989, 1998; Tomprou, Rousseau, & Hansen, 2015). Several articles have described the nature and evolution of the field (e.g. Conway & Briner, 2005; Roehling, 1997; D. M. Rousseau, 1995, 2011; Taylor & Tekleab, 2004) and some meta-analyses have summarized the effects of PCF in important individual-level outcomes (Bal et al., 2008; Li, Rousseau, & Silla-Guerola, 2006; Topa Cantisano, Morales Dominguez, & Depolo, 2008; Zhao et al., 2007). My intention in this chapter is not to paraphrase or repeat all these previous efforts reviewing the literature, but to set the context to introduce two novel team-level PCF constructs and suggest relevant propositions about their effects in organizations.

This chapter is divided into two main sections. First, I summarize the literature on psychological contracts at the individual level of analysis. This section includes discussions of main definitions and key concepts, main theoretical frameworks used to explain effects of psychological contracts, and main antecedents and outcomes. The purpose of this section is to familiarize the reader with the literature. Second, I describe the literature about the social (and multi-level) component of psychological contracts. In particular, I describe the role of social influence in the development of perceptions of PCF and then I account for research on psychological contracts that have considered multi-level models.

2.2. Research on Psychological Contracts at the Individual Level

2.2.1. Defining the Psychological Contract

As described by Roehling (1997) and Conway and Briner (2005), the psychological contract term has been used to denote different phenomena over time. In early days, March and Simon (1958) started acknowledging that employers and employees exchange contributions for inducements which are defined both explicitly and implicitly in a workplace. But, Argyris (1960) was the first to propose the term “psychological work contract”, referring to a *relationship* where organizations respect employees’ expression and fulfillment of needs (develop and grow) while employees respect the right of an organization to maintain high and efficient production. Around the same time, Levinson et al. (1962, p. 21) defined psychological contracts between employees and employers as “a series of mutual expectations [...] that govern their relationship to each other.” Levinson et al. suggested that these expectations create perceived obligations from employees and employers although they were mainly *driven by unconscious motives and basic needs*. Later, Schein (1965) described the psychological contract as a phenomenon between two parties, where each party had a variety of expectations of the other party. Schein argued that these expectations operate as powerful determinants of behavior, although they depend on the degree of *matching* between expectations of employees and employers, and on the goods being exchanged. Other early writing and research also contributed to developing the psychological contract construct (e.g. Gibson, 1966; Holtz, 1978; Kotter, 1973; Portwood & Miller, 1976). But although all these authors contributed enormously to a general understanding of the concept, Rousseau (1989)’s article has been generally considered as one of the most important breakthroughs in the literature.

Rousseau (1989, p. 123) initially defined psychological contracts as “an individual’s beliefs regarding the terms and conditions of a reciprocal exchange agreement between that focal person and another party.” In this article, there are several novel features of the construct that can be distinguished from previous conceptualizations. First, Rousseau emphasizes that in psychological contracts there is a belief that a *promise* has been made. This aspect of the definition contrasts with early conceptualizations that were centered on the idea of *expectations* (this issue is also discussed in the next section). Second, her conceptualization emphasizes the idea that a psychological contract is an individual-level phenomenon, suggesting that psychological contracts are developed within individuals and that the parties of a contract do not need to agree in the terms of contracts. This idea is opposite to the concept of implied contracts, which represent a type of agreement of mutual obligations existing at a dyadic or relational level. Third, earlier conceptualizations emphasized that unconscious or deeper psychological needs were the main drivers of individuals’ expectations, whereas Rousseau argued that psychological contracts are formed by individuals’ perceptions of verbal or written promises or by the detection of consistent and repeated patterns of behavior from their employers, which is a more conscious and cognitive approach (Rousseau, 2011) in comparison to the needs-approach. Fourth, Rousseau was the first to propose the idea of psychological contracts “violations” (PCV) as the main mechanism to explain the relationship between the psychological contract and important individual-level outcomes. PCV was a useful construct for subsequent research by providing more clarity about the effects of the complex phenomenon of psychological contracts in organizational settings.

Since Rousseau's (1989) seminal article, the field has expanded enormously, especially in terms of empirical studies. Currently, Google Scholar provides a result of more than 39 thousand

references with the term “psychological contract” (search made on August 1st, 2016) and several meta-analyses have summarized multiple studies (Bal et al., 2008; Li et al., 2006; Topa Cantisano et al., 2008; Zhao et al., 2007), suggesting that the field is in a mature state. Although Rousseau’s study did not eliminate all the questions about definitions of the psychological contract construct (For a summary of definitions, see Conway and Briner (2005)), it sets the ground for contemporary research. For the purposes of this dissertation, and to be consistent to recent progress of the psychological contract literature, I will use Rousseau’s (2011, p. 191) definition of psychological contracts as “an individual’s system of beliefs, based on commitments expressed or implied, regarding an exchange agreement with another.”

In terms of the prevalence of the construct in research and practice, several studies have demonstrated that perceptions of psychological contract breach (PCB) seem to be the norm rather than the exception in contemporary organizations (Robinson & Rousseau, 1994). Others have addressed important practical questions such as factors that affect psychological contract preferences in employees of different career stages (e.g. De Hauw & De Vos, 2010; Low, Bordia, & Bordia, 2016), or how employers are actively managing the psychological contract (e.g. Guest & Conway, 2002). However, the explicit use of the psychological contract construct has been more popular among researchers than among practitioners (Conway & Briner, 2005). Much more efforts are needed to close the gap between scientists and practitioners in this field. Next, I describe key concepts and distinctions in the literature.

2.2.2. Key Concepts in the Psychological Contract Literature

2.2.2.1. Promises, Obligations, and Expectations. Inherent in the definition of psychological contracts is the distinction among key concepts such as promises, expectations, and obligations. Initial definitions of psychological contracts were based on “expectations”,

which can be understood as the anticipations about what should happen (or not) in the future based on specific beliefs, values, desires, or even imagination (cf. Conway & Briner, 2005; Rousseau & McLean Parks, 1993; Taylor & Tekleab, 2004). Expectations may or may not originate from concrete promises or commitments made by the employer. In contrast, the field has more generally accepted that the terms of a psychological contract are more likely formed by actions displayed by the organization, which are better described as promises or commitments that are generally interpreted as obligations. However, whether expectations or obligations, they should be based on concrete promises in order to be considered part of the psychological contract (Conway & Briner, 2005).

Although some researchers initially questioned the practical implications of this distinction, evidence suggests that the effects of measures capturing promise-based obligations could have differential effects on attitudinal and behavioral outcomes than more general expectation terms (Chaudhry & Tekleab, 2013; Roehling, 2008; Taylor & Tekleab, 2004). Rousseau (2011) recommended the use of the terms “obligations and promise fulfillment” rather than “expectations”, because general evidence suggests that obligations explain more variance than expectations. In this dissertation, I follow Rousseau's recommendation and focus on expressed or implied "promises" when conceptualizing and measuring psychological contract constructs.

2.2.2.2. Parties of the Psychological Contract. Psychological contracts assume that there are two parties in an exchange agreement. The issue about the agreement of obligations between employees and employers have been defined as *mutuality* – “the degree to which the two parties agree on their interpretations of promises and commitments each party has made and accepted” (Dabos & Rousseau, 2004, p. 53). In general, where mutuality exists about the

employer obligations, more positive outcomes and higher contract fulfillment has been reported. Despite the importance of mutuality, only a handful of studies have explored the “organization side” of the psychological contract in the past.

In one of the few exceptions, Tekleab and Taylor (2003), using a sample of 130 employee-manager dyads, found evidence that both employees and managers perceive violations of the contract from the other party. They also found that employees and managers tend to disagree on their perceptions of employees' obligations and violations, but not on the organization's obligations and violations of the contract. In that study, the perceptions of violations from the point of view of employees and employers were both related to important employee outcomes such as job satisfaction and turnover intentions. Similarly, Lester, Turnley, Bloodgood, and Bolino (2002), in a study of 134 supervisor-subordinate dyads, also found that supervisors rate employees' fulfillment of psychological contracts as higher than employees themselves.

The study of the “organization side” of psychological contracts is particularly challenging as it assumes that organizations could have their own psychological contracts. This assumption has been questioned by several authors who argue that organizations cannot "perceive" or have cognitions in the same way than individuals have (Conway & Briner, 2005; Rousseau, 1989). However, individuals do identify actions taken by the organization through an overall evaluation of behaviors displayed by several organizational agents (i.e. managers, directors, HR representatives, etc.). This process has been known as "anthropomorphizing" the organization and it is important as individuals form psychological and implicit contracts with organizations as the counterpart of the contract.

Although the assertion that organizations have their own psychological contract is debatable and that there has been low agreement about who represents the employer in general, individuals experience the organization as another valid party in an exchange relationship. Despite the importance of the study of the organization side, in this dissertation I focus on the employee side, as much more literature is available in order to expand the psychological contract construct to the team level.

Similarly, another key distinction has been drawn in the literature that also defines "sides" (or parties) of the psychological contract. This idea is that at the individual level, employees perceive promises and commitment not only from the organization, but also from themselves. This is a different conceptualization that involves "two sides of the psychological contract". Although most researchers have tried to capture only employees' perceptions of the degree to which organizations fulfill their promises (e.g. Robinson & Morrison, 2000), others have also tried to emphasize that employees also can fulfill or breach the promises they make to the organization (e.g. Tekleab & Taylor, 2003). In this dissertation, I focus on the employees' perceptions of fulfillment of promises made by the organization rather than on the employees' obligations to the organization. In order to develop a theory about PCF at the team level, it is important to base it on literature that has been extensively developed and accepted. As theories about the perceptions of fulfillment of commitments made by employees have been more scarce, they are not going to be discussed in this dissertation.

2.2.2.3. Psychological Contract Fulfillment, Breach, and Violation. Some of the most important concepts in the psychological contract literature are psychological contract breach (PCB), psychological contract fulfillment (PCF), and psychological contract violation (PCV). PCB has been defined as "the employee's perception regarding the extent to which the

organization has failed to fulfill its promises or obligations" (Robinson & Rousseau, 1994). As suggested by this definition, the opposite of breach is fulfillment such that researchers have used PCB and PCF to refer to two ends of the same spectrum (establishing a breach-fulfillment continuum). PCB occurs with relatively frequently in organizations (Robinson & Rousseau, 1994) and has been used by researchers as a useful mediator linking psychological contract terms to individual outcomes. For its conceptual flexibility and prevalence, PCB/PCF has become an important variable explaining the effects of psychological contracts in organizations. For the purposes of this dissertation, I use the term PCF to refer to the PCB-PCF continuum.

An important theme regarding breach and fulfillment has to do with its operationalization and measurement. As initially suggested by Lambert, Edwards, and Cable (2003), there is little convergence on how to measure fulfillment in the psychological contract field. Lambert (2011) defined three essentially different approaches of measurement. The first approach, called the "non directional" approach, considers breach and fulfillment as two opposite poles in a continuum. An example of this approach is the measurement instrument used by Kickul, Lester, and Finkl (2002). In that case, researchers asked participants to rate how well the organization has fulfilled their promises using a list of 26 possible obligations (e.g. salary, job security, meaningful work, etc.) with a scale ranging from "Not at all fulfilled" to "Very fulfilled".

The second approach, called the "directional" approach, positions fulfillment as a midpoint between breach due to deficiency of delivered commitments and over fulfillment due to excess of delivered commitments. Typically, researchers subtract what was promised from what was delivered, producing an algebraic difference score. For example, Coyle-Shapiro and Kessler (2000) initially asked respondents to indicate to what extent their organization has an obligation to provide different inducements using a scale from "not at all" to "a very great extent".

Subsequently, the authors asked respondents to indicate the extent to which they think the organization had provided the list of obligations. In that case, negative scores represented breach, and positive scores represented over fulfillment. Although this approach accounts for the phenomenon of over fulfillment, the use of difference scores suffers from several analytic limitations (see Edwards, 1995, 2002).

The third approach, called the "expanded" view, acknowledges that fulfillment can vary from low to high (the line that occurs when promised and delivered equal each other at different levels) and that several outcomes may depend on this level of fulfillment. This can be better understood by imagining that promises and receipts are axes of a two-dimensional space, where fulfillment is represented by a line where promises and receipts are equal, breach is represented by the area where promises are greater than receipts, and over fulfillment is represented by the area where receipts are greater than promises. An example of this approach can be found in Lambert et al. (2003). Using a two-wave sample of 213 student employees in a variety of settings, the authors found that the relationship between breach-fulfillment and satisfaction vary according to the type of inducement and level of fulfillment. For pay and recognition, satisfaction increased as delivered levels exceeded promised levels, whereas for task variety, satisfaction increased but only to the point that individuals were not having too many tasks to perform, suggesting that over-fulfillment could have a negative effect on satisfaction. In the same study, employees reported lower levels of satisfaction when both promised and received inducements were low rather than high. This was consistent with the argument that the effects of fulfillment may vary depending on the promise-receipt level.

The extent to which these measurement strategies are capturing the same phenomena is an issue that has not been fully tested yet. All these strategies show different conceptualizations

of PCF and suggest that the phenomenon of psychological contracts is more complicated than originally thought. For example, the phenomenon of over fulfillment can also be considered as a special type of breach—where individuals may perceive this difference as breach due to an over provision of inducements. Overall, however, I concur with Rousseau (2011) that appropriate operationalizations of psychological contracts and their perceptions of fulfillment should depend on the research questions (I will return to this point in chapter 4).

The distinction between PCF and PCV has also been complex. Until Morrison and Robinson (1997)'s theoretical model of PCV development, researchers used the terms PCF and PCV indistinctively (Conway & Briner, 2005). In a seminal theoretical article, Morrison and Robinson proposed a process model distinguishing PCF and PCV, with contract fulfillment acting as a more cognitive mediator between the employee's perception of unmet promises and perceptions of violation. Interestingly, whereas the early work of Rousseau focused on antecedents and consequences of contract violation defined as "a failure to comply with the terms of a contract", (Rousseau, 1995, p. 112), Morrison and Robinson used PCV as "an affective and emotional experience of disappointment, frustration, anger, and resentment that may emanate from an employee's interpretation of a contract breach and its accompanying circumstances" (Morrison & Robinson, 1997, p. 242). In Morrison and Robinson's model, PCF is considered a more cognitive evaluation of perceived discrepancy between promises and deliverables, whereas PCV focuses on the emotional response to the perception of breach.

Although Rousseau (1995)'s and Morrison and Robinson (1997)'s models involved different conceptualizations of PCV, evidence has consistently shown that PCF and PCV are two distinct but highly related constructs (Rousseau, 2011). More concretely, (Zhao et al., 2007) showed that the meta-analytic correlation between the two variables is moderate ($\rho = 0.52$) and

that breach and affect can both predict important individual outcomes (Zhao et al., 2007). Also, breach of contracts does not always result in contract violation. Variables such as national culture, the use of remedial actions, or the use of social accounts (explanations, justifications) may help employees to better cope with their emotional responses to breaches, buffering or exacerbating the PCF-PCV relationship (Rousseau, 2011).

In this dissertation, I acknowledge the large amount of evidence suggesting that PCF and PCV are related but distinct constructs, but I also focus on PCF in order to expand the literature to the team-level. The main reason for centering on PCF is that there is a much larger amount of articles and theories focusing on PCF rather than PCV (cf. Conway & Briner, 2005; Zhao et al., 2007) which provides a much richer theoretical background to expand the literature.

2.2.2.4. Types of Psychological Contracts. The psychological contract literature has traditionally described the terms of psychological contracts through a distinction of types of contracts: transactional and relational contracts. Transactional contracts are governed by quid pro quo norms, based mainly on economic currency, and involve specific exchanges, of narrow scope, over a limited period of time (cf. Conway & Briner, 2005; Morrison & Robinson, 1997; Thompson & Bunderson, 2003; Zhao et al., 2007). Relational contracts, on the other hand, are governed by the development of a relationship between organizations and employees, based mainly on socio-emotional currency, and involve broader and open-ended exchanges, with an intrinsic and subjective focus (cf. Conway & Briner, 2005; Morrison & Robinson, 1997; Thompson & Bunderson, 2003; Zhao et al., 2007). Rousseau's (2000) Psychological Contract Inventory (PCI) also included a third type of psychological contract (referred to as "balanced") to describe elements that are both transactional and relational. Research in multiple countries has

consistently demonstrated three factors in contract dimensions (e.g. Chaudhry et al., 2011; Dabos & Rousseau, 2004; Hui, Lee, & Rousseau, 2004; Rousseau, 2000).

This distinction has been useful in the literature as several researchers have found differential effects of psychological contracts depending on the type of contract. For example, Lambert et al. (2003) in a study of 231 employees in multiple industries showed that the difference between promised and delivered inducements such as pay and recognition (transactional) had a linear relationship with job satisfaction, whereas the effect of promised-delivered disparity of inducements such as variety or skill development (balanced) on job satisfaction is best represented by a curvilinear relationship. In a similar study of 342 full-time temporary workers, Montes and Irving (2008) showed that trust is a more crucial mediator between promise-receipt differences and job satisfaction for relational, rather than transactional contracts. In recent meta-analyses, relational contract breaches have been shown to have larger effect sizes than transactional breaches on important outcomes such as job satisfaction, turnover intentions, and organizational citizenship behaviors (OCBs) although the effect size of breaches on organizational commitment was larger for transactional breaches (Zhao et al., 2007). For in-role performance, relational and transactional contracts seem to have similar effects. Citing an unpublished meta-analysis by Li et al. (2006), Rousseau (2011) argued that the effects of transactional obligations are less stable and usually covary with relational terms.

In addition, other authors have recently argued for a fourth type of PC type. Bunderson (2001) suggested that individuals also develop ideological psychological contracts with organizations, and Thompson and Bunderson (2003) theorized that an ideological component would be sufficiently different from transactional and relational contracts. Some evidence show that the effects of ideological contracts are important in the organizational sciences, and, in some

cases these effects could be even stronger than those of transactional and relational exchanges (e.g. Bingham, Oldroyd, Thompson, Bednar, & Bunderson, 2013; Martin, Laulié, & Lelchook, 2016).

The distinction about types of psychological contracts (transactional, relational, balanced, ideological) has been generally based on psychological contract measures that ask employees about the extent to which employers have made several promises using a list of typical exchanged currencies. For example, the PCI asks individuals whether they feel their organizations have promised "training for my current job" (transactional currency) or "concern for my personal welfare" (relational currency), among other multiple content items. Other measures have also used similar lists of psychological contract contents to measure psychological contract fulfillment (for a detailed description of measures in the field, see Conway & Briner, 2005). In contrast, other measures have taken a more global perspective, directly asking individuals about overall perceptions of psychological contract fulfillment (e.g. Robinson & Morrison, 2000). As I will discuss in chapter 4, in this dissertation I will be using a more global approach, mainly because a global perspective allows me to capture perceptions of fulfillment of several individuals in a team. In a similar way, avoiding sources of variance such as the value that different individuals put in different contents of psychological contracts. This is especially important considering that teams within an organization may also vary in terms of the value they put to different contents and types of psychological contracts, creating an additional challenge when comparing teams.

2.2.2.5. Summary. In this subsection, I have briefly reviewed some of the most important concepts of the psychological contract literature. On one side, I have explained the role of expectations, obligations, promises, PCF, PCB, PCV, and types and contents of

psychological contracts, and summarized some important debates within this field. While some distinctions have been extensively explored in the literature (e.g. the role of PCF in the literature), others still remain barely tested (e.g. the role of fulfillment of promises from employees). Furthermore, this section also suggests that there are areas within the psychological contract literature that have been more generally accepted than others. Most importantly, this review of key concepts has been useful to declare important decisions to align the development of psychological contract constructs at the team level to areas of the literature with richer and more valid theories, and to delimit the scope of interest in this dissertation. This focus is helpful to build and test more solid theoretical propositions at the team level (in chapter 3).

2.2.3. Psychological Contract Fulfillment Outcomes

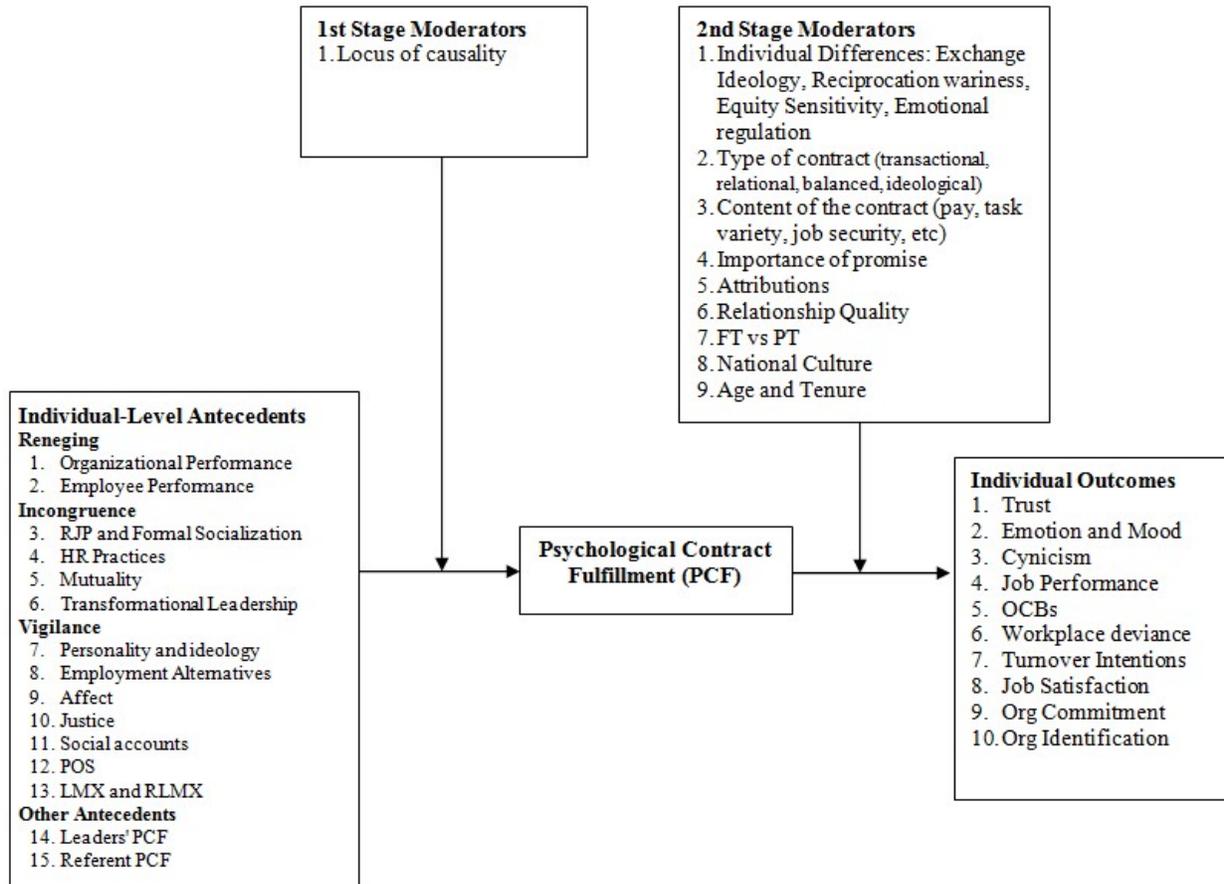
Because the concepts of psychological contracts and PCF are inherently related, the antecedents and outcomes of both concepts have been theoretically confounded in the past. In the following sub-sections, I focus on describing documented antecedents and outcomes of PCF (PCB) as this is the main interest of this dissertation. A summary of these relationships is depicted in Figure 1².

In terms of outcomes, four meta-analyses summarizing the effects of PCF (PCB) across several studies (Bal et al., 2008; Li et al., 2006; Topa Cantisano et al., 2008; Zhao et al., 2007) have been published. Probably the most known and cited meta-analysis is Zhao et al (2007). In this study, the authors found support for significant relationships between PCB and violation ($\rho = 0.52$), mistrust ($\rho = 0.65$), organizational commitment ($\rho = -0.38$), job satisfaction ($\rho = -0.54$), turnover intentions ($\rho = 0.42$), OCB ($\rho = -0.14$), and in-role performance ($\rho = -0.24$), although

² For a better description of antecedents and outcomes of psychological contract, other reviews are available in the literature (e.g. Conway & Briner, 2005; Rousseau, 1995, 2011; Taylor & Tekleab, 2004) in addition to recent theoretical models describing how the psychological contract evolves and change in time (e.g. Bankins, 2015; Sherman & Morley, 2015; Tomprou et al., 2015).

they couldn't find support for actual turnover. Similar results have been found in other meta-analyses.

FIGURE 1: Antecedents and Outcomes of PCF (PCB)



More recently, other individual articles have expanded the knowledge of additional relevant outcomes affected by PCF. An example is the relationship between PCB and more negative outcomes such as workplace deviance and counterproductive behaviors (CWB) (Chao, Cheung, & Wu, 2011; Jensen, Opland, & Ryan, 2010; Restubog, Zagenczyk, Bordia, Bordia, & Chapman, 2015; Restubog, Zagenczyk, Bordia, & Tang, 2013). Other single studies have also found relationships between PCF (PCB) and daily emotions and moods (Conway & Briner, 2002), cynicism (Johnson & O'Leary-Kelly, 2003), and organizational identification (Epitropaki, 2013).

In general, the explanations of why PCF can affect all these important employee outcomes have heavily relied on Social Exchange Theory (SET) (Blau, 1964). SET proposes that social relations are composed by social exchanges such that when individuals receive benefits from another party, they tend to feel obliged to reciprocate in the future. This is based on social norms of reciprocity which can make individuals i) to help those who have helped them, and ii) to avoid causing harm to those who have helped them (Conway & Briner, 2005). SET predicts that if organizations help individuals through the fulfillment of psychological contracts, employees should see the organization in more positive ways, developing trust in the organization, and being more motivated to return the favor through contributing to organizational goals and feeling obliged to display positive behaviors toward the organization and its agents.

SET has been empirically corroborated in the realm of psychological contracts. For example, in a study of 84 manager-employee dyads, Coyle-Shapiro and Kessler (2002) found that employers' perceptions of obligations to the employee at time 1 were positively related to employees' levels of fulfillment at time 2 in the same obligations. Similarly, Robinson, Kraatz, and Rousseau (1994) showed that perceptions of violation (although using a fulfillment scale) at time 1 make individuals to decrease their own obligations to the employer at time 2. Like the psychological contract, SET deals with exchange of resources (Taylor & Tekleab, 2004) as employees and organizations agree on mutually giving favors and positive desirable outcomes to the other party. As such, PCF has been considered to be an important social exchange indicator in the past (e.g. Colquitt, Baer, Long, & Halvorsen-Ganepola, 2014). Thus, SET may explain why the fulfillment of promises (a desirable thing for employees) affects employees' willingness to behave in positive ways in the eyes of the organization (with higher performance, higher contextual behaviors, etc.).

Other explanations have also been used to describe why psychological contracts can drive individuals' behavior, although they have not been as popular as SET. For example, one of these ideas is that commitments made to another party can work as goals that affect motivation. Following principles of goal setting theory (Locke & Latham, 2002), some authors have suggested that perceptions of obligations can help individuals to maintain a course of action in the presence of distractions, to better create strategies to fulfill promises, and to focus on avoiding the negative consequences of failing to keep promises (Conway & Briner, 2005; Rousseau, 1995, 2011). Similarly, the lack of fulfillment of promises deprives employees of inducements that could affect satisfaction and motivation in the workplace. For example, a broken promise of a pay rise (or a promotion) can disappoint employees and create frustration, taking away motivational factors in the workplace.

In summary, the main reasons of why PCF leads to outcomes are mainly based on social exchange theory and motivation. Individuals perceiving fulfillment of promises develop trust in the organization and demonstrate that they want to continue having positive exchanges with higher performance, better attitudes, and lower turnover intentions. In contrast, when promises are breached, individuals try to rebalance unequal exchanges by reducing their contributions to the organization. Also, it has been argued that the breach of contracts can impede employees' progress toward the achievement of personal goals, which may deprive them with resources and motivation necessary to contribute to organizational objectives.

2.2.4. Psychological Contract Fulfillment Antecedents

A decade ago, Conway and Briner (2005) argued that research investigating the antecedents of PCF was limited. This trend has started to change in recent years, as scattered studies have shown several antecedents of PCF. In order to organize this section based on a

stronger theoretical background, I will use the typology of antecedents of PCF developed by Morrison and Robinson (1997) that suggests that there are certain conditions that will eventually give rise to perceptions of breach: Reneging, Incongruence, and Vigilance³.

“Reneging” happens when an employer breaks a promise because of inability or unwillingness to keep commitments. Reneging a promise can lead to breach of the psychological contract due to an open decision from the employer to not fulfill its obligations. Indeed, Robinson and Morrison (2000) found evidence for a direct relationship between organizational performance and PCF. The authors argued that under conditions of low organizational performance, organizations would not be able to keep all the promises they make due to an inability to honor previous commitments. Similarly, they argued that when employees have low performance, organizations would not be forced to keep promises, which was supported by a significant relationship between individual performance and PCF. Thus, this group of antecedents uses the argument that organizations are less likely to fulfill promises under certain conditions or contexts.

A second group of antecedents of PCF are related to the concept of "incongruence". This is when employees and the organization have different understandings about promises, which leads to perceptions of unmet promises due to a discrepancy of obligations and standards of behavior between employees and employers. This is similar to the idea of mutuality, developed by Dabos and Rousseau (2004). For example, several studies have found support for the role of formal socialization processes in the change of perceived obligations and PCF/PCB (Robinson &

³ I decided to use this theoretical framework instead of Rousseau (1995, chapter 5) "sources of experienced violation" which classifies sources of psychological contract violations into three categories (Inadvertent, disruption, and reneging). In comparison to Rousseau's model, Morrison and Robinson model has a greater development of the psychological process of perception of unmet promises, includes the breach-violation distinction, and identify several moderators to the breach-violation relationship (Taylor & Tekleab, 2004).

Morrison, 2000; Tekleab, 2003). During socialization processes, individuals engage in complex cognitive processes to form psychological contracts with organizations (De Vos, Buyens, & Schalk, 2003) such that a mutual understanding of obligations can be reached, affecting the later individual's perceptions of fulfillment of promises. For example, Morrison and Robinson (2000) found evidence that perceptions of breach are less likely to the extent that employees have experienced a formalized socialization process. Similarly, other researchers have suggested that the effective communication of HR practices may lead to higher perceptions of PCF (Guest & Conway, 2002; Guzzo & Noonan, 1994; Robinson & Morrison, 2000). For example, Guest and Conway (2002) obtained evidence that if communication from the employer is rated as effective in job-related and recruitment-related activities, less psychological breach is reported. These authors argued that a lack of communication "is likely to lead to incongruence between employer and employee perceptions of obligations" (p. 25). More recently, Epitropaki (2013) suggested that certain types of leadership could decrease the likelihood of incongruence occurrence. In particular, she suggested that transformational leadership can encourage open communication, which is helpful to discuss reciprocal obligations and openly address discrepancies when different parties have different understandings of obligations.

"Vigilance" has been defined as "the extent to which the employee monitors how well the organization has been fulfilling the terms of his or her psychological contracts" (Morrison & Robinson, 1997, p. 238). Researchers have argued that the more vigilant employees are, the higher the likelihood that they are going to find breaches of contract terms. The "vigilance" argument has been used to explain antecedents of PCF across a wide range of types of variables. First, some authors have shown that some personality dimensions, ideologies, or more stable characteristics of individuals could lead to detect more or less contract breach (Bunderson, 2001;

Edwards, Kathleen, McKinley, & Moon, 2003; Jafri, 2014; Raja, Johns, & Ntalianis, 2004). For example, Raja et al. (2004) studied the relationship between different facets of personality and PCF, and suggested that certain traits can make individuals to monitor their psychological contracts more actively. Second, other authors have used the vigilance argument to describe why employees are more likely to detect breach in certain specific situations. For example, Robinson and Morrison (2000) showed that PCB is higher for employees perceiving alternative employment opportunities in other organizations. They argued that individuals are more likely to monitor their contracts when they see they have other employment opportunities that potentially could offer better conditions. Similarly, Vantilborgh, Bidee, Pepermans, Griep, and Hofmans (2016) found that PCB is also more likely to occur when employees are in more negative affective states. Thus, different types of variables could increase the individuals' vigilance of the fulfillment of contracts.

It has been argued that some variables could affect vigilance and bias individual cognitive evaluations of PCF by modifying the context where individuals perform. This theoretical framework has been dubbed "the environmental responsiveness model" (Rosen, Chang, Johnson, & Levy, 2009). For example, the existence of general perceptions of organizational injustice (Huei-Fang, 2010; Rosen et al., 2009), low perceived organizational support (Aselage & Eisenberger, 2003; Dulac, Coyle-Shapiro, Henderson, & Wayne, 2008; Tekleab, Takeuchi, & Taylor, 2005), or low leader-member exchange (Dulac et al., 2008; Tekleab & Taylor, 2003) could make individuals to more negatively evaluate contract fulfillment. In other words, individuals naturally tend to evaluate low PCF when evaluations of other aspects of the organization are also low. The main argument of this theoretical framework is that negative evaluations of the social context in organizations create an environment of

uncertainty and divergent understandings of the commitments of each party. In another example, Lester et al (2007) argued that social accounts provided by leaders (explanations for job-related decisions) are a form of interactional justice, and that they may affect the perception of credibility and legitimacy of supervisors when they evaluate PCF.

Other variables have been studied as antecedents of PCF but that do not necessarily match within the previous typology. For example, leaders are important actors in the fulfillment of psychological contracts, however, the study of leadership as antecedents of PCF is also difficult to categorize within Morrison and Robinson (1997)'s model because they not only act as organizational agents but also as independent employees. In particular, Bordia et al. (2010) explored the motivations of organizational agents to fulfill promises. They found that supervisors' PCB indirectly lead to subordinates' PCB. They argued that when supervisors have fulfilled contracts they will be more motivated to display OCBs toward other organizational members, increasing the willingness to contribute to the organizational goals by keeping promises to other employees. In contrast, when their contracts are breached leaders have no intention to put efforts in fulfilling organizational promises to their subordinates. These leaders' behaviors are based on self-interest and reciprocation to organization's failure to fulfill promises, and not necessarily reflect the organizational willingness to fulfill promises to the leader's subordinates.

In summary, using different theoretical arguments, several types of antecedents of PCF have been studied in the past. Although a decade ago, Conway and Briner (2005) suggested that the study of antecedents of PCF was limited, that trend has started to change more recently. A very interesting issue is that the majority of antecedents of PCF have been studied at the individual level of analysis, although several researchers have suggested that team-level (e.g.

leadership) or organizational-level (e.g. HR practices) variables are important determinants of PCF. This suggests that perceptions of fulfillment of psychological contracts could be better studied from a multi-level perspective.

2.2.5. Moderators of the Antecedent-PCF and PCF-Outcome Relationship

Several constructs have also been studied as moderators of both the Antecedent-PCF relationship and the PCF-Outcome relationship. The study of moderators has been more idiosyncratic as researchers have not followed a single theoretical framework in order to discover important moderating effects. However, there are both meta-analysis and single studies that show strong moderating effects on the PCF-Outcome relationship. For example, both Zhao et al. (2007) and Li et al., (2007) tested for differential effects of PCB on outcomes depending on the type of contract (transactional vs. relational). Relational breaches tend to have stronger effects than transactional breach for job satisfaction, turnover intentions, and OCBs, but not for in-role performance (equal effect) or organizational commitment (stronger for transactional breach). The reason for this difference has not been completely understood (Rousseau, 2011; Zhao et al., 2007). However, it has been proposed that transactional contracts (such as pay or benefits) may be more legally binding and less likely to breach, which can limit variance in empirical studies. In a different meta-analysis, age was studied as a moderator by Bal et al. (2008). Bal et al. (2008) found that the correlations between breach and trust and between breach and commitment were stronger for younger workers. They argued that as individuals grow older they become better at regulating their emotions, responding less strongly to breach of the psychological contract.

Other single studies have also shown several types of moderators. For instance, some studies have shown that psychological individual differences such as exchange ideology (Coyle-

Shapiro & Neuman, 2004), reciprocation wariness (Karagonlar, Eisenberger, & Aselage, 2016), equity sensitivity (Kickul & Lester, 2001; Restubog, Bordia, & Bordia, 2009), and emotional regulation (Bal, Chiaburu, & Diaz, 2011; Restubog et al., 2015) could be important moderators of PCF-outcome relationships. More stable variables such as national culture have also been described to be important moderators (Rousseau, 1995). Moreover, other researchers have found evidence for differential effects of terms of the contract (Lambert et al., 2003) and the importance of the promise (Restubog et al., 2013). Finally, researchers have suggested that relationship quality (such as LMX) can also work as a moderator of the breach-outcome relationship (Restubog et al., 2010), although in some contexts this variable has also been described to work as an antecedent of PCF/PCB (Dulac et al., 2008; Tekleab & Taylor, 2003). As suggested by these multiple studies, there is a plethora of moderators of the PCF-outcome relationship. The mechanisms or explanations of these moderator effects have been heterogeneous. But although the account of all these moderators is important to describe the literature, it is even more important to note that there have been no studies (to my knowledge) conceptualizing and analyzing cross-level moderators at the team or organizational levels. This is especially remarkable considering that higher level variables can serve as important contextual forces shaping interpretations of organizational phenomena (Kozlowski & Klein, 2000) and that the psychological contract literature has generally accepted that higher level constructs (e.g. HR practices or leadership) are important in shaping the psychological contract and its effects.

Finally, the study of moderators of the relationship between antecedents and PCF has been extremely limited. The vast majority of studies of moderators have been in the PCF-Outcomes side of Figure 1. For example, in one of the few exceptions, Hermida and Luchman (2013) found evidence that individuals with internal locus of causality tend to attribute potential

discrepancies to their own misunderstanding, reducing their perceptions of PCF. However, research on this type of moderators has been almost non-existent, regardless the theoretical or operational level of the moderator variable.

2.2.6. Final Remarks

The literature on psychological contracts is extensive and has evolved significantly since its origins in the 1960s. At this point, we have a better understanding about the phenomenon of psychological contracts, a much richer body of theories describing nuances in the development of PCF, and strong pieces of evidence to understand the antecedents, outcomes, and moderators of PCF. However, the field of psychological contracts has heavily relied on research designs at individual levels of analysis, even though several theories have suggested that team-level or organizational-level variables could have an important role in the effects and management of PCF. For the same reason, next I turn to the description of social factors determining individual PCF. This research line can set the ground for extending theory of PCF at higher levels of analysis.

2.3. The Social Context in the Development of PCF

2.3.1. Social Influence in PCF research

In a theoretical article, Ho (2005) developed a dyadic model of social influence on evaluations of PCF. Ho expanded psychological contract theory by proposing that individuals evaluate their own PCF perceptions using social referents, who influence individuals' perceptions. This social process occurs through two main mechanisms: cohesion and equivalence. In the social process of cohesion, coworkers influence individuals' (or Ego's⁴) PCF via close proximity and the development of cooperative and positive relationships. Using this

⁴ Ho (2005) used the term “Ego” (Latin for “I”), borrowed from philosophy, to refer to a person who develops perceptions of PCF and that is influenced by other individuals (or Alter Ego).

mechanism, individuals influence each other because the development of strong and close ties is helpful to get valuable information to reduce uncertainty in the workplace. Thus, individuals rely on the opinion and the observation of others' PCF as they are valuable pieces of information to evaluate their own PCF. In the social process of structural equivalence, Ego's PCF can also be affected via structurally equivalent individuals (Burt, 1982) in the social structure. These individuals occupy similar positions in a social network, and they tend to see each other as substitutes, "with similar roles, experiences, and information (Sailer, 1978)" Ho (2005, p. 117) such that they may experience feelings of competition among each other. Their similarity in position tend to make individuals to pay heed to others' perceptions, attitudes, and behaviors in order to evaluate the adequacy of their own perceptions, attitudes, and behaviors. These mechanisms of social influence suggest that evaluations of PCF are not exclusively rooted in cognitive processes, but also in complex social phenomena.

Ho also proposed that the process of social influence from referents will depend on two moderators. First, the *domain of the promise* (job related vs. organization wide) might determine whether individuals are more likely to be influenced by individuals with cohesion or structural equivalent ties. She argued, based on results of Shah (1998), that individuals may use cohesive referents more frequently for the evaluation of fulfillment of organization-wide promises, whereas they might use structural equivalent referents in order to evaluate the fulfillment of job-related promises. Second, Ho (2005, p. 121) suggested that for contestable promises (defined as "benefits that are scarce in some absolute or socially imposed sense and the fulfillment of which confers certain status or advantage over others") the evaluation of Ego's PCF should be negatively related to the evaluation of others' PCF, whereas the relationship should be positive for noncontestable promises. She argued that for contestable promises, it is natural for

individuals to try to know their relative standing compared to other eligible members, which may exacerbate comparison and contrast to others' PCF. In the case of noncontestable promises, the fact that they do not provide any relative advantage, power, or status make individuals to see other's PCF in positive ways because they signal how good the organization is at fulfilling promises and serve as a cue to evaluate their own PCF.

The first moderation effect was empirically confirmed later in a study of 99 employees of a single firm in a computer-related industry (Ho & Levesque, 2005). In this article, the authors showed that employees rely on others as social referents and that perceptions of fulfillment of organization-wide (job-related) promises tend to be similar among employees with relational (positional) similarity. More importantly, the authors found evidence supporting that employees rely on multiplex others when they evaluate PCF of job-related promises (hypothesis 3). These results are important for the purposes of this dissertation, as they suggest that i) perceptions of PCF could be affected by other referents, and that ii) these perceptions are formed by multiple interactions among several individuals within an organization.

The social nature of psychological contracts has also been described in other recent empirical articles. In a study of 96 full-time faculty, Dabos and Rousseau (2013) found that informal social networks influence how employees understand their psychological contracts. Individuals with high social status tend to perceive that organizations have promised the inducement of resources which employees compete for. In contrast, individuals with low social status tend to highly rate noncompetitive resources as part of their psychological contracts. Bingham et al. (2013), on the other hand, suggested that employees' fulfillment of own psychological contracts may have effects in their social status. In two two-wave studies (53 employees of a footwear manufacturer, and 51 members of a college fraternity), the authors

provided evidence that individuals who fulfill their part of their psychological contracts obligations are seen as more influential and friendly than individuals with low employee PCF. These effects were stronger for ideological rather than transactional and relational terms. All these efforts suggest that perceptions of psychological contracts are more socially engrained than previously thought and that a consideration of the social context is an important component of the development of mental schemata of promised-based obligations and PCF.

2.3.2. Research on PCF in Team Contexts

Although the PC literature has not vastly explored the existence and importance of PCF at the team-level of analysis, previous studies have developed multi-level models including cross-level effects at PCF. In a study of 864 employees and 162 work units in manufacturing and service companies, Epitropaki (2013) proposed that group-level transformational leadership, group-level transactional leadership, and procedural justice climate were the antecedents of individual-level PCF. She argued that team leadership could create a context that facilitates good understandings of mutual promises and that justice climate could positively bias general evaluations of PCF. Hence, she tested a cross-level direct effect of leadership and justice climate on individual PCF. What is important about this article is the fact that she empirically tested team-level phenomena in individuals' PCF perceptions, showing that social factors (not exclusively based on cognitions and rationale) are an important antecedent.

In another important example Henderson et al. (2008), using a sample of 278 individuals nested in 31 metal fabricating work groups in 4 locations, suggested that perceptions of PCF were importantly determined by group-level variables, specifically relative LMX (RLMX) and group-level variability of LMX (LMX differentiation). They argued that in groups with high variability of LMX, high RLMX could have a greater impact on PCF evaluations. This

proposition was confirmed with empirical data. In summary, these articles provided useful information to evaluate whether PCF can be determined by phenomena occurring at the team level of analysis.

Despite these pieces of evidence, organizational research methods stipulate that a higher-level variable cannot explain variability at a *lower-level* (Hofmann, 2002; Preacher, Zyphur, & Zhang, 2010). To explain this issue more clearly, I use the words of Preacher et al. (2010):

“Variables assessed at Level 2 have only Between components of variance. Variables assessed at Level 1 typically have both Between and Within components, although in some cases a Level-1 variable may have only a Within component if it has no between-group variation. If a variable has both Between and Within variance components, the Between component is necessarily uncorrelated with the Within component of that variable and the Within components of all other variables in the model. Similarly, the Within component of a variable is necessarily uncorrelated with the Between component of that variable and the Between components of all other variables in the model. We refer to effects of Between components (or variables) on other Between components (or variables) as *Between effects* and to effects of Within components (or variables) on other Within components (or variables) as *Within effects*. Because Between and Within components are uncorrelated, it is not possible for a Between component to affect a Within component or vice versa.” (Preacher et al., 2010, p. 210).

Then, the articles by Henderson et al. (2008) and Epitropaki (2013) may be important to provide preliminary evidence for the existence of PCF at the team level as the predictors of PCF at the individual level were team level variables, and, by definition, the outcome variable (PCF) needs to be at the team level as well. Thus, multi-level models studying PCF at individual levels of

analysis are likely to be testing the effects of team-level variance, that is, testing the relationship of team average PCF, which may be a potential operationalization of PCF at the team level. For example, Epitropaki (2013) tested a 2-1-1 mediation effect (predictor variable at the between-group level, and both mediator and dependent variable at the within-group level), where group-level transformational leadership, group-level transactional leadership, and procedural justice climate were the antecedents of individual-level PCB (mediator) and individual-level organizational identification (dependent variable). This mediation is "inherently at the between-group level of analysis." (Preacher et al., 2010, p. 222), suggesting that *group-average PCB* was significantly related to team-level antecedents (transformational and transactional leadership and justice climate) and group-average organizational identification. Although this study was cross-sectional and did not provide details about potential emerging properties of group-average PCB, it suggests that there is variance at the team level that could be important for team processes and ultimately, team performance.

The existence of significant higher-level variance of PCF is more clearly shown by Henderson et al. (2008). These authors found that location membership explained significant between-group variance of PCF. This serves as an important piece of preliminary evidence to argue for the existence of PCF at the team level. In that article, Henderson et al. not only showed that PCF can be explained by group membership, but also showed that the team-level variance of PCF can be significantly predicted by other team-level factors. Then, although the focus of Henderson et al.'s study focused on PCF at the individual level, they informed this important piece of evidence that is useful to speculate about PCF at the team level.

In a similar vein, Aas (2010), although lacking any type of theoretical development about PCF at the team level, conducted a multi-level analysis (separating the individual and group

variance) of perceived provision of inducements from employers in 42 groups in a Norwegian hospital setting. Interestingly, she found that “support for career” at the group level was significantly related to team performance. These results, however, should be used carefully due to the fact that no strong theory guided this study.

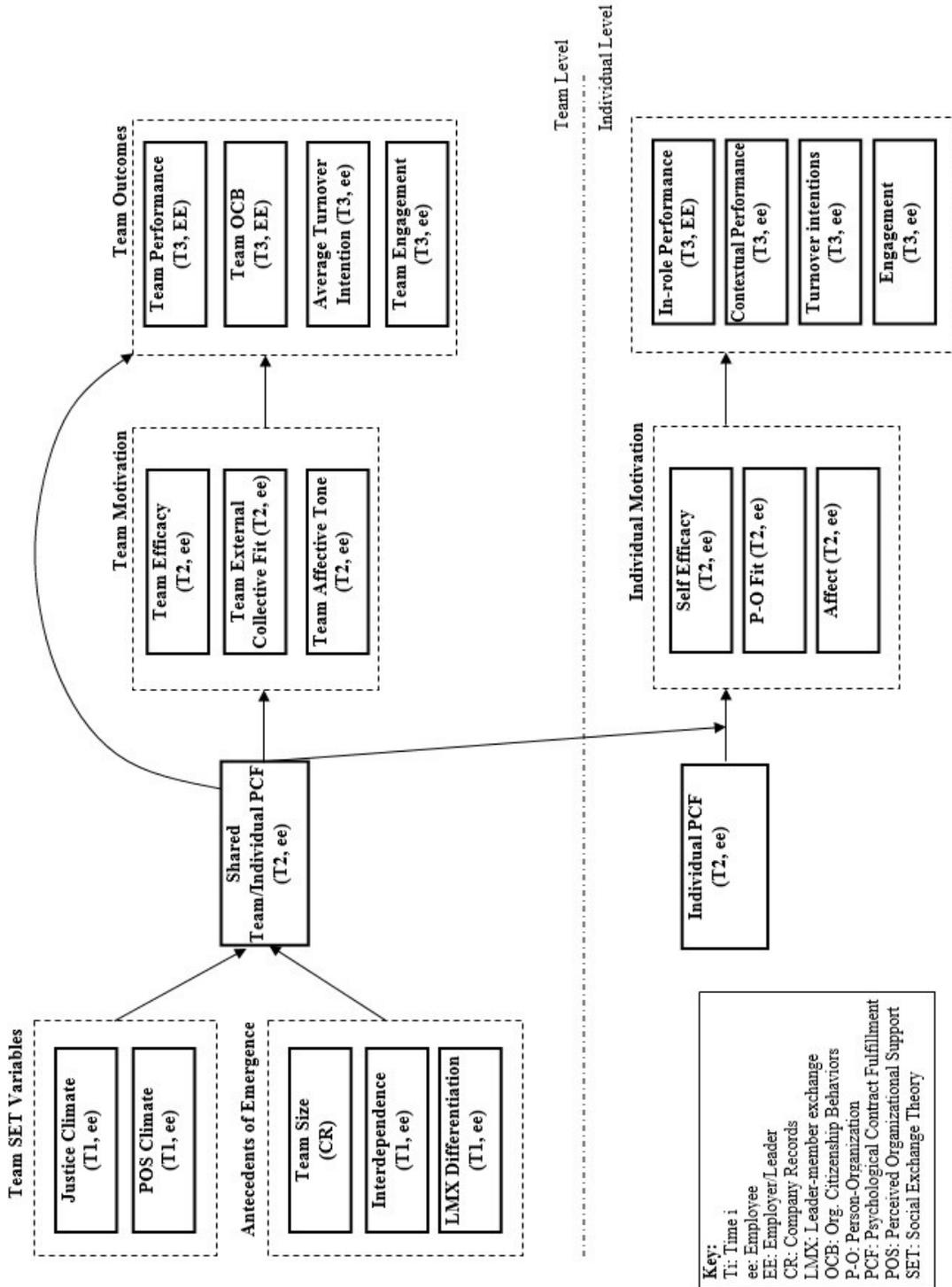
Other unpublished studies have also tried to explore the idea of psychological contract fulfillment in teams, although with a different focus. For example, in a conference poster, Bull, Jackson, and Venkataramani (2007) proposed the construct *Group PCF* to denote the individual-level assessment of how the group fulfills obligations to its own individual group members. In a study of 304 undergraduate students, Bull et al. (2007) found that Group PCF was positively related to Individual PCF, OCBs, and Satisfaction with the group. However, in contrast to the main constructs of this dissertation, Group PCF is a phenomenon that occurs at the individual level of analysis (individual's perception about a characteristic of a group) about the social exchange of groups with their own members.

2.3.3. Final Remarks

A recent interest in social contexts as determinants of individual perceptions of PCF provides the foundation for proposing that we should expand our knowledge about how PCF works in teams. In this section, I reviewed theories and studies describing social influence processes and multi-level conceptualizations of how PCF in teams operates. Because team members can influence each other to drive PCF (as suggested by research of Ho and colleagues) and because team-level variables can affect within-team average PCF (as suggested by the work of Epitropaki and Henderson and colleagues), it is relevant to continue the study of PCF in teams and its effects on team-level outcomes. Therefore, the current dissertation focuses on this important issue. In the next chapter, I will extend this research by providing theoretical

justifications for the emergence and nomological network of PCF at the team level. A summary of the suggested hypotheses and tested model is in Figure 2.

FIGURE 2: Proposed Model



CHAPTER 3: THEORY AND HYPOTHESES

3.1. Conceptualization of Shared Individual PCF and Shared Team PCF

Early conceptualizations of PCF at the team level can be traced to De Vos and Tekleab (2014) in a preliminary study about a new construct that at that time they called "Team PCF climate". In this study, the authors argued that individuals shape their perceptions of PCF due to continual interactions with other team members. The main premise of that article is that continual and mutual processes of influence among team members (Ho, 2005) and social information processing (Salancik & Pfeffer, 1978) can facilitate the convergence of perceptions of PCF within teams, making team members to end up having similar evaluations of how the organization fulfilled individual promises. Using a sample of 81 teams and 609 employees of Belgian federal institutions, and using a direct consensus measurement approach (Chan, 1998), the authors found strong evidence suggesting that PCF emerges in teams as a shared experience. Specifically, these authors found that PCF was significantly predicted by team membership (almost 5% of the variance was due to group membership, $ICC1=.12$, $ICC2=.50$, median $r_{wg}=.92$). This evidence demonstrated that PCF does not only have within-team variability but also between-team variability, suggesting that there is an emergent team state of shared PCF that can co-exist with individual-level perceptions of PCF.

Building on that seminal article and on previous theories of social influence in the development of PCF, Laulié and Tekleab (2016) recently proposed a theoretical multi-level model of PCF where they not only provided a more detailed conceptualization of PCF constructs but they also developed several propositions to be explored in the future. In particular, Laulié and Tekleab (2016) argued for the existence of two team-level PCF constructs, in addition to the proposition of variables facilitating the emergence of these constructs, potential antecedents, and

outcomes at the team level of analysis. As suggested in previous chapters, in this dissertation I will be building on that theoretical article to empirically test some of those propositions.

Similar to De Vos and Tekleab (2014), Laulié and Tekleab (2016) also proposed that individual's evaluations of PCF can be influenced by other team members, which, through multiple interactions and continual processes of mutual influence, can create in time an emergent state of shared individual PCF evaluations. Laulié and Tekleab (2016) dubbed this construct "shared individual PCF" and they formally defined it as the "*convergence of team members' perception of the degree to which employers fulfill their own, individual psychological contracts.*" (p. 7) Thus, this construct is based on the within-team process of convergence of perceptions of individual-level PCF.

In contrast, based on the conceptual idea that organizations engage in exchanges not only with individuals but also with other emergent entities such as teams (Bashshur et al., 2011; Gong, Chang, & Cheung, 2010; González-Romá et al., 2009) and that organizational agents frequently develop relationships with employees as a group (Yammarino & Dansereau, 2008), Laulié and Tekleab (2016) conceptualized "shared team PCF" as the perception of fulfillment of team members about promises made *to the team*. This construct is based on promise-based obligations made to teams as a unit in return for some form of reciprocity-behavior by the team as a unit. These promises may involve the provision of, for example, key information to the team, enough resources (human, technological, infrastructure) necessary for team-level outcomes, team training, or team autonomy. Formally speaking, they defined shared team PCF as the "*convergence of team members' perception of the degree of fulfillment of the obligations that an organization promised to the team.*" (p. 5).

Both constructs are related to evaluations of PCF and in both constructs team members end up sharing a common perception about a specific organizational phenomenon, but they are different in that shared individual PCF is an aggregation of the *members' perception of own PCF*, whereas shared team PCF is the aggregation of the *members' perception of team's PCF*. The evaluations of PCF are based on different referents (individuals vs. teams) that may perceive different obligations from the organization toward themselves. As individuals need to evaluate a different phenomenon if they are asked about their perceptions of PCF (different referent), they should be able to differentiate the perceptions of fulfillment of themselves from the perceptions of fulfillment of the promises made to the teams where they perform. Just as some promises may be made to single individuals, others could be made to the team as a whole. For example, a promise related to payment levels could have been made to a certain individual within a team and be interpreted as a promise to that individual, whereas the hiring of a new team member to support team performance could be interpreted as a promise to the team as a whole.

Similarly, based on Laulié and Tekleab (2016)'s multi-level theory of PCF, I expect to find evidence for discriminant validity at the team-level of analysis, showing that the two constructs are different from each other. This involves a) finding evidence that supports aggregation for both constructs (Chen, Mathieu, & Bliese, 2004), and b) finding evidence for the existence of two distinct latent constructs using factor analysis at both individual and team levels (Pornprasertmanit, Lee, & Preacher, 2014).

Hypothesis 1a: Shared individual PCF is distinguishable from shared team PCF, forming two different constructs.

Although I expect to find evidence for discriminant validity, as suggested in Hypothesis 1a, the two constructs should also be correlated. Laulié and Tekleab (2016) suggested two

explanations for this potential relationship. First, perceptions of individual PCF can bias cognitive evaluations of fulfillment of promises to the team. Individuals with low PCF are more likely to notice breaches to the team. A similar phenomenon can occur in the other direction, as fulfillment of team promises can make individuals notice more breaches to themselves. In addition, as suggested by collective identity theory (Baumeister & Leary, 1995; Brewer & Gardner, 1996), individuals may identify themselves with the groups they belong, extending their own identities to include the team and feel breaches to the team as breaches to themselves. Second, social processes can also explain this relationship. Previous research has shown that PCF is partly determined by the observation of previous exchanges where the organization has been involved (Rousseau, 2011). As individuals observe the fulfillment of promises to other team mates and share experiences of breach or fulfillment within the team, they also are more likely to evaluate how organizations are at keeping promises in general. Moreover, as individuals in the same team share common individual experiences of fulfillment or breach and talk and discuss points of view about those experiences, a generalized group affective tone can make team members evaluate team-related promises in more similar ways. These arguments support the following Hypothesis.

Hypothesis 1b: At the team level, shared individual PCF and shared team PCF are positively related.

3.2. Relationship between Team-Level PCF Constructs and Related Constructs

In order to improve construct validity of the two proposed constructs, I will also study the relationships that they have with some related constructs. Studying the extent to which shared team PCF and shared individual PCF are similar or different than other already tested team-level constructs is highly important to avoid putting "old wine in a new barrel" (Macey & Schneider,

2008) and give parsimony to the explanations of the world that the organizational sciences provide to other researchers and practitioners (Bacharach, 1989).

When theorizing about the constructs of shared individual PCF and shared team PCF, Laulié and Tekleab (2016) also discussed the difference between these constructs and other related constructs. In particular, they provided theoretical arguments that shared PCFs should be different than other constructs previously defined at team levels of analysis (i.e. Justice Climate and POS Climate). Moreover, they proposed that both Justice Climate and POS Climate can work as team-level antecedents of shared PCFs. In this section, I summarize Laulié and Tekleab (2016) arguments and propose concrete propositions that will be empirically tested.

3.2.1. Justice Climate and Shared PCFs

The relationship between justice perceptions and PCF perceptions at individual level of analysis has been a subject of controversy in the past (Conway & Briner, 2005). Although some authors have questioned that these two constructs capture different phenomena or not, theoretical and empirical evidence has demonstrated that these constructs are in fact different from each other and that individuals are able to distinguish between the two. Formally speaking, justice perceptions have generally captured the extent to which the organization or its agents distribute resources, apply fair process to allocate these resources, and/or fairly treat employees (e.g. Colquitt, 2001). In contrast, and as discussed in previous chapters, PCF perceptions capture the extent to which the organization fulfilled its promised obligations. As Rosen et al. (2009, p. 204) highlight, “While there may be instances when organizations promise that decision making procedures will be fair..., these aspects of employment are more closely aligned with employees’ general *expectations* of how they will be treated by their organizations, as opposed to *implied or explicit promises* made to employees. (Emphasis added)”. Recalling the distinction between

general expectations and promises (section 2.2.2.1), it can be noted that the scope of evaluations of the two constructs is different. Moreover, several empirical articles have also shown the divergent validity of these constructs (Kickul, Neuman, Parker, & Finkl, 2001; Rosen et al., 2009; Tekleab et al., 2005).

At the team level, I also expect that shared PCFs are different from justice climate. Considering that justice climate has been defined as "a distinct group-level cognition about how a work group as a whole is treated" (Naumann & Bennett, 2000, p. 882), I suggest that three main reasons support the idea that I should find that these constructs are different. First, as justice perceptions may be psychologically formed from general *expectations* about the treatment displayed by the organization (Colquitt & Zipay, 2015), and that shared PCFs are based on perceived obligations based on *implicit or explicit promises*, I pose that these constructs refer to different phenomena. This should be reflected at the team level too.

Second, this distinction is even clearer when specific dimensions of justice (distributive, procedural, interpersonal, informational) are considered (detailed descriptions of the multidimensional nature of justice climate can be found in Liao and Rupp (2005); Rupp, Bashshur, and Liao (2007). As an example, interpersonal justice does not necessarily be promised by organizational agents to employees, however, employees develop perceptions of interpersonal justice regardless fair treatment has been promised or not.

Third, justice climate has shown isomorphic relationships with antecedents and outcomes at individual and collective levels (cf. Rupp et al., 2007). As justice has been theorized as "contextual information" to form PCF perceptions (Rosen et al., 2009), I also expect an isomorphic relationship between justice climate and shared PCFs. Moreover, I argue that justice climate can be an antecedent of shared PCFs. Some authors have proposed that collective

properties or emergent states of teams could boost "enabling processes" (e.g. Ployhart & Moliterno, 2011), such that social phenomena can facilitate the emergence and level of other team-level constructs. Following Laulié and Tekleab (2016), I suggest that when a low justice climate is formed in a team, a team process of social vigilance can be activated, enabling the emergence and increasing the level of shared PCFs.

As organizational distribution of resources, and the processes and interactions involved are deemed unfair by most team members, a general environment of uncertainty in teams can be created (Lind & Van den Bos, 2002; Van den Bos, 2001). A low justice climate can make team members to invest more resources to monitor processes closer, monitor information sharing closer, and in general enhance social vigilance so as to reduce the generalized anxiety that uncertainty entails. Consequently, team members are more likely to report a lower level of shared PCFs as social vigilance is generally activated due to a low justice climate. On the other hand, in teams with high justice climate, individuals not only share perceptions of positive justice but they also reinforce those perceptions through continual social interactions (Roberson & Colquitt, 2005). This could create an environment that decrease social vigilance to some extent and, moreover, that could even encourage giving the organization the benefit of the doubt when minor discrepancies are detected (Epitropaki, 2013; Tekleab et al., 2005). All these arguments suggest that justice climate could predict shared PCFs.

There could be arguments, however, for a relationship in the opposite direction. In the past, some researchers have implied that the fulfillment of contracts can be perceived as a justice event such that PCF may lead to justice (e.g. Rousseau, 1995). Evidence has generally rejected this hypothesis at individual levels of analysis (Rosen et al., 2009; Tekleab et al., 2005), and I expect his relationship to hold at the team-level as well.

Hypothesis 2a: Justice Climate positively predicts shared individual PCF.

Hypothesis 2b: Justice Climate positively predicts shared team PCF.

3.2.2. POS Climate and Shared PCFs

At the individual level, there is also abundant theoretical and empirical evidence (e.g. Aselage & Eisenberger, 2003; Coyle-Shapiro & Conway, 2005; Tekleab et al., 2005) that POS and PCF are different from each other, although related. Theoretically, whereas POS focuses on the level of support provided by the organization to individuals, PCF captures whether promised obligations are fulfilled by the organization (Aselage & Eisenberger, 2003). The concept of promises, which is key to the psychological contract, goes beyond general perceptions of support from the employer.

At the team level, I also expect that POS climate and shared PCFs are related but different. POS climate can be defined as a “team members’ shared perceptions of how the organization values the contributions of the team members, provides support to the team members, shows interest in team members, and takes team members’ needs into account” (Bashshur et al., 2011, p. 559). I acknowledge that POS and PCF share a common theoretical base in Social Exchange Theory, and they focus on evaluations of inducements provided by the organization, but POS refer to phenomena that do not necessarily is included in the psychological contract. For example, a high POS climate may form among team members as they evaluate how the organization supports the team in unexpected situations, or how they proactively provide more ad-hoc resources to the team to boost team performance. All these forms of support may or may not have been previously promised by the employer. From a conceptual point of view, as the constructs refer to different phenomena, I expect to find evidence for discriminant validity between POS Climate and shared PCFs.

Moreover, shared perceptions of how the organization supports the team can bias evaluations of how team members evaluate shared PCFs. As team members assess the exchanges with the organization in positive ways, represented in high POS climate, they will be less likely to actively scan for psychological contract breaches (Rousseau, 1995; Taylor & Tekleab, 2004). This is even more likely to occur as the support provided by the organization targets the whole team and its team members, biasing the perception that individuals develop about the fulfillment of promises made to the team as a whole (shared team PCF). Similarly, a high POS climate can affect the level of shared individual PCF too. As a generalized high POS climate develops in teams, this can suppress monitoring processes about individual PCF. Previous research has shown that individuals evaluate their own perceptions of PCF based on processes of social influence among coworkers (Ho, 2005; Ho & Levesque, 2005). As other team members do not commit in strong monitoring of contracts due to a high POS Climate, this reinforces a process of convergence of positive evaluations of individual PCF. Thus, POS climate could affect individual PCF through a generalized positive evaluation of PCF among team members, facilitating the emergence of shared individual PCF. Then, a positive POS climate weakens the intention to monitor discrepancies about the fulfillment of individual contracts.

Hypothesis 3a: POS Climate positively predicts shared individual PCF.

Hypothesis 3b: POS Climate positively predicts shared team PCF.

3.3. Antecedents of the Emergence of Shared Individual PCF and Shared Team PCF

3.3.1. Team Size

Team size is generally considered as the number of employees working in the same team and it has been theorized to be an important determinant of team-level constructs (e.g. Boehm et al., 2014; Colquitt et al., 2002). Team size generally defines how team members interact with

each other, how people participate in discussions (Hare, 1981; Wheelan, 2009; Zhang, Waldman, & Wang, 2012), and how proximal team members are with each other (Klein, Conn, Smith, & Sorra, 2001). All these factors may in turn affect the emergence process of team-level constructs. When teams are large, “problems of communication and lack of social integration” (Smith et al., 1994, p. 422) may hinder the development of common perceptions of team emergent states. For instance, in large teams people are less likely to talk to everybody in the team, which may hinder the development of shared perceptions of PCF. In contrast, in small teams, there are more opportunities for individuals to interact and communicate with other team members, creating a social context that facilitates the emergence of shared PCF constructs in a lower amount of time.

In addition, small teams may create opportunities for organizational agents and leaders to communicate directly to the whole team (even at the same time), supporting the formation of common expectations about promises made to the team. Communicating more directly to small teams may enhance the convergence of mental schemata about psychological contracts, which in turn may reduce incongruence of promises and thus, a shared understanding of promises. In contrast, it is more difficult for leaders to effectively make equal promises to all team members when the team is bigger, such that the evaluation of PCF is less likely to be homogeneous among team members. Moreover, in larger teams, members have fewer opportunities to communicate with leaders in order to clarify obligations, and also lower opportunities to actively address discrepancies when they occur.

Hypothesis 4a: Smaller team size facilitates the emergence of shared individual PCF.

Hypothesis 4b: Smaller team size facilitates the emergence of shared team PCF.

3.3.2. Team Interdependence

Defined as the "extent to which team members cooperate and work interactively to complete tasks" (Stewart & Barrick, 2000, p. 137), team interdependence has been considered an important facilitator of discussion, conversations, and interactions in general among team members, all of which are mechanisms for the emergence of team-level constructs. Interdependence facilitates idea sharing and event interpretations so as to develop common understandings of the experiences lived by team members (Hinsz, Tindale, & Vollrath, 1997; Roberson, 2006; Roberson & Williamson, 2012). Other researchers have found that under high levels of interdependence, team members tend to agree more on their evaluations of team-level constructs and its effects tend to be stronger (e.g. Chen, Kirkman, Kanfer, Allen, & Rosen, 2007; Roberson, 2006). In the realm of psychological contracts, I argue that team interdependence provides opportunities for team members to talk about what has been promised by the organization (to teams and individuals). In the case of promises to the team, team members have more opportunities to develop a common understanding of the promises made to the team, and can share the good (or bad) news with others once the organization fulfilled (or fail to fulfill) a promise. In the case of promises to individuals, team members have more opportunities to influence each other in their own evaluations of PCF. Thus, when teams work more interdependently, more homogeneous perceptions of shared PCFs can be formed.

Hypothesis 5a: High team interdependence facilitates the emergence of shared individual PCF.

Hypothesis 5b: High team interdependence facilitates the emergence of shared team PCF.

3.3.3. LMX differentiation

The leader-member exchange (LMX) literature has traditionally focused at the dyad-level of analysis, although recent research has started to develop LMX at the team level, mainly in the form of LMX differentiation (Gooty & Yammarino, 2013; Henderson, Liden, Glibkowski, & Chaudhry, 2009; Li & Liao, 2014; Zhang et al., 2012). LMX differentiation has been previously defined as "a process by which a leader, through engaging in different types of exchange patterns with subordinates, forms different quality exchange relationships (ranging from low to high) with them" (Henderson et al., 2009, p. 519), and its typical operationalization is the within-team standard deviation of individual LMX (e.g. Li & Liao, 2014; Zhang et al., 2012). LMX theory assumes that leaders have limited resources to develop high quality relationships with all of their subordinates, such that they are likely to engage in high-quality exchanges with some individuals, and in not so high-quality exchanges with others (Bauer & Green, 1996; Graen & Uhl-Bien, 1995; Liden & Maslyn, 1998; Scandura & Graen, 1984; Settoon, Bennett, & Liden, 1996). However, teams should have different degrees of LMX differentiation, as different team leaders develop different degrees of variation of relationships with team members.

Different degrees of exchange quality should affect perceptions of PCF within teams. Individuals with high LMX are more likely to positively evaluate the fulfillment of individual and team promises, and individuals with low LMX should negatively do so (e.g. Dulac et al., 2008; Tekleab & Taylor, 2003). The more variability within teams, it is more likely to find variability in PCF evaluations. This differential treatment should bias the individual evaluations of not only individual PCF but also team PCF, hampering the development of shared perceptions of these constructs. Moreover, individuals observing differentiated LMX with other team members should confirm previous evaluations and thus exacerbate differentiation of PCF.

Hence, I expect a negative relationship between LMX differentiation and indicators of emergence of shared individual PCF and shared team PCF.

Hypothesis 6a: LMX differentiation will undermine the emergence of shared individual PCF.

Hypothesis 6b: LMX differentiation will undermine the emergence of shared team PCF.

3.4. Outcomes of Shared Individual PCF and Shared Team PCF

The previous theoretical development of shared individual PCF and shared team PCF becomes important in case these novel constructs can predict relevant outcomes, above and beyond the known effects of PCF at individual levels. If shared PCFs are found to be significantly related to team outcomes, organizations will be advised to not only manage psychological contracts in a dyadic relationship, but also keep track of the social processes that facilitate the formation of these team-level shared constructs. In this section, I argue that shared PCFs can have important effects on team-level outcomes.

For the purposes of this dissertation, I will study 4 types of team outcomes in order to evaluate the effects of shared team PCF and shared individual PCF in teams. First, I will examine the relationship between shared PCFs and team performance, as this is one of the most important constructs in the evaluation of team effectiveness (Mathieu et al., 2008). Second, I will study team-level contextual performance. Understood as a set of interpersonal behaviors that support the social context in which work is accomplished (Borman & Motowidlo, 1993, 1997), contextual behaviors, although exhibited by individuals, are mostly meaningful in their effects at the unit level (Organ, 1988; Podsakoff, Podsakoff, MacKenzie, Maynes, & Spoelma, 2014; Podsakoff, Whiting, Podsakoff, & Blume, 2009). Third, as shared PCFs are likely to have effects on the willingness of individuals to continue social exchanges in the future, I will study

collective turnover intentions as a reflection of the average willingness to leave the organization of team members (Abelson, 1993; Felps et al., 2009). This outcome is also relevant as research has suggested that breached contracts should trigger *exit* responses (Rousseau, 1995). Finally, due to a growing interest in work engagement as an important work attitude (Byrne, Peters, & Weston, 2016; Christian, Garza, & Slaughter, 2011), I will study team work engagement as a potential outcome of shared PCFs. Team work engagement has been considered as a collective construct with functional equivalence to individual engagement (Tims, Bakker, Derks, & van Rhenen, 2013; Torrente, Salanova, Llorens, & Schaufeli, 2012). In this way, I will be testing the effects of shared PCFs on several types of outcomes ranging from team in-role behaviors, team contextual behaviors, shared behavioral intentions, and shared attitudes.

On one side, I argue that shared team PCF can promote collective behaviors and attitudes by influencing the team as a whole. Researchers have suggested that teams can act as autonomous entities, engaging in distinguishable exchanges with organizations (Bashshur et al., 2011; Gong et al., 2010; González-Romá et al., 2009). When a team develops positive collective perceptions about the convenience of reciprocating the fulfillment of promises made to the team, more positive team-level responses are likely to develop, including higher team performance and team-level attitudes toward the organization.

Social exchange theory (SET) has been mainly utilized in the organizational sciences to explain individual-level phenomena, although Blau (1964)'s theory ultimately intends to understand social structures and emergent properties of collectivities. In the second half of his book, Blau (1964) discusses multiple exchanges that individuals face with their employers but also with the groups where they belong, providing a complex multi-level theory of multiple social exchanges. SET argues that individuals contribute to organizational goals when they

perceive positive dyadic social exchanges with their employer and that then they develop desires to continue engaging in those positive exchanges. But Blau (1964) also suggested that this desire for contribution is reinforced when social norms that strengthen individual behavior are developed in their groups. In that way, the pressure to contribute to team actions does not come exclusively from what organizational agents do to encourage employees to contribute to organizational goals, but also from the collectivity of team members and the social norms that it develops which shape individual behavior. Thus, when promises to the team are fulfilled, and when those perceptions are shared among team members (forming shared team PCF), the team as a whole will more likely support the organization because in that way team members will be following social norms to contribute to the collective team desire to continue positive exchanges with the organization. Social norms may steer behaviors as individuals can receive social approval in exchange for conformity and contributions to let the team engage in convenient exchanges with the organization. That could be reflected in concrete individual behaviors supporting team goals (even at the expense of individual goals), in shared better attitudes towards work and the organization, in a better coordination of team members' efforts, and in lower levels of turnover intentions.

In addition, in high shared team PCF, individuals will more likely contribute to fulfill the team' side of the contract, activating strong team goals, and making individuals more likely to support higher level endeavors and coordinate efforts to pursue superior rewards (Blau, 1964; Carpenter, Bowles, Gintis, & Hwang, 2009; DeShon, Kozlowski, Schmidt, Milner, & Wiechmann, 2004). In contrast, when the organization breaches promises to the team, all team members are affected, rather than a specific individual. This could make the team as a whole to negatively react to the unfulfilled promise-based obligation by withholding their contributions to

the organization and developing worse attitudes, which may facilitate a collective negative response. This is congruent with prior research suggesting that collective behaviors could result from all team members being exposed to similar organizational phenomena (e.g. Morgeson & Hofmann, 1999).

Similarly, shared individual PCF should also be related to team outcomes. As individuals start to positively respond to high individual PCF with higher levels of performance, lower turnover intentions, and better attitudes, what they observe from their social context can also reinforce those positive responses. As several individuals in a team start to display positive behaviors and verbalize positive attitudes due to high PCF, this creates an environment where members are mutually encouraged to imitate these behaviors, reinforcing the emergence of team in-role performance (Mathieu et al., 2008), team contextual performance (Ehrhart & Naumann, 2004; Podsakoff et al., 2014), team work engagement (Tims et al., 2013; Torrente et al., 2012), and/or collective turnover intentions (Bartunek, Huang, & Walsh, 2008; Hausknecht & Trevor, 2011; Nyberg & Ployhart, 2013). This is in line with the climate literature that proposes that positive outcomes at the workgroup level occur when perceptions of the work environment are similar among members of a team (e.g. Ostroff, Shin, & Kinicki, 2005). Teammates with similar perceptions about how the organization fulfills individual promise-based obligations feel less uncertainty and can better evaluate future possibilities of actions and, consequently, coordinate collective efforts in more efficient ways. In comparison to high shared individual PCF, low shared individual PCF environments are characterized by a common experience of breach of psychological contracts among teammates which promote communications that socially justify and reinforce the desire to withdraw effort and consequently, undermine important team outcomes.

Hypothesis 7a: Shared individual PCF will predict team-level outcomes (team performance, team-level OCB, average turnover intentions, team engagement).

Hypothesis 7b: Shared team PCF will predict team-level outcomes (team performance, team-level OCB, average turnover intentions, team engagement).

3.5. Motivation as a Mediator between Shared PCFs and Outcomes

In the previous section, I argue for a relationship between shared PCFs and team outcomes, mainly using arguments brought from social exchange theory and the development of social norms in teams. Extending our understanding of the mechanisms of shared PCFs, in this section I also explore an alternative explanation of *why* these relationships occur. In particular, I argue that shared PCFs can be affecting team processes and team motivation (Park et al., 2013), which in turn facilitate better team outcomes.

Perceptions of PCF inform actors about the convenience of continuing social exchanges, but they also convey other type of important information that guide future behavior and its form, direction, intensity, and duration. As suggested by Conway and Briner (2005), breach may deprive employees' inducements, affecting work satisfaction and general motivation, and may impede an employee's progress toward personal goals (Conway & Briner, 2002), which has an important effect on self-regulation and emotion. For example, if an individual does not receive the training that the organization promised, he or she may not only perform worse due to a lack of knowledge or skills coming from training, but also from a lack of motivation due to having to redesign plans to adjust to new conditions and due to the frustration and other bad feelings that the breach creates. Comparable to individuals, teams also define their behaviors through the generation and the pursuit of task goals (O'Leary-Kelly, Martocchio, & Frink, 1994) that could be affected by shared team PCF and shared individual PCF.

As suggested by the team effectiveness literature, teams engage in transition and action processes (Marks, Mathieu, & Zaccaro, 2001) that generally may correspond to motivation processes at the individual level (Chen & Kanfer, 2006). For instance, goal-setting processes at individual levels appear to be similar to transition team processes which include defining the team mission, specifying and prioritizing team goals, and formulating plans to achieve those goals. Similarly, goal striving at individual levels appear to be similar to team action processes including monitoring progress of team goals, backing up team members in need for assistance, and coordinating tasks to improve outcome efficiency and to avoid duplication of efforts. Thus, team motivation could be theorized as a higher-level construct with its unique structure. Accordingly, team motivation has been defined as “the collective system by which team members coordinate the direction, intensity, and persistence of their efforts” (Chen & Kanfer, 2006, p. 233).

When shared team PCF is high, the team as a whole can develop a higher level of team motivation since the fulfillment of promises to the team can be seen as a factor affecting the team functioning, operations, and/or identity. On one side, shared team PCF can minimize the need for teams to engage in unnecessary transition and action processes, as it may create more certainty that previous courses of action are still appropriate. Moreover, teams that perceive that they need to fulfill promises back to their organization can become more motivated in order to reach those promises. As teams perceive high shared team PCF, they will most likely try to reciprocate the organization and fulfill their part of the contract, striving to reach certain goals that are perceived as part of what the team need to deliver. Then, trying to fulfill a commitment made by the team can create a team-level goal, making team members to actively support those goals. In contrast, when promises to the team are breached, team members may need to re-

evaluate situations, re-define courses of actions, and overcome (at the same time) the disappointment and frustration of having fewer organizational inducements than expected. Low shared team PCF can also decrease team motivation as the team as a whole could question its general value within the organization and its general capacity to reach team goals. Thus, I will argue that shared team PCF can work as an “ambient” input of team motivation, understood as a “team-oriented stimuli that pervades the team as a whole” and that affects team motivation (Chen & Kanfer, 2006, p. 243).

Shared individual PCF could also be directly related to team motivation. Similar to our theory of shared PCFs, team motivation has also been conceptualized as a multi-level phenomenon in and of teams (Chen & Kanfer, 2006). That is, team motivation can be understood as the study of how the team as a collective entity, develop collective motivational states that affect collective outcomes (i.e. motivation of teams), and also as the study of individuals developing motivational states and exerting different degrees of effort as they work within team environments (i.e. motivation in teams). Individuals’ motivation can be affected by perceptions of PCF, but can also be reinforced when they experience other team members demonstrating similar PCF and similar levels of motivation. As individuals perceive low PCF, it is likely that individual motivation decreases (Conway & Briner, 2005). Low levels of motivation are likely to be demonstrated in teams as individuals usually voice their breach experiences, generating negative affective contagion effects among others teammates (sometimes, unintentionally). This may decrease the motivation levels of individuals who, besides dealing with their own perceptions of low PCF, observe a shared perception of PCF of other individuals in their team. This may reinforce a shared motivational state within the team, as team members are likely to be more motivated in environments where other people are

motivated. For the arguments above, I generally propose that shared PCFs should be positively related to team motivation.

On the other side, team motivation has been studied over several content areas (Park et al., 2013). For example, researchers have proposed that team-level constructs (such as team potency, etc.) can be important reflections of team motivation. For the purposes of this dissertation, I operationalize team motivation using three well-known motivational states: team potency, team external collective fit, and team affective tone. I decided to use these particular motivational states for the several reasons.

First, team potency is one of the most popular team motivational states (Chen & Bliese, 2002; Chen & Kanfer, 2006) and has been defined as a “shared belief [of the team] in its conjoint capabilities to organize and execute the courses of action required to produce given levels of goal attainment (Kozlowski & Ilgen, 2006, p. 90). Shared PCFs should be related to team potency in particular because the breach of contracts can be directly related to future capabilities to reach goals since promises usually involve the provision of important organizational inducements necessary to perform (e.g. autonomy, support, clear goals, etc.) or inducements that naturally build potency perceptions (e.g. feedback, training, mastery experiences, etc.). Then, it is likely that in time, shared PCFs drive shared perceptions of team potency.

Second, team collective external fit can be understood as the alignment between some team characteristics and the external environment (DeRue & Hollenbeck, 2007) and has been formally defined as the “team members’ shared assessment of compatibility ... [of the team] with the requirements of the task environment” (Kristof-Brown, Seong, Degeest, Park, & Hong, 2014). Taking a demand-ability approach, this team-level variable reflects the subjective perception of fit between team abilities and team demands and can boost a willingness to exert

extra efforts in the workplace (Seong & Choi, 2014). As organizations fulfill or break promises to teams and individuals, team members normally seek explanations for that fulfillment/breach (Lester et al., 2002), which may include that the team may have the required abilities to cover the demands and goals that the organization requests to the team. If a team constantly experience breach of contracts, its team members may start to question the general value of the team for the organization as a potential explanation of the breach. This may be supported by recent research suggesting that individuals engage in sense making processes to derive meaning and explanations from breaches (Bankins, 2015) and that perceptions of fulfillment could be associated with perceptions of "prototypicality" in organizations (Bingham et al., 2013). Thus, shared team PCF and shared individual PCF can serve as cues to infer perceptions of team collective external fit in a broader organizational context.

Third, team affective tone (or affective climate) has been conceptualized as an emergent state reflecting the homogeneous affective reactions that team members experience at work (Barsade & Knight, 2015; Collins, Lawrence, Troth, & Jordan, 2013; George, 1995) and has been consider an important variable shaping team motivation (Park et al., 2013). As the experience of breach of psychological contracts of individuals and teams are likely to create individual affective responses (Conway & Briner, 2002; Zhao et al., 2007) that can be spread among team members through contagion and imitation (Barsade, 2002; Hatfield, Cacioppo, & Rapson, 1994), I expect that shared PCFs are related to team affective tone, too. The previous reasons sustain the following hypotheses:

Hypothesis 8a: Shared individual PCF will predict team motivational states (team potency, team external collective fit, team affective tone).

Hypothesis 8b: Shared team PCF will predict team motivational states (team potency, team external collective fit, team affective tone).

Implicit in Hypotheses 8a and 8b is the view that team motivation could mediate the relationship between shared PCFs and team-level outcomes. This assertion can be theoretically supported by the growing literature on the effects of team motivation. The relationship between team motivational states and team outcomes has been more extensively developed in the team effectiveness literature (Park et al., 2013). For example, research consistently shows that team potency is positively related to team performance (Gully, Incalcaterra, Joshi, & Beaubien, 2002; Stajkovic, Lee, & Nyberg, 2009), and other attitudes and behaviors (e.g. Scott W Lester, Meglino, & Korsgaard, 2002). Similarly, collective fit has been shown to affect team performance and other important team outcomes (Kristof-Brown et al., 2014; Seong & Choi, 2014; Seong, Kristof-Brown, Park, Hong, & Shin, 2012). Also, an extensive literature has confirmed positive relationships between team affective tone and team outcomes (e.g. Barsade & Knight, 2015; Collins et al., 2013). Extending these arguments, I expect that the effects of team PCF construct on team-level outcomes are partially mediated by team motivational states (team potency, team external collective fit, team affective tone).

Hypothesis 9a: Team motivation states will mediate the relationship between shared individual PCF and team outcomes.

Hypothesis 9b: Team motivation states will mediate the relationship between shared team PCF and team outcomes.

3.6. Cross-level Moderating Effects of Shared PCFs

As reviewed in previous chapters, processes of social influence have been found to be important determinants of individual PCF. Recent studies have shown that individuals obtain

valuable information from other referents that they use to evaluate their own PCFs (cf. Dabos & Rousseau, 2013; Ho, 2005; Ho & Levesque, 2005). This idea has been rooted in social information processing (SIP) theory (Salancik & Pfeffer, 1978), which generally proposes that individuals take cues from their social environments to better interpret reality and decide what are the appropriate behaviors they should display in particular situations. In other words, individuals confirm their perceptions and consequent behavior intentions from information taken from the environment. Following SIP theory and theory of social influence in PCF theory, I argue that both shared team PCF and shared individual PCF can serve as important contextual variables modifying the individual-level relationships between PCF and outcome variables.

This cross-level moderation effect should apply for both shared individual PCF and shared team PCF. First, in teams with low shared team PCF, there is a generalized perception among team members that the organization has not fulfilled its previous commitments with the team. This can affect the individual-level PCF-outcome relationship in several ways. On the one side, individuals could start monitoring their individual contracts more closely, being more aware about what is given and received, and questioning the convenience of future exchanges with the organization, which can trigger more conservative behavioral reactions as the perception of convenience of fulfillment of psychological contracts can be damaged. Then, a negative environment created by low shared team PCF can create strong signals to individuals that neutralize the expected positive effect of fulfillment of individual contracts. Moreover, the negative perception of fulfillment of promises made to team can hamper behavioral responses of individuals who may even have positive evaluations of fulfillment of their own contracts.

Second, shared individual PCF can act as a source of confirmation of individual perceptions of PCF. Individual attitudinal and behavioral responses to PCF can be exacerbated

when other team members are having the same perceptions of PCF and are reacting similarly to positive or negative organizational treatment. For example, when breach is perceived by an individual, he or she may want to discuss this perception with other team members. If other team members also experience breach, this situation could exacerbate negative individual effects because individuals confirm and obtain self-assurance of their initial perceptions. Thus, it is expected that when shared individual PCF is high, the individual response to individual PCF should be stronger as employees perceive that positive reciprocation to the organization is appropriate and consistent with the behaviors of other team members (Salancik & Pfeffer, 1978).

Hypothesis 10a: Shared individual PCF will moderate the relationship between individual PCF and individual outcomes (in-role performance, OCBs, turnover intentions, engagement).

Hypothesis 10b: Shared team PCF will moderate the relationship between individual PCF and individual outcomes (in-role performance, OCBs, turnover intentions, engagement).

3.7. Homology Relationships

An implicit research question from the model in figure 2 and the discussion in previous sections is to what extent the relationships among PCF, motivation, and outcomes are similar across levels of analysis (at both team and individual levels). To solve this type of questions, researchers have encouraged research on homology models. Theories of homology involve testing whether there are similar relationships between constructs across levels of analysis (cf. Chen et al., 2005; Kozlowski & Klein, 2000). This similarity can be described in different levels or different questions (Widaman, 2000). Are significance patterns different or equal across levels

of analysis? Also, if there is a difference in terms of the strength of the relationships among these variables, how can we describe that difference?

The first question about homology has been defined as configural similarity; a situation that occurs "when parameter estimates show similar patterns of significance across different samples or levels." (Chen et al., 2005, p. 385). In general, I expect configural similarity between PCF, motivation, and outcomes (for both shared individual PCF and shared team PCF) in line with the theoretical arguments I provided in previous sections. However, here I expand these arguments and propose arguments to predict scalar similarity, or models where "parameter estimates in one level are a multiplicative function of the corresponding parameter estimate obtained in another level" (Chen et al., 2005, p. 385). In particular, I advocate for stronger effects (although in the same direction) of shared PCFs in most of the previously proposed relationships.

In general, preliminary evidence for a stronger effect at higher levels of analysis can be found in the team motivation literature. For instance, the meta-analytic effect sizes of the relationships between efficacy and performance are stronger at the team level ($\rho = .39$) than at individual level ($\rho = .20$) (Gully et al., 2002). Gully et al. (2002', p. 821) argued that shared perceptions of efficacy "are powerful levers for lifting or lowering the goals, efforts, and persistence of team members" and that when perceptions of efficacy are not shared in a team, then the construct is more relevant at the individual rather than at the team level, because team performance would be less driven by interactive dynamics in a team and more driven by individuals. Other motivational states (e.g. empowerment, support for innovation) have also displayed stronger effects on outcomes at the team level (e.g. Chen, Farh, Campbell-Bush, Wu, & Wu, 2013; Chen et al., 2007), suggesting that team motivation may be a more powerful driver

of important team level outcomes. This may confirm the Aristotelian view that "the whole is greater than the sum of the parts" and that the relationship between motivational states in teams and high performance is stronger for teams than for individuals. In that line of thought, I also expect that the relationship between PCF constructs and motivation is stronger at the team level. When team members share perceptions of how the organization fulfill promises, this may create a strong ambient factor to affect team motivation, in contrast to individual PCF that may determine motivation but with a weaker effect as individual motivation may also depend on other extraneous factors (e.g. work-life conflict, individual differences). Then, relationships at the team-levels of analysis should be stronger than relationships at individual levels.

Hypothesis 11a: The relationships between PCF, motivation, and outcomes at team levels of analysis are stronger than at individual levels of analysis.

Moreover, so far I have predicted that I should observe similar relationships for both shared individual PCF and shared team PCF, without distinguishing whether some variables could be related to unique antecedents or outcomes, nor distinguishing the strengths of those relationships. Here, I also anticipate that shared team PCF could have even stronger effects on team motivation and team outcomes than shared individual PCF. This phenomenon could be explained mainly from an analytical point of view. As suggested in previous sections, shared team PCF is a concept that refers to the team, in contrast to shared individual PCF which is the aggregation of individual level PCF. Because of that reason, measures of shared team PCF should use a referent-shift model (Chan, 1998) asking questions about "the team" and not about individuals, this should increase the likelihood for finding higher team-level reliability (ICC2) and lower variance among team members. This can be explained as with shared team PCF, individuals respond questions about the same target (the team), potentially reducing the

variability of responses. On the other side, shared individual PCF, although based on convergent perceptions, is based on individual perceptions of fulfillment of psychological contracts, which may add more variability to responses due to other individual factors. Thus, an improvement in reliability may be associated with a decrease in standard errors, which may strengthen team-level relationships. In summary, I propose the following:

Hypothesis 11b: Shared team PCF has a stronger effect on team motivation and team outcomes than shared individual PCF.

CHAPTER 4: METHODS

4.1. Data Collection Setting

To test the different Hypotheses described in chapter 3, I collected quantitative data using multiple online surveys. The data were collected in 2016 and 2017 from team members and team leaders in a company that mainly operates in Chile within the textile industry. The company manufactures and sells several clothing brands for different customer' styles and ages using numerous stores throughout Chile. Teams within this company perform diverse types of functions including sales, marketing and commerce, manufacturing, inventory and distribution, and administrative and professional services. Of the 71 potential teams, 45 teams were mainly working on sales (stores), 10 teams were mainly working on manufacturing and supply chain management, and 16 teams were mainly doing administrative and professional services. The average team size (per company records at time 1) was 6.2 for stores, 7.7 for manufacturing/supply-chain-management teams, and 7.1 for administrative/professional teams. 44 teams were distributed in different locations whereas the remaining 27 teams were located in the company's headquarters (one of the stores was in the same location than the headquarters). Interviews with HR professionals of this company reveal that the studied teams are composed by more than two individuals, possess common goals, and exhibit interdependence, so that they could be considered teams.

4.2. Procedures

Through email communication, full-time employees in 71 teams were invited to respond three online surveys and were informed that they had one week to respond each survey. Part-time employees were not invited to participate as they do not normally have enough time working for the company to be considered stable employees. Three-months elapsed between measurements.

At time 1, the survey contained the following variables: justice climate, POS climate, team interdependence, LMX, individual PCF, and team PCF. In addition, they were asked about some control variables (age, tenure with company, time within team, experience, gender). At time 2, team members responded to another survey, including justice climate, POS climate, individual PCF, team PCF, self-efficacy and team potency, person-organization fit and collective fit, and affect. At time 3, team members responded to the final survey that contained the following variables: engagement, turnover intentions, and contextual performance. At time 3, supervisors also responded to a survey with the following scales: team performance, team OCBs, and individual performance of each team member.

The surveys were distributed in Spanish. To improve semantic equivalence of items, I applied a translation and back-translation method using two independent translators. First, the principal investigator (bilingual) translated the original items to Spanish (Chile). Later, an independent professional translator converted the items back to English. Significant differences were later solved by agreement between the two translators (approximately 29% of items). Finally, the translated items were pretested in a small sample of 19 Chilean individuals to ensure that the questions make sense and are understandable (feedback was provided directly to the main researcher by telephone communication).

The number of respondents at each time period were 378 (T1), 371 (T2), and 390 (T3) individuals. Also, at time 3, 69 out of 71 team leaders responded some portion of the survey. Later, I eliminated respondents with too many missing data (13 individuals at time 1, 8 individuals at time 2, 6 individuals at time 3) or those who failed an attention check item (63 individuals at time 2, 35 individuals at time 3). Also, I eliminated teams with less than 3 team members (11 individuals at time 1, 23 individuals at time 2, 5 individuals at time 3). The final

sample sizes at time 1, 2 and 3 were 354 (63 teams), 277 (59 teams), and 338 (68 teams), respectively. The average team sizes were 5.6 at time 1, 4.7 at time 2, and 5.0 at time 3⁵. The average age of respondents at all time periods was 33.97, 83.3% were women, and had worked in their current jobs for about 4.15 years. All teams had at least 50% of its members with valid responses.

4.3. Measures

Next, I present the operationalization and relevant psychometric properties of all the variables used in this study. Table 1 shows a summary of aggregation indexes for all team-level variables used in this dissertation. This table shows a) median and mean r_{wg} indices: R_{wg} is one of the most common indexes of inter-rater agreement (IRA), and it represents a proportional reduction of error variance within a team in comparison to a theoretical state where all team members respond a scale completely at random (Bliese, 2000); b) ICC1 and ICC2, which are some of the most important indexes of interrater reliability (IRR) and IRA. These indexes are calculated from a one-way random effects ANOVA where team membership is the independent variable and shared PCFs constructs were the dependent variables. And, c) the F test for the one-way random effects ANOVA, which assess whether team membership significantly explains a portion of the variability of individual scores of PCF. Also, Appendix 1 shows all the items and instructions that were used in this dissertation.

4.3.1. Shared PCFs

Individual PCF. To measure individual-level PCF, I used a global measure of PCF (Zhao et al., 2007) asking individuals to assess overall perceptions of fulfillment of organizational promises. One of the few developed measures of this type is the 5-item

⁵ These numbers correspond to the response size per team. The actual average team sizes, per company records, were 6.7 at time 1, 6.2 at time 2, and 6.4 at time 3.

instrument created by Robinson and Morrison (2000). All items were rated on a 7-point Likert scale (1 = strongly disagree; 7 = strongly agree). A sample item is “Almost all of the promises made to me by my employer have been kept so far”. Individuals responded these items at time 2 and the obtained Cronbach's alpha was .85.

TABLE 1: Summary of Aggregation Indexes of Team-level Variables

Variables	Interrater Agreement (IRA)		Interrater agreement and reliability (IRA+IRR)		
	R _{wg} (j) (Median)	R _{wg} (j) (Mean)	ICC(1)	ICC(2)	F test
Justice Climate (T1)	0.57	0.50	0.28	0.68	3.16***
POS Climate (T1)	0.80	0.65	0.22	0.62	2.60***
Interdependence (T1)	0.42	0.40	0.01	0.07	1.08
Shared Individual PCF (T2)	0.82	0.69	0.29	0.66	3.00***
Shared Team PCF (T2)	0.87	0.77	0.39	0.75	4.01***
Team Potency (T2)	0.95	0.87	0.03	0.13	1.14
Team Affect C-T (T2)	0.82	0.68	0.13	0.41	1.69**
Team Affect D-E (T2)	0.89	0.73	0.09	0.33	1.49*
Collective Fit (T2)	0.91	0.80	0.23	0.59	2.41***
Team Engagement (T3)	0.98	0.95	0.15	0.47	1.88***
Average Turnover Intent (T3)	0.54	0.51	0.06	0.24	1.32†

Note. For Time 1, df (between) = 62, df (within) = 291; For Time 2, df (between) = 58, df (within) = 218; For Time 3, df (between) = 67, df (within) = 271.

*** $p < .001$; ** $p < .01$; * $p < .05$; † $p < .10$

Shared Individual PCF. This variable was operationalized as the within-team mean of individual PCF. As this variable assesses the extent to which individuals in the same team converge in their perceptions of PCF, I used a direct-consensus approach of composition (Chan, 1998) as it is the most appropriate and theoretically-driven strategy to capture this construct, where the "meaning of higher level construct is in the consensus among lower level units" (Chan, 1998, p. 236). This approach requires to show within-group agreement indexes (e.g. r_{wg} 's) in order to validate aggregation of scores. Previous studies of shared individual PCF (i.e. De Vos

& Tekleab, 2014) have used composite measures, asking individuals to evaluate whether the employer has fulfilled their promises within a range of content items (e.g. autonomy, salary, etc.), and then calculating the mean from those content items. Instead, I used a global measure because of its simplicity and its potential to make better comparisons between this construct, individual PCF, and shared team PCF. The aggregation indexes for this team-level variable are reported in section 5.1 as part of the tests of hypothesis 1a. The coefficient alpha for the within-team aggregated items of individual PCF (shared individual PCF) was .92.

Shared Team PCF. I measured this variable at time 2 using a global scale of shared team PCF, with team members evaluating the degree to which they think the organization has generally fulfilled its promises to the team. Consequently, I used a referent-shift approach, using the team (not the individual) as the referent of all the items. In particular, I used an adapted version of Robinson and Morrison (2000). An example item is "Almost all of the promises *made to my team* by my employer have been kept so far". The Cronbach's alpha coefficient at the individual level was .85 whereas at the aggregated level alpha was .91. Similar to shared individual PCF, the aggregation indexes for this team-level variable are reported in section 5.1.

4.3.2. Independent Variables

Justice Climate. Justice climate was assessed using a 4-item measure of procedural justice climate adapted from Colquitt et al. (2002) and used by Ehrhart (2004). I included procedural justice climate and not other justice dimensions (distributive, interpersonal, informational) mainly because this is the most widely studied dimension of justice at the team level (e.g. Colquitt et al., 2002; Ehrhart, 2004; Naumann & Bennett, 2000) and more information is available in the literature. Individuals are asked about their perceptions of the extent to which the procedures used to determine the rewards in their teams are consistently applied, free of bias,

ethical, and with an opportunity to express their views and feelings. Respondents rated each of the items on a 7-point scale (1 = to a very small extent to 7 = to a great extent). The Cronbach's alpha coefficient at the individual level was .92. Responses of team member' scores were averaged to obtain a single score per team (aggregated Cronbach's $\alpha = .96$; $F(62,291) = 3.16$, $p < .001$; ICC1 = .28; ICC2 = .68; Median $r_{wg} = .57$; Mean $r_{wg} = .50$). The aggregation indexes are comparable to other studies of justice climate (Ehrhart, 2004; Roberson, 2006), and support the idea that the within-team means are appropriate measures of a team-level construct.

POS Climate. POS climate was measured using a 4-item instrument developed by González-Romá et al. (2009) using a Likert-type scale (1 = strongly disagree; 7 = strongly agree). An example item is "You can tell that the company is interested in the members of the team." The obtained Cronbach's alpha at the individual level was .90. At the team level, POS climate scores were averaged for every team (aggregated Cronbach's $\alpha = .91$; $F(62,291) = 2.60$, $p < .001$; ICC1 = .22; ICC2 = .62; Median $r_{wg} = .80$; Mean $r_{wg} = .65$). The aggregation indexes, support that the within-team mean is a good measure of POS Climate.

Interdependence. This variable was assessed with a 3-item task interdependence instrument developed by Wageman, Hackman, and Lehman (2005) using a 7-point Likert scale (1 = strongly disagree; 7 = strongly agree). An example item is "Members of this team depend heavily on one another to get the team's work done". At individual level, the obtained Cronbach's α was .27. At the team level, the obtained aggregated Cronbach's alpha was .15 ($F(62,291) = 1.08$, $p = .34$; ICC1 = .01; ICC2 = .07; Median $r_{wg} = .42$; Mean $r_{wg} = .40$). Because both the reliability and the aggregation indexes for this variable were very poor, team interdependence was excluded from future analyses.

LMX differentiation. Following recent research on LMX at the team level, LMX differentiation was captured as the within-team standard deviation of LMX scores. I measured LMX using an 8-item instrument developed by Bauer and Green (1996) based on the classic LMX-7 (Graen & Uhl-Bien, 1995) but separating double-barrel items. An example item is "I would characterize the working relationship I have with my manager as extremely effective". I used a Likert-type scale of 7 options (1 = strongly disagree; 7 = strongly agree). The coefficient alpha for LMX was .96. Also, as suggested by Chan (1998), dispersion models should demonstrate absence of multimodality within teams. An inspection of the graphs of distribution of LMX within teams resulted in no apparent significant signs of multimodality. Thus, the within-team standard deviation of LMX scores is an appropriate measure of LMX differentiation.

Team size. Team size was captured using company records. I used team size at time 2 as it was the time that reflected the construct in the best way according to the company's natural fluctuations of demands. As a control, I also included a single item asking team members "How many members (including yourself) does your team have?". Incongruences were solved by telephone communication between the main researcher and the team leaders.

4.3.3. Mediators

Team Potency and Self Efficacy. I measured efficacy at individual and team levels using an 8-item instrument developed by Guzzo, Yost, Campbell, and Shea (1993) using a Likert-type scale of 7 options (1 = strongly disagree; 7 = strongly agree). The scale was adapted so as to separately use individual and teams as referents (16 items total). An example item of individual self-efficacy is "I believe I can be very productive" in contrast to the same item referring to team potency "My team believes it can be very productive." The coefficient alpha

for self-efficacy at time 2 was .80. For team potency, Cronbach's α was .89 at the individual level and .84 when items were aggregated ($F(58, 218) = 1.14, p = .25$; ICC1 = .03; ICC2 = .13; Median $r_{wg} = .95$; Mean $r_{wg} = .87$). Although the ICC1 and ICC2 indexes for team potency were small, the within-team agreement indexes (r_{wg}) were very high, suggesting very strong agreement (LeBreton & Senter, 2007) and providing evidence for aggregation. This difference may be due to extremely low between-team variance in perceptions of team potency, as suggested by LeBreton, Burgess, Kaiser, Atchley, and James (2003). The implications of this phenomenon will be discussed in more detail in the following chapters.

Affect and Team Affective Tone. Affect was measured based on the mood circumplex model (Bartel & Saavedra, 2000) following guidelines by Gamero, González-Romá, and Peiró (2008). Individuals were asked to indicate "to what degree your job has made you feel like each of the adjectives listed below in the past few weeks". Respondents answered 6 adjectives in a calmness-tension (CT) dimension (e.g. tense, calm, relaxed) and 6 adjectives in a depression-enthusiasm (DE) dimension (e.g. cheerful, pessimistic, gloomy), using a 7-point scale (1. Not at all, 7: Very much). At the individual level, the coefficients alpha were .80 for the CT dimension and .84 for the DE dimension. At the team level, I calculated the within-team mean of affect for the two sub-dimensions of affect. For the calmness-tension dimension, aggregated Cronbach's $\alpha = .84$; $F(58,218) = 1.69, p < .01$; ICC1 = .13; ICC2 = .41; Median $r_{wg} = .82$; Mean $r_{wg} = .68$. For the depression-enthusiasm dimension, aggregated Cronbach's $\alpha = .87$; $F(58,218) = 1.49, p < .05$; ICC1 = .09; ICC2 = .33; Median $r_{wg} = .89$; Mean $r_{wg} = .73$. The aggregation indexes suggest that the within-team means were appropriate measures of team affective tone.

Person-Organization Fit and Team Collective External Fit. Team members reported their perceptions of fit using two instruments with a 7-point Likert scale. For person-

organization fit, I used a 3-item measure developed by Cable and DeRue (2002). An example item is "The match is very good between the demands of my job and my personal skills". The coefficient alpha for person-organization fit was .92. For team collective external fit, I used an instrument developed by Kristof-Brown et al. (2014). An example item is "The match is very good between the demands of our team's task and our skills". The coefficient alpha for collective external fit was .94. At the team-level, I calculated the average perception of collective external fit of all the members per team (aggregated Cronbach's $\alpha = .96$; $F(58,218) = 2.41$, $p < .001$; ICC1 = .23; ICC2 = .59; Median $r_{wg} = .91$; Mean $r_{wg} = .80$). The aggregation indexes support that the within-team means were appropriate measures of team collective external fit.

4.3.4. Dependent Variables

Team Engagement. To measure engagement, I used the Job Engagement Scale (JES) developed by Rich, Lepine, and Crawford (2010). This instrument distinguishes 3 dimensions in job engagement (physical, emotional, cognitive) and has been recently recommended for research purposes over other instruments (Byrne et al., 2016). From the original instrument consisting of 18 items, I consolidated redundant items (e.g. "I devote a lot of energy to my job" vs. "I exert a lot of energy on my job"), leaving a final 12-item measure. Participants responded to the items using a 7-point Likert scale (1 = strongly disagree; 7 = strongly agree). The Cronbach's alpha at individual level was .88, showing good reliability. At the team level, team engagement has been more commonly measured using a direct consensus approach from the Utrecht Work Engagement Scale UWES (e.g. Tims et al., 2013; Torrente et al., 2012). However, as the UWES is strongly correlated to other attitudes (Byrne et al., 2016; Christian et al., 2011), I used the 12-items JES using a direct consensus approach (aggregated Cronbach's $\alpha = .90$; $F(58,218) = 1.88$, $p < .001$; ICC1 = .15; ICC2 = .47; Median $r_{wg} = .98$; Mean $r_{wg} = .95$). The

aggregation indexes support that the within-team means were appropriate measures of Team Engagement.

Turnover Intentions. Team members reported their turnover intentions using a 2-item scale developed by Cammann, Fichman, Jenkins, and Klesh (1983) using a 7-point Likert scale (1: strongly disagree, 7: strongly agree). A sample item is “I often seriously think about quitting”. The obtained coefficient alpha for turnover intentions was .80. At the team level, I calculated the average turnover intentions (an additive model in Chan, 1998).

Organizational Citizenship Behaviors. OCBs were measured using several instruments. At the individual level, I used a measure of contextual performance used by Mohammed, Mathieu, and Bartlett (2002) through self-reported scores from team members. A sample items is “While performing my job, how likely is it that I would... Volunteer to help out when others were busy”. The coefficient alpha for individual contextual performance was .89. At the team level, I used an adapted version of Lee and Allen (2002)'s scale of OCBs. Team leaders indicated how strongly they agree or disagree with 16 items about people in their teams using a 7-point Likert scale (1 = strongly disagree; 7 = strongly agree). An example item is "People in this team... help others who have been absent". The coefficient alpha for this team-level variable was .92. This measure follows a referent-shift approach but doesn't need proof of aggregation as it is only one person (supervisor) who acts as a key informant of team-level OCBs. Other measures of OCBs at the team level using referent shift approaches have normally used leaders as single informants (Podsakoff et al., 2014).

Performance. Supervisors measured individual and team performance separately. First, they assessed team performance using a 7-point Likert scale developed by Zellmer-Bruhn and Gibson (2006). An example item is "This team accomplishes its objectives". The obtained

coefficient alpha was .92. Second, Supervisors assessed each team member's performance with a scale developed by Mero, Guidice, and Werner (2014) using a 7-point Likert scale (1: Very ineffective, 7: Very effective). An example item is "Performing technical aspects of the job". The obtained coefficient alpha for individual performance was .94.

4.4. Analysis

Prior to data analysis, I screened the data to check for problems related to missing values, outliers, and normality. Then, I computed several variables including total scores per scales, within-team mean of items and scores, and standard deviation within teams. To test Hypothesis 1 (a and b), I followed van Mierlo et al. (2009)'s guidelines for distinguishing team-level constructs using different composition models.

To test Hypotheses 2 to 9, I first conducted confirmatory factor analyses at individual and team levels of analyses to assess the measurement models. Because Hypotheses 2 to 9 predict relationships at the team level of analysis, I used multiple regressions at the team level using the free software R. Multicollinearity was assessed by examining tolerance and variance inflation factor (VIF) levels. VIF levels higher than 10 are signs of collinearity problems. Also, as teams with higher response size provide better estimations of team-level constructs (Bliese, 1998; Chen et al., 2005), I used a weighting procedure to account for potential size-effects. In all the regressions, I used the response size at the time of the predictor as the weight of the regression.

For Hypotheses 10 (a and b), I used random coefficient modeling (RCM) (Aguinis, Gottfredson, & Culpepper, 2013; Hofmann, 1997, 2002; Preacher et al., 2010; Raudenbush & Bryk, 2002). First, I estimated a null model in which I evaluated whether team membership significantly predicted different dependent variables. Second, I conducted several tests of differential slopes, where I evaluated whether there was significant evidence that the slopes of

individual level variables vary across teams. Third, several models were compared against the null model in order to test whether the inclusion of antecedents and interaction terms predicted different dependent variables. Finally, I tested the effect of interaction terms with raw data and group-mean centering, and created graphs to better observe the cross-level interaction effects.

To evaluate Hypotheses 11a and 11b, I used the framework and statistical procedures recommended by Chen et al. (2005) for testing configural and scalar similarity. For configural similarity, I observed the significance levels of parameter estimates at each level, and then I compared whether there were significant relationships at both levels or not (that is, comparing the “hit rate” of significance). As suggested by these authors, one might like to increase the cutoff alpha at the team-level relationships in order to account for lower power at the team level.

For scalar similarity, I tested whether parameter estimates at the individual level are a multiplicative function of the parameter estimates of the same relationship but at the team level (Chen et al., 2005). Particularly, I tested the significance of the difference between coefficients at the team and individual levels. This test can be produced by testing an individual level model using RCM where the dependent variable is constrained to be a function of the relationship at the team level. That is:

$$(Y - A * X_1) = B_0 + B_1 * X_1 + e \quad (1)$$

, where A is the parameter yielded in a regression of X predicting Y at the team level. In the equation (1), B_1 represents the difference of coefficients at the team and individual levels. A negative B_1 coefficient means that the relationship between X_1 and Y is stronger at the team level, whereas a positive coefficient B_1 suggests that the relationship is stronger at the individual level. A significant coefficient B_1 means that the difference is significantly different from zero.

CHAPTER 5: RESULTS

Tables 2a and 2b show the means, standard deviations, reliability, and bivariate correlations at individual and team levels of all the scales used in this dissertation.

TABLE 2a: Means, Standard Deviations, Correlations, and Reliabilities at Individual Level

Variable	Mean	s.d.	1	2	3	4	5	6	7	8	9
1. Individual PCF	5.19	1.26	(.85)								
2. Self-Efficacy	6.21	0.67	.14*	(.80)							
3. Affect CT	3.22	1.09	-.43**	-.04	(.80)						
4. Affect DE	5.70	1.04	.50**	.18**	-.55**	(.84)					
5. PO Fit	6.06	0.99	.22**	.42**	-.16*	.27**	(.92)				
6. In-role Performance	5.62	0.70	.23**	0.03	-.17*	.10	.02	(.94)			
7. Contextual Performance	6.23	0.56	.20**	.32**	-.19**	.28**	.22**	0.13	(.89)		
8. Turnover Intentions	2.35	1.38	-.32**	-.00	.25**	-.34**	-.26**	-.18*	-.23**	(.80)	
9. Engagement	6.20	0.33	0.059	0.13	-.23**	.26**	.17*	-0.05	.32**	-.18*	(.88)

Note. N = 209 (Listwise). Diagonal describes the Cronbach's Alpha. ** $p < .01$; * $p < .05$; † $p < .10$.

5.1. Construct Validity of Shared Individual PCF and Shared Team PCF

To examine the construct validity of the key PCF constructs and to assess whether there is evidence for one or two different constructs (Hypothesis 1a), I used van Mierlo et al. (2009)'s procedure to compose group-level constructs. The procedure suggests 5 steps, which address the distinction between composed group constructs and their baseline psychometric quality. For the first step, I conducted a factor analysis at the between-groups (BG) level of the constructs—shared team PCF and shared individual PCF at time 1. As recommended by Van Mierlo et al., I conducted a principal component analysis (PCA) using oblique rotation and the results showed 2 dimensions; however, one of the dimensions reflected all reversed items.

To better explore whether the reversed items were affecting the results, I conducted further analyses. First, I conducted a PCA (with oblique rotation) on each construct, separately, using their respective 5 items. As the literature has shown that selecting eigenvalues greater or

TABLE 2b: Means, Standard Deviations, Correlations, and Reliabilities at Team Level

Variable	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Team Size	7.15	4.13	-												
2. LMX differentiation	1.22	0.64	.01	-											
3. Shared Indiv. PCF	5.31	0.91	.01	-0.19	-										
4. Shared Team PCF	5.23	0.92	.02	-.24	.94**	-									
5. PJ Climate	4.32	1.12	-.05	-.26	.60**	.62**	-								
6. POS Climate	5.04	0.94	-.01	-.39**	.52**	.55**	.86**	-							
7. Team Potency	5.98	0.43	.07	-.12	.45**	.40**	.48**	.32*	-						
8. Affective Climate CT	3.20	0.65	.00	.15	-.45**	-.49**	-.31*	-.24	-.27	-					
9. Affective Climate DE	5.75	0.59	-.01	.01	.50**	.50**	.42**	.40**	.35*	-.65**	-				
10. External Collective Fit	5.71	0.74	.04	-.15	.44**	.34*	.43**	.36**	.70**	-.35*	.48**	-			
11. Team Performance	6.06	0.79	.11	-.34*	.06	.07	-.08	-.06	.17	-.02	-.14	.09	-		
12. Team OCBs	5.73	0.69	-.05	-.35*	.19	.23	.34*	.27	.04	-.25	.15	.08	.23	-	
13. Average Turnover Intent	2.41	0.74	.06	-.10	-.23	-.20	-.36**	-.23	-.12	.43**	-.33*	-.31*	-.04	-.20	-
14. Team Engagement	6.19	0.35	.08	.01	.07	.07	.16	.14	.20	-.42**	.37**	.25	.24	-.08	-.47**

Note. N = 52 (Listwise). ** $p < .01$; * $p < .05$; † $p < .10$.

equal to 1 in factor analysis normally overestimate the resulting factors (Lance, Butts, & Michels, 2006), the number of factors should be decided based on a combination of pieces of information such as the variance explained by every potential component, the observation of scree plots, and the factor loading in the pattern matrix. After evaluating all these elements, I concluded that each independent PCA yielded a 1-factor solution. Second, I conducted PCA (with oblique rotation) with the 10 items (5 of shared individual PCF and 5 of shared team PCF) but instead of using eigenvalues to define the number of factors, I forced the system to yield 2 factors. As expected, the first two factors were the only factors with eigenvalues greater than 1 (first factor eigenvalue = 7.33, second factor eigenvalue = 1.55, third factor eigenvalue = 0.32). However, the second factor was composed of the 4 reversed items. This suggests that the data does not show a clear distinction of the two hypothesized factors.

Because it has been previously documented that reversed items may alter dimensionality in scale development (e.g. Herche & Engelland, 1996), I also conducted a confirmatory factor analysis at the between-group level to study the dimensionality of the PCF items by adding a “reversed coding” latent factor, or by freeing the correlation of error terms of reversed items. Table 3 shows the results of different alternative models.

In model 1, I tested a 2-factor model using the 10 items of PCF (5 items of individual PCF and 5 items of team PCF). This model showed poor fit ($\chi^2=180.28$, $df=34$, $p < .001$, RMSEA = .301, NNFI = .85, CFI=.89, SRMR=.158). I found comparable results for Model 2, which tested one factor. This model showed poor fit to the data as well ($\chi^2=248.15$, $df=35$, $p < .001$, RMSEA = .378, NNFI = .79, CFI=.84, SRMR=.151). Moreover, the χ^2 difference test shows that model 2 was significantly worse than model 1. The factor loadings for the reversed

items were very low for both models (below .50), indicating that reversed items may be causing the lack of fit. This result was congruent with the results of the initial principal factor analysis.

TABLE 3: Confirmatory Factor Analysis (Between-Group) of Shared PCFs

	MODELS	χ^2	<i>df</i>	RMSEA	NNFI	CFI	SRMR	$\Delta\chi^2$	Δdf
Model 1:	2 Factors: 5items SIPCF, 5items STPCF	180.28***	34	0.301	0.851	0.887	0.158	-	-
Model 2:	1 Factor: 10 items	248.15***	35	0.378	0.789	0.836	0.151	67.87*** (2 vs 1)	1
Model 3:	3 Factors: Direct Consensus, Referent Shift, Reversed	65.135***	30	0.145	0.959	0.973	0.095	115.15*** (3 vs 1)	4
Model 4:	2 Factors: let correlate (All reversed error terms)	63.46***	28	0.15	0.960	0.970	0.089	-	-
Model 5:	1 Factor: let correlate (All reversed error terms)	122.90***	29	0.24	0.890	0.930	0.053	59.44*** (5 vs 4)	1

Note. $N_{teams} = 59$. SIPCF: Shared Individual PCF, STPCF: Shared Team PCF.

*** $p < .001$; ** $p < .01$; * $p < .05$; † $p < .10$

In model 3, I tested a model adding a third latent factor of reversed items (reversed items were indicators of two factors: the reversed items factor and the respective PCF factor). The reversed-items latent factor was uncorrelated to the two main PCF latent variables. This procedure has been previously used in the organizational science to test dimensionality of other constructs with reversed items (e.g. Magazine, Williams, & Williams, 1996). The fit indexes of this model were significantly better ($\chi^2=65.14$, $df=28$, $p < .001$, RMSEA = .145, NNFI = .96, CFI=.97, SRMR=.095). In this model, the factor loadings were all significant although they were stronger for the reversed item factor (loadings were between .50 and .77 for reversed items and between .38 and .67 for Shared PCFs), suggesting a strong reversed item effect. The χ^2 difference test shows that model 3 was significantly better than model 1. As an equivalent approach, I tested a “correlated uniqueness” model (model 4). In this model, there is no reversed item factor, but reversed measures have correlated errors or uniquenesses (Marsh & Bailey,

1991). Model 4 tested a model where all the uniquenesses of reversed items correlate among each other. This model also represented the data better than model 1 ($\chi^2=63.46$, $df=28$, $p < .001$, RMSEA = .15, NNFI = .96, CFI=.97, SRMR=.089). Since models 3 and 4 are not hierarchically nested, and thus not directly comparable, a χ^2 difference test is not appropriate. For that reason, I compared the AIC values of the two models but they were very similar (although slightly better for model 3). The AIC difference was 0.94 which is below the common rule of thumb, that states two models are indistinguishable if the AIC difference is less than 2. This suggests that both models 3 and 4 are equally good models. Finally, in model 5, I tested a 1 factor model, letting the uniquenesses of the reversed items to correlate. This model showed worse fit than model 4 ($\chi^2=122.90$, $df=29$, $p < .001$, RMSEA = .24, NNFI = .89, CFI=.93, SRMR=.053), suggesting that the two team-level constructs are different latent variables.

More importantly, it can be concluded from the previous CFAs that when models 1 vs model 2, and model 4 vs model 5 are compared, the $\Delta\chi^2$ ($df=1$) between the models was significant in both cases ($\Delta\chi^2_{1vs2} = 115.15$, $p < .001$; $\Delta\chi^2_{5vs4} = 59.44$, $p < .001$), suggesting that the better fit is mostly explained by the factor structure rather than by the strategy to model reversed items. Thus, the data supports the idea that a two-factor model is significantly better than a one-factor model. Nevertheless, it is relevant to mention that the latent correlation (ϕ) between the two constructs was 0.94. This value was very high and suggests that there is little advantage in modeling the two constructs as different constructs at the team level. That is, even though the constructs are better modeled as two different constructs, in practice, they should yield very similar results. This high latent correlation suggests that the obtained nomological network should be similar with either construct.

As a post-hoc analysis, I repeated the above factor analyses by omitting the reversed items of individual and team PCF from the analysis (i.e. using 3 items of shared individual PCF and 3 items of shared team PCF). The factor analysis (using PCA, with oblique rotation) showed that the 6 items formed one single factor. Furthermore, I run another factor analysis but forcing two dimensions. The results showed that the eigenvalue difference between the first and second components was very high (5.54 vs 0.27), suggesting that the second component was not meaningful. Moreover, the factor loadings of all the items were higher for the first component. This confirms the previous results.

To better explore this relationship, I further examined the next steps of van Mierlo et al. (2009) framework. In step 2, I assessed the correlations between the *items* of shared individual PCF and shared team PCF scales at individual, within-groups, and between-groups. Results are shown in Table 4. As can be noted, the correlations among items are medium to high in most cases, which is not surprising considering the almost identical wording of items, and the fact that the two measures were collected in the same survey (i.e. correlations may be affected by common method). The percentage of shared variance between shared individual PCF (direct-consensus) and shared team PCF (referent-shift) is 70.56% at the individual level ($r = .84, p < 0.01$), 56.25% at the within-group level ($r = .75, p < 0.01$), and 88.36% at the between group level ($r = .94, p < 0.01$). According to van Mierlo et al.'s guidelines, the correlations at individual and within-group indicate "substantial overlap" ($.70 < r < .85$), whereas the between-group correlation might indicate a lack of discriminant validity ($r \geq .85$). This implies that even though individuals may differentiate their perceptions of PCF and that of their team members, at the aggregated team level, referent shift and direct-consensus items no longer represent two different constructs.

TABLE 4: Correlations Between Items and Scales Within and Between Groups

Items	Individual	Within-Group	Between-Group
PCF.Individual 1 x PCF.Team 1	.76	.70	.86
PCF.Individual 2 x PCF.Team 2	.76	.67	.89
PCF.Individual 3 x PCF.Team 3	.81	.71	.92
PCF.Individual 4 x PCF.Team 4	.62	.55	.72
PCF.Individual 5 x PCF.Team 5	.67	.59	.77
Scale Average	.84	.75	.94
N	277	277	59

Note. All correlations are significant.

In steps 3 and 4, the variance within and between groups is assessed in order to examine whether the two constructs produce agreement among group members and are reliable at the team level. Accordingly, I calculated R_{wg} 's as a measure of agreement and ICC(1) and ICC(2) as measures of reliability and agreement (for more details about how to compute these indexes, review Bliese, 2000). All results are summarized in Table 5. First, I evaluated R_{wg} indexes. LeBreton and Senter (2007) have suggested that different ranges of R_{wg} 's indicate different agreement levels. According to their suggestions for interpretation of R_{wg} 's, I mainly found "Strong agreement" in shared individual PCF (Median R_{wg} = .82; Mean R_{wg} = .69) and in shared team PCF (Median R_{wg} = .87; Mean R_{wg} = .77). This shows that in general, there is a reasonable amount of agreement of PCF scores within teams, regardless the use of direct consensus or referent shift composition models. It is also important to consider that the R_{wg} 's reported may be attenuated as this index depend on sample size (Kozlowski & Hattrup, 1992; Lindell, Brandt, & Whitney, 1999). Specifically, the general recommendations is that 10 team members is sufficient to more accurately estimate R_{wg} 's; in contrast, my sample has teams with an average of around 5 members.

Second, I evaluated interrater reliability (IRR) of the key constructs. First, the F tests were significant for the two constructs at time 2 (last column in Table 5), suggesting that there is team-level phenomenon that influences individual and team perceptions of PCF. Second, I calculated ICC1, which can be interpreted as a measure of effect size of the extent to which individuals' variance is affected by team membership. The values reported in Table 5 may be considered as a "large effect" (LeBreton & Senter, 2007; Murphy & Myors, 1998). An ICC1 of .29 (as in shared individual PCF) suggests that a maximum of 29 percent of the lower-level variance can be accounted by other team level factors.

TABLE 5: Aggregation Indexes for Shared Individual PCF and Shared Team PCF

Variables	IRA		IRA+IRR		
	R _{wg} (Median)	R _{wg} (Mean)	ICC(1)	ICC(2)	F test
Shared Individual PCF (T2)	0.82	0.69	0.29	0.66	3.00***
Shared Team PCF (T2)	0.87	0.77	0.39	0.75	4.01***

Note. For F test, df (between) = 58, df (within) = 218.

*** $p < .001$; ** $p < .01$; * $p < .05$; † $p < .10$

The results for ICC2, which is an estimate of the reliability of the team means, show that the team-level reliability of shared individual PCF and shared team PCF were .66 and .75, respectively. Although it has been recommended that ICC2 should be greater than .70 (which suggests that 70% of the variance in team members is systematic, rather than error variance) (LeBreton & Senter, 2007), prior research have used lower levels of ICC2s (values ranging from the .40s to .60s) to justify aggregation (e.g. Gong, Kim, Lee, & Zhu, 2013; Kirkman, Chen, Farh, Chen, & Lowe, 2009; Schneider, Salvaggio, & Subirats, 2002) as it is widely accepted that ICC2s are not necessary for identifying group-level effects (Bliese, Maltarich, & Hendricks, 2017). As a complementary analysis, I also tested whether τ_{00} (between-group variance) in a random coefficient model is significant. To do this, I compared the -2log likelihood values (using

a χ^2 test) between two random coefficient models of shared PCFs: (a) a model with a random intercept, and (b) a model without a random intercept. For shared individual PCF and shared team PCF, I found that τ_{00} was significantly different from zero, confirming that modeling team-level variance fits the data significantly better than not. This provides good support for data aggregation at the team level. It is also important to note that both IRA and IRA+IRR indexes are higher for shared team PCF than for shared individual PCF.

In step 5, I conducted additional factor analysis at the within-team level to continue investigate the construct validity of PCF at the team level. To create the data structure required for this analysis, I calculated the difference between the individual score and his or her team mean of the respective shared PCF. According to Van Mierlo et al.'s framework, in direct-consensus composition, the group-level construct is based on shared, although individual, evaluations of a construct. Thus, within-group scores should be able to reflect systematic individual differences between team members and yield a clear one-factor solution. In contrast, in referent-shift composition, the group level construct is based on evaluations of a common target: the team. Thus, within-group scores in the same team should simply reflect measurement error. In that case, the Van Mierlo et al suggest that a factor analysis should yield no meaningful structure.

Just as in step 1, after running principal components analysis, the results yielded a 2-factor solution where reversed items indicated a single factor. To better explore this situation, I conducted confirmatory factor analysis letting the reversed-item uniquenesses to correlate. When modeling shared individual PCF, a one factor solution fit the data very well ($\chi^2 = 22.12$, $df = 4$, $p = .00$, RMSEA = .11, NNFI = .95, CFI=.98, SRMR=.016). A similar phenomenon occurred with shared team PCF ($\chi^2 = 5.32$, $df = 4$, $p = .26$, RMSEA = .031, NNFI = .99, CFI=.99,

SRMR=.011). These results suggest that the within-team factor structure for items of shared team PCF do not merely represent measurement error but also systematic error. This result may also be interpreted as evidence to support hypotheses 1b, which argues that individual-level scores influence team-level scores as team members extend their psychological contract to what happen with their teams.

Considering all the results from this section (i.e., the 5 steps), I found consistent support for hypothesis 1b, but also evidence for rejecting hypothesis 1a. The data support the idea that both constructs can be aggregated at the team level (steps 3 and 4), and that a multilevel model represents the data significantly better than a model representing only individual level data (step 4). Confirmatory factor analyses also support the hypothesis that the collected data are better modelled by two factors instead of one, meaning that data are better modeled when the two constructs are different (step 1). Nevertheless, the correlations found among items and scales of shared individual PCF and shared team PCF are higher than what is expected by chance (step 2). The high correlations found at individual, within-team, and especially at the between-team level ($r = .94$), suggest that the constructs are very similar. That is, individuals seem to differentiate between their own perceptions of PCF and that of their team as a whole (step 2 and 5), however that distinction is less clear at the team level. I will expand this discussion in the next chapter.

5.2. Confirmatory Factor Analysis for Hypothesis Testing

Before testing Hypotheses 2-9, I examined the adequacy of the measurement models a) between the predictors and shared PCFs, b) between shared PCFs and team motivation variables, c) between shared PCFs and team outcomes. These analyses were conducted using the software Lisrel 8.8. Table 6 shows the confirmatory factor analysis at the individual and team level for PCF, justice, and POS. Models at the team level had one degree of freedom less because I let

correlate the error term of the reversed items of the PCF scale (as suggested in the previous section).

TABLE 6: CFA for Team-Level Antecedents of Team PCF Construct

MODELS		χ^2	<i>df</i>	RMSEA	NNFI	CFI	SRMR	$\Delta\chi^2$	Δdf
<i>Individual Level</i>									
Model 1:	3 Factors :PCF, PJ, POS	120.21***	61	.070	.98	.98	.053	-	-
Model 2:	2 Factors: Merge PCF+POS	517.28***	63	.240	.84	.86	.150	397.07*** (1 vs 2)	2
Model 3:	2 Factors: Merge PCF+PJ	566.75***	63	.240	.82	.86	.170	446.54*** (1 vs 3)	2
Model 4:	2 Factors: Merge PJ+POS	348.73***	63	.180	.90	.92	.078	228.52*** (1 vs 4)	2
<i>Team Level Shared Team PCF</i>									
Model 5:	3 Factors :PCF, PJ, POS	103.71***	60	.100	.96	.97	.070	-	-
Model 6:	2 Factors: Merge PCF+POS	245.26***	62	.230	.84	.87	.230	141.55*** (5 vs 6)	2
Model 7:	2 Factors: Merge PCF+PJ	324.49***	62	.300	.77	.82	.250	220.78*** (5 vs 7)	2
Model 8:	2 Factors: Merge PJ+POS	125.39***	62	.120	.94	.96	.068	21.68*** (5 vs 8)	2
<i>Team Level Shared Individ. PCF</i>									
Model 9:	3 Factors :PCF, PJ, POS	115.12***	60	.110	.95	.96	.049	-	-
Model 10:	2 Factors: Merge PCF+POS	257.13***	62	.240	.83	.86	.220	142.01*** (9 vs 10)	2
Model 11:	2 Factors: Merge PCF+PJ	232.19***	62	.300	.77	.82	.220	117.07*** (9 vs 11)	2
Model 12:	2 Factors: Merge PJ+POS	137.77***	62	.130	.93	.95	.050	22.65*** (9 vs 12)	2

Note. PCF=Psychological Contract Fulfillment, PJ=Procedural Justice Climate, POS=Perceived Organizational Support. $N_{\text{individual-level}}=189$. $N_{\text{team-level}}=57$ *** $p < .001$; ** $p < .01$; * $p < .05$; † $p < .10$.

At the individual and team levels, the proposed models of 3 factors fit the data well (Model 1: $\chi^2 = 120.21$, $df = 61$, $p < .001$, RMSEA = .070, NNFI = .98, CFI=.98, SRMR=.053; Model 5: $\chi^2 = 103.71$, $df = 60$, $p < .001$, RMSEA = .10, NNFI = .96, CFI=.97, SRMR=.070; Model 9: $\chi^2 = 115.12$, $df = 60$, $p < .001$, RMSEA = .11, NNFI = .95, CFI=.96, SRMR=.049). At the team level, the RMSEA values are a little higher than the recommended cut point, however,

this index tends to be too large when sample sizes are small (Kenny, Kaniskan, & McCoach, 2015). In addition, the hypothesized models were significantly better than other alternative models (Models 2-4, 6-8, 10-12). The alternative models included combinations of PCF items with POS items or Justice items. These results generally show that these are appropriate measurement models at both individual and team levels.

TABLE 7: Confirmatory Factor Analysis between PCF and motivation measures

MODELS		χ^2	<i>df</i>	RMSEA	NNFI	CFI	SRMR	$\Delta\chi^2$	Δdf
<i>Individual Level</i>									
Model 1:	Hypothesized Model: 5 factors	597.63	333	0.057	0.96	0.96	0.080	-	-
Model 2:	Merge: PFC + Self Efficacy	1261.29	337	0.130	0.85	0.87	0.150	663.66*** (1 vs 2)	4
Model 3:	Merge: PFC + Affect-CT	779.19	337	0.077	0.93	0.94	0.110	181.56*** (1 vs 3)	4
Model 4:	Merge: PFC + Affect-DE	1226.69	337	0.110	0.86	0.88	0.120	629.06*** (1 vs 4)	4
Model 5:	Merge: PFC + PO Fit	1201.71	337	0.100	0.86	0.88	0.120	604.08*** (1 vs 5)	4
<i>Team Level Shared Team PCF</i>									
Model 6:	Hypothesized Model: 5 factors	213.92	124	0.090	0.94	0.95	0.061	-	-
Model 7:	Merge: PFC + Team Potency	337.82	128	0.160	0.86	0.88	0.160	123.90*** (6 vs 7)	4
Model 8:	Merge: PFC + Affect-CT Tone	309.02	128	0.150	0.88	0.90	0.120	95.10*** (6 vs 8)	4
Model 9:	Merge: PFC + Affect-DE Tone	318.21	128	0.140	0.87	0.89	0.130	104.29*** (6 vs 9)	4
Model 10:	Merge: PFC + Coll. Fit	421.36	128	0.180	0.80	0.83	0.170	207.44*** (6 vs 10)	4
<i>Team Level Shared Individ. PCF</i>									
Model 11:	Hypothesized Model: 5 factors	178.52	124	0.069	0.96	0.97	0.061	-	-
Model 12:	Merge: PFC + Team Potency	293.50	128	0.140	0.89	0.91	0.140	114.98*** (11 vs 12)	4
Model 13:	Merge: PFC + Affect-CT Tone	274.23	128	0.130	0.90	0.92	0.120	95.71*** (11 vs 13)	4
Model 14:	Merge: PFC + Affect-DE Tone	288.78	128	0.130	0.89	0.91	0.130	110.26*** (11 vs 14)	4
Model 15:	Merge: PFC + Coll. Fit	369.30	128	0.170	0.84	0.87	0.150	190.78*** (11 vs 15)	4

Note. PCF.I= Psychological Contract Fulfillment; CT: Calmness-Tension; DE: Depression-Enthusiasm; PO: Person-Organization. $N_{\text{individual-level}}=249$; $N_{\text{team-level}}=58$. All χ^2 in the table are significant at the $p < .001$ level.

Then, I conducted a series of CFA to examine the measurement models of PCF, motivation, and outcomes scales. In order to model an appropriate number of free-estimated parameters in relation to the sample size, I conducted CFA models to test the measurement model of PCF and motivation variables, and the measurement model of PCF and outcomes, separately. Thus, Table 7 shows a summary of CFAs between PCF and motivation variables, and Table 8 shows a summary of CFAs between PCF and outcome variables.

In the CFAs for PCF and motivation (Table 7), the hypothesized measurement models at the individual level provided good fit to the data (Individual Level: $\chi^2 = 597.63$, $df = 333$, $p < .001$, $RMSEA = .057$, $NNFI = .96$, $CFI = .96$, $SRMR = .080$). However, I also investigated alternative measurement models that combine PCF variables with motivation variables. These alternative models resulted in worse fit indexes.

At the team level, first I calculated the within-team average of all the items used in the surveys. These within-team averages were used as initial indicators for CFAs at the team level. Then, a parceling procedure was implemented to ensure that there was enough sample size to run the models. I used the single-factor method (Landis et al., 2000), where items are assigned to indicators based on the factor loadings in exploratory factor analysis (the items with the highest factor loading is assigned to the first indicator, the second highest to the next indicator, and so forth). Then, I created 4 parcel items for team potency, 3 parcel items for affect calmness-tension (CT), and 3 parcel items for affect depression-enthusiasm (DE). In addition, I let the error terms of reversed PCF items to correlate.

Then, I run the CFAs at the team level for shared team PCF (models 6-10) and shared individual PCF (models 11-15) separately. The hypothesized models showed good fit (Hypothesized model for Shared Team PCF: $\chi^2 = 213.92$, $df = 124$, $p < .001$, $RMSEA = .090$,

NNFI = .94, CFI=.95, SRMR=.061; For Shared Individual PCF: $\chi^2 = 178.52$, $df = 124$, $p < .001$, RMSEA = .069, NNFI = .96, CFI=.97, SRMR=.061). The hypothesized models at the team level were significantly better than alternative models that combined shared PCFs with other team motivation variables.

TABLE 8: Confirmatory Factor Analysis between PCF and outcome measures

MODELS		χ^2	df	RMSEA	NNFI	CFI	SRMR	$\Delta\chi^2$	Δdf
<i>Individual Level</i>									
Model 1:	Hypothesized Model: 5 factors	975.94	544	0.070	0.94	0.95	0.090	-	-
Model 2:	Merge: PFC + Engagement	1827.82	548	0.150	0.83	0.84	0.200	851.88*** (1 vs 2)	4
Model 3:	Merge: PFC + In-role Performance	1598.27	548	0.130	0.86	0.87	0.140	622.33*** (1 vs 3)	4
Model 4:	Merge: PFC + Contextual Perf.	1324.45	548	0.110	0.89	0.90	0.150	348.51*** (1 vs 4)	4
Model 5:	Merge: PFC + Turnover Intent	1090.18	548	0.080	0.93	0.93	0.100	114.24*** (1 vs 5)	4
<i>Team Level Shared Team PCF</i>									
Model 6:	Hypothesized Model: 5 factors	136.52	105	0.052	0.95	0.96	0.120	-	-
Model 7:	Merge: PFC + Team Engagement	209.79	109	0.098	0.84	0.87	0.140	73.27*** (6 vs 7)	4
Model 8:	Merge: PFC + Team Performance	236.99	109	0.100	0.80	0.84	0.160	100.47*** (6 vs 8)	4
Model 9:	Merge: PFC + Team OCBs	224.15	109	0.140	0.82	0.85	0.160	87.63*** (6 vs 9)	4
Model 10:	Merge: PFC + Avrg Turnover Int	244.63	109	0.120	0.79	0.83	0.150	108.11*** (6 vs 10)	4
<i>Team Level Shared Individ. PCF</i>									
Model 11:	Hypothesized Model: 5 factors	116.22	105	0.000	0.98	0.99	0.120	-	-
Model 12:	Merge: PFC + Team Engagement	187.31	109	0.077	0.88	0.90	0.130	71.09*** (11 vs 12)	4
Model 13:	Merge: PFC + Team Performance	218.35	109	0.087	0.83	0.86	0.160	102.13*** (11 vs 13)	4
Model 14:	Merge: PFC + Team OCBs	204.36	109	0.130	0.85	0.88	0.160	88.14*** (11 vs 14)	4
Model 15:	Merge: PFC + Avrg Turnover Int	219.97	109	0.100	0.83	0.86	0.150	103.75*** (11 vs 15)	4

Note. PCF= Psychological Contract Fulfillment; OCBs: Organizational Citizenship Behaviors. $N_{\text{individual-level}}=249$; $N_{\text{team-level}}=58$. All χ^2 in the table are significant at the $p < .001$ level.

In the CFAs for PCF and outcomes (Table 8), the hypothesized measurement models at the individual level provided good fit to the data as well (Individual Level: $\chi^2 = 975.94$, $df = 544$, $p < .001$, $RMSEA = .07$, $NNFI = .94$, $CFI = .95$, $SRMR = .090$). Moreover, alternative models showed worse fit than the hypothesized model. At the team level, I also used a parceling procedure to maintain an appropriate parameter to sample size ratio. Similar to the CFAs summarized in table 7, I also used single-factor method to assign items to parcel indicators. Thus, I created 3 parcel indicators for team engagement, 3 parcels for team performance, and 4 parcels for OCBs. Finally, in these team-level models, I also created error terms between reversed items of PCF and between some parcel items within the same construct. The results show that the hypothesized models were better than alternative models which combined different outcomes with PCF items (Hypothesized model for Shared Team PCF: $\chi^2 = 136.52$, $df = 105$, $p < .05$, $RMSEA = .052$, $NNFI = .95$, $CFI = .96$, $SRMR = .12$; For Shared Individual PCF: $\chi^2 = 116.22$, $df = 105$, $p = .21$, $RMSEA = .00$, $NNFI = .98$, $CFI = .99$, $SRMR = .12$). All these results provide evidence for the adequacy of the measurement models.

5.3. Antecedents of the Level of Shared PCFs

Hypotheses 2 and 3 proposed that there would be a positive relationship between justice climate and Shared PCFs and between POS climate and Shared PCFs, respectively. To test these hypotheses, I run different regression models at the team level. Table 9 summarizes the coefficients obtained to test hypotheses 2 and 3.

As hypothesized, the variables at time 1 were significant predictors of variables at time 2. The results show that justice climate has significant relationship with shared individual PCF ($b = .48$, $SE = 0.09$, $p < .001$) and shared team PCF ($b = .51$, $SE = 0.08$, $p < .001$), supporting hypotheses 2a and 2b, respectively. Also, the results show that POS climate was a significant

predictor of shared individual PCF ($b = .54, SE = 0.11, p < .001$) and shared team PCF ($b = .59, SE = 0.11, p < .001$), supporting hypotheses 3a and 3b. When the two predictors are included in the models together, the effects of POS climate become not significant. Even though the VIF are not higher than 10 ($VIF = 3.75$) showing no collinearity problems, this effect may still be due to a high correlation between the predictors ($r = .86$). In these full models, Justice Climate was still a significant predictor of Team PCF.

TABLE 9: Team-Level Predictors of Level of Shared PCFs

Variables	Shared Individual PCF LEVEL (t2)			Shared Team PCF LEVEL (t2)		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Intercept	3.20*** (0.39)	2.56*** (0.58)	2.97*** (0.58)	2.99*** (0.38)	2.22*** (0.56)	2.61*** (0.56)
Justice Climate (t1)	0.48*** (0.09)		0.41* (0.17)	0.51*** (0.08)		0.38* (0.16)
POS Climate (t1)		0.54*** (0.11)	0.11 (0.21)		0.59*** (0.11)	0.19 (0.20)
R^2	.38	.31	.38	.41	.36	.42
F	31.34***	23.14***	15.59***	36.36***	29.30***	18.56***

Note. N = 53. Standard errors in parenthesis. *** $p < .01$; ** $p < .05$; * $p < .10$; † $p < .20$

5.4. Antecedents of the Strength of Shared PCFs

Hypotheses 4, 5, and 6 proposed that team size, team interdependence⁶, and LMX differentiation, respectively, would be related to the strength of shared PCFs, operationalized as the within-team standard deviation of PCF ratings. To test these hypotheses, a multiple regression analysis was conducted using team size at time 2 and LMX differentiation at time 1 as

⁶ As mentioned in the previous chapter, team interdependence was dropped from the study due to the unreliability of the scale either at individual or team levels of analysis. Thus, hypotheses 5a and 5b were not tested. In order to get rid of the possibility that individuals in my sample understand interdependence in a different way due to cultural differences or other idiosyncratic variables, I also measured interdependence using a different scale at time 3 developed by (Kiggundu, 1983). The new scale showed good reliability at individual level ($\alpha = .82$) and at the team level ($ICC2 = .58$). The $ICC1$ was .21 and the Median Rwg was .87. Thus, the main source of the problematic scale does not seem to be exclusively related to the nature of the sample.

predictors of Shared PCFs at time 2. Table 10 shows a summary of the resulting standardized coefficients.

Following recommendations of testing team-level relationships of dispersion constructs (Roberson, Sturman, & Simons, 2007), a p -value of .10 or lower was considered a significant relationship. But even with this more liberal alpha level, none of the antecedents significantly predicted the strength of shared PCFs. Team size was not significantly related to either shared individual PCF ($b = -0.00$, $SE = 0.01$, $p > .10$) or to shared team PCF ($b = -0.01$, $SE = 0.01$, $p > .10$)⁷. These results fail to support hypothesis 4a and 4b. Similarly, LMX differentiation was not significantly related to either shared individual PCF ($b = .13$, $SE = 0.09$, $p > .10$) or to shared team PCF ($b = .11$, $SE = 0.10$, $p > .10$), failing to support hypothesis 6a and 6b. Finally, models 3 and 6 assessed the relationship between all the antecedents together and the strength of shared PCFs. The results remained consistent in comparison to previous models.

TABLE 10: Team-Level Predictors of Strength of Shared PCFs

Variables	Shared Individual PCF STRENGTH (t2)			Shared Team PCF STRENGTH (t2)		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Intercept	1.00*** (0.10)	0.82*** (0.13)	0.85*** (0.15)	0.89 (0.10)	0.72*** (0.14)	0.75*** (0.16)
Team Size (t2)	-0.00 (0.01)		-0.00 (0.01)	-0.01 (0.01)		-0.01 (0.01)
LMX Differentiation (t1)		0.13 (0.09)	0.12 (0.10)		0.11 (0.10)	0.11 (0.10)
R^2	.00	.03	.03	.01	.02	.03
F	0.09	1.74	0.92	0.28	1.20	0.76

Note. $N = 53$. *** $p < .01$; ** $p < .05$; * $p < .10$

⁷ In order to get rid of the possibility that the team size measure at time 2 was not contaminated by natural fluctuations in the demand of labor of the company, I also tested these effects using team size at time 1. However, the results remained negative.

5.5. Team-Level Outcomes of Shared PCFs.

Hypotheses 7a and 7b proposed that shared PCFs predict important team level outcomes such as team performance, team-level OCBs, average turnover intentions, and team engagement. To test these hypotheses, I conducted multiple regression analyses at the team level, using response size at time 2 as a weight. Results in Table 11 showed that shared individual PCF (top half portion of the table) was a significant predictor of team OCBs ($b = 0.26$, $SE = 0.09$, $p < .01$, $R^2 = .12$), and average turnover intentions ($b = -0.24$, $SE = 0.10$, $p < .05$, $R^2 = .09$). In contrast, shared individual PCF was not a significant predictor of team performance ($b = 0.05$, $SE = 0.11$, $n. sig.$, $R^2 = .00$) or team engagement ($b = 0.02$, $SE = 0.05$, $n. sig.$, $R^2 = .00$). These results provide partial support for Hypothesis 7a. Likewise, shared team PCF (bottom half portion of table 11) was a significant predictor of team OCBs ($b = .28$, $SE = 0.09$, $p < .01$, $R^2 = .16$), and average turnover intentions ($b = -0.20$, $SE = 0.10$, $p < .10$, $R^2 = .07$), but not of team performance ($b = 0.07$, $SE = 0.10$, $n. sig.$, $R^2 = .01$) or team engagement ($b = 0.02$, $SE = 0.05$, $n. sig.$, $R^2 = .00$). These results provide partial support for Hypothesis 7b⁸.

As a post-hoc analysis, I also explored whether shared PCFs significantly predict specific dimensions of team engagement. The results show that shared individual PCF was significantly related to the emotional ($b = 0.25$, $SE = 0.08$, $p < .01$, $R^2 = .14$) and cognitive ($b = -0.14$, $SE = 0.05$, $p < .05$, $R^2 = .10$) dimensions of team engagement, but not to the physical dimension ($b = -0.05$, $SE = 0.05$, $p = .34$, $R^2 = .02$). Similar results were found for shared team PCF, which was

⁸ In order to investigate the robustness of the previous results, I also conducted three additional analyses: First, I included other variables in the models (gender proportion and average team tenure) to check whether the relationships hold when controls are included. The results did not change for any of the previous models, however, the sample size decreased even more as tenure was measured with a self-reported question. Second, in order to use all the available information in the database, I conducted a multiple imputation process using the package MICE in the software R. This process creates alternative databases filling missing data by predicted values based on the available information. After using multiple imputation, the sample size increased to 68 teams, however, the results did not change in terms of rejecting or accepting different hypotheses. Finally, I tested different types of weights (response size per team vs team size), but the same results hold.

significantly related to the emotional ($b = 0.24$, $SE = 0.08$, $p < .01$, $R^2 = .13$) and cognitive ($b = -0.13$, $SE = 0.05$, $p < .05$, $R^2 = .10$) dimensions of team engagement but not to physical engagement ($b = -0.04$, $SE = 0.05$, $p = .43$, $R^2 = .01$). In line with my predictions, shared PCFs were *positively* related to emotional engagement. However, shared PCFs were *negatively* related to cognitive engagement, which is an effect in the opposite direction of what was originally predicted.

TABLE 11: Team-Level Outcomes of Shared PCFs

Variables	Team Outcomes (T3)			
	Team Performance	Team OCBs	Average Turnover Intention	Team Engagement
	Model 1	Model 2	Model 3	Model 4
Intercept	5.88*** (0.57)	4.38*** (0.49)	3.67*** (0.54)	6.09*** (0.26)
Shared <i>Individual</i> PCF (T2)	0.05 (0.11)	0.26*** (0.09)	-0.24** (0.10)	0.02 (0.05)
R^2	.00	.12	.09	.00
F	0.21	7.80***	5.47**	0.21
	Model 5	Model 6	Model 7	Model 8
Intercept	5.78*** (0.54)	4.28*** (0.45)	3.44*** (0.52)	6.09*** (0.05)
Shared <i>Team</i> PCF (T2)	0.07 (0.10)	0.28*** (0.09)	-0.20* (0.10)	0.02 (0.05)
R^2	.01	.16	.07	.00
F	0.44	10.35***	3.89*	0.23

Note. N=58. Standard errors in parenthesis. *** $p < .01$; ** $p < .05$; * $p < .10$; † $p < .20$

5.6. Team Motivation as a Mediator of Shared PCFs

Hypotheses 8a and 8b proposed that shared PCFs would be significant predictors of team motivation, operationalized in the form of team potency, affective climate, and external collective fit. Hypotheses 9a and 9b proposed that team motivation variables mediate the relationship between shared PCFs and team outcomes. The results for these hypotheses are

summarized in Tables 12-15. In each table, one specific team motivation variable is tested as an outcome of shared PCFs and as a mediator between shared PCFs and team-level outcomes. To test mediation, I used the bootstrapping method, which consists in randomly generating multiples subsamples (in this case, 1000), and calculating confidence intervals of the distribution of the calculated indirect effect of each of those 1000 samples. Confidence intervals that do not include zero provide evidence for a significant indirect or mediation effect.

Table 12 shows that shared individual PCF ($b = 0.25$, $SE = 0.06$, $p < .01$, $R^2 = .23$) and shared team PCF ($b = 0.24$, $SE = 0.06$, $p < .01$, $R^2 = .22$) are significantly related to team potency. These results support hypotheses 8a and 8b.

However, team potency was not related to either of the dependent variables. Then, the indirect effects of shared *individual* PCF on team outcomes through team potency, were not significant for either team performance (Indirect Effect = 0.07, Bootstrap = 1000 C.I. 90% [-.01, .15]), team OCBs (Indirect Effect = -0.01, Bootstrap = 1000 C.I. 90% [-.13, .06]), average turnover intentions (Indirect Effect = 0.02, Bootstrap = 1000 C.I. 90% [-.08, .14]), or all the dimensions of team engagement, i.e. team engagement-physical (Indirect Effect = 0.00, Bootstrap = 1000 C.I. 90% [-.04, .05]), team engagement-emotional (Indirect Effect = -0.01, Bootstrap = 1000 C.I. 90% [-.11, .09]), or team engagement-cognitive (Indirect Effect = 0.03, Bootstrap = 1000 C.I. 90% [-.03, .09]). Moreover, the coefficients of shared individual PCF did not change significantly in comparison to the coefficients found in Table 11, which tested the direct effects of shared PCFs on team outcomes. Thus, hypotheses 9a is not supported. The indirect effect of shared *team* PCF on team outcomes through team potency, was not significant either for team performance (Indirect Effect = 0.06, Bootstrap = 1000 C.I. 90% [-.01, .13]), team OCBs (Indirect Effect = -0.01, Bootstrap = 1000 C.I. 90% [-.10, .05]), average turnover

intentions (Indirect Effect = 0.01, Bootstrap = 1000 C.I. 90% [-.08, .13]), team engagement-physical (Indirect Effect = -0.00, Bootstrap = 1000 C.I. 90% [-.04, .03]), team engagement-emotional (Indirect Effect = 0.00, Bootstrap = 1000 C.I. 90% [-.09, .08]), or team engagement-cognitive (Indirect Effect = 0.02, Bootstrap = 1000 C.I. 90% [-.03, .08]). These results also reject hypothesis 9b.

TABLE 12: Team Potency as a Mediator Between Team PCF and Team-Level Outcomes

Variables	Team Potency (T2)	Team Performance (T3)	Team OCBs (T3)	Average Turnover Intention (T3)	Team Engagement Physical (T3)	Team Engagement Emotional (T3)	Team Engagement Cognitive (T3)
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Intercept	4.64*** (0.32)	4.64*** (1.23)	4.33*** (1.07)	3.11** (1.20)	6.79*** (0.55)	4.72*** (0.97)	6.45*** (0.64)
Shared <i>Indiv.</i> PCF (T2)	0.25*** (0.06)	-0.02 (0.12)	0.25** (0.11)	-0.27** (0.12)	-0.04 (0.05)	0.25** (0.10)	-0.16** (0.06)
Team Potency (T2)		0.27 (0.23)	0.01 (0.21)	0.12 (0.23)	-0.00 (0.11)	0.01 (0.19)	0.07 (0.12)
R^2	.23	.03	.12	0.09	0.02	.14	.11
F	17.28***	0.75	3.83**	2.84*	0.45	4.42	3.30**
Indirect Effect		0.07	-0.01	0.02	0.00	-0.01	0.03
Bootstrap = 1000 C.I. 90%		[-.01, .15]	[-.13, .06]	[-.08, .14]	[-.04, .05]	[-.11, .09]	[-.03, .09]
	Model 8	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14
Intercept	4.73*** (0.31)	4.66*** (1.23)	4.36*** (1.05)	3.12** (1.21)	6.79*** (0.55)	4.72*** (0.97)	6.44*** (0.64)
Shared <i>Team</i> PCF (T2)	0.24*** (0.06)	0.01 (0.12)	0.28*** (0.10)	-0.21* (0.12)	-0.03 (0.05)	0.23** (0.09)	-0.15** (0.06)
Team Potency (T2)		0.24 (0.24)	-0.02 (0.20)	0.07 (0.23)	-0.01 (0.11)	0.02 (0.19)	0.06 (0.12)
R^2	.22	0.03	0.16	0.07	0.01	.13	.11
F	16.16***	0.73	5.08***	1.96†	0.32	4.28**	3.25**
Indirect Effect		0.06	-0.01	0.01	-0.00	0.00	0.02
Bootstrap = 1000 C.I. 90%		[-.01, .13]	[-.10, .05]	[-.08, .13]	[-.04, .03]	[-.09, .08]	[-.03, .08]

Note. N=58. Standard errors in parenthesis. Results for shared individual PCF are in the top half portion of the table, whereas results for shared team PCF are in the bottom half portion of the table. *** $p < .01$; ** $p < .05$; * $p < .10$; † $p < .20$

Table 13 shows that shared individual PCF (Model 1: $b = -0.39$, $SE = 0.08$, $p < .01$, $R^2 = .29$) and shared team PCF (Model 8: $b = -0.39$, $SE = 0.08$, $p < .01$, $R^2 = .30$) were significantly related to the calmness-tension dimension of affective climate, supporting hypotheses 8a and 8b. This suggest that teams with higher team PCF tend to have affective climates characterized by more calmness (more calm, tranquil, and relaxed) and less tension (tense, jittery, anxious).

TABLE 13: Affective Climate (Calmness-Tension) as a Mediator Between Shared PCFs and Team-Level Outcomes

Variables	Team Affect CT (T2)	Team Performance (T3)	Team OCBs (T3)	Average Turnover Intention (T3)	Team Engagement Physical (T3)	Team Engagement Emotional (T3)	Team Engagement Cognitive (T3)
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Intercept	5.30*** (0.42)	6.09*** (1.10)	5.71*** (0.92)	1.28 (0.99)	7.84*** (0.46)	7.09*** (0.77)	7.10*** (0.56)
Shared <i>Indiv.</i> PCF (T2)	-0.39*** (0.08)	0.03 (0.13)	0.15 (0.11)	-0.06 (0.12)	-0.12** (0.05)	0.07** (0.09)	-0.16** (0.07)
Team Affect CT (T2)		-0.04 (0.18)	-0.25* (0.15)	0.45*** (0.16)	-0.20*** (0.07)	-0.44 (0.12)	-0.06 (0.09)
R^2	.29	.00	.17	.20	0.13	.30	.11
F	23.84***	0.13	5.47***	7.04***	4.21**	11.72***	3.40**
Indirect Effect		0.01	0.09	-0.18	0.07	0.15	0.02
Bootstrap = 1000 C.I. 90%		[-.08, .10]	[.01, .21]	[-.30, -.06]	[.02, .12]	[.05, .25]	[-.03, .07]
	Model 8	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14
Intercept	5.23*** (0.40)	5.86*** (1.07)	5.40*** (0.89)	0.88 (0.97)	7.74*** (0.45)	7.16*** (0.76)	7.07*** (0.55)
Shared <i>Team</i> PCF (T2)	-0.39*** (0.08)	0.06 (0.12)	0.20* (0.10)	-0.01 (0.11)	-0.11 (0.05)	0.06 (0.09)	-0.16** (0.06)
Team Affect CT (T2)		-0.02 (0.18)	-0.22 (0.15)	0.49*** (0.16)	-0.19** (0.07)	-0.45*** (0.13)	-0.06 (0.09)
R^2	.30	0.01	0.19	0.20	0.12	.30	.11
F	24.64***	0.22	6.34***	6.87***	3.75**	11.64**	3.38**
Indirect Effect		-0.00	0.08	-0.19	0.07	0.15	0.02
Bootstrap = 1000 C.I. 90%		[-.09, .08]	[.003, .19]	[-.32, -.08]	[.02, .12]	[.06, .26]	[-.04, .07]

Note. N=58. Standard errors in parenthesis. Results for shared individual PCF are in the top half portion of the table, whereas results for shared team PCF are in the bottom half portion of the table. *** $p < .01$; ** $p < .05$; * $p < .10$; † $p < .20$

When team PCF and affective climate (CT) are tested together as predictors of team outcomes, the indirect effects were significantly different from zero for most dependent variables. The indirect effects of shared individual PCF on team outcomes through team affect (CT), was significant for team OCBs (Indirect Effect = 0.09, Bootstrap = 1000 C.I. 90% [.01, .21]), average turnover intentions (Indirect Effect = -0.18, Bootstrap = 1000 C.I. 90% [-.30, -.06]), team engagement-physical (Indirect Effect = 0.07, Bootstrap = 1000 C.I. 90% [.02, .12]), and team engagement-emotional (Indirect Effect = 0.15, Bootstrap = 1000 C.I. 90% [.05, .25]). Similar results were found for the indirect effects of shared team PCF on team outcomes through team affect (CT). Specifically, the results show significant indirect effects for team OCBs (Indirect Effect = 0.08, Bootstrap = 1000 C.I. 90% [.003, .19]), average turnover intentions (Indirect Effect = -0.19, Bootstrap = 1000 C.I. 90% [-.32, -.08]), team engagement-physical (Indirect Effect = 0.07, Bootstrap = 1000 C.I. 90% [.02, .12]), and team engagement-emotional (Indirect Effect = 0.15, Bootstrap = 1000 C.I. 90% [.06, .26]). These results provided mixed support for hypotheses 9a and 9b.

Similarly, Table 14 shows that shared individual PCF (Model 1: $b = 0.36$, $SE = 0.07$, $p < .01$, $R^2 = .32$) and shared team PCF (Model 8: $b = .36$, $SE = 0.07$, $p < .01$, $R^2 = .34$) were significantly related to the depression-enthusiasm (DE) dimension of affective climate, supporting hypotheses 8a and 8b. This suggest that teams with higher shared PCFs tend to have affective climates characterized by more enthusiasm (more cheerful, enthusiastic, optimistic) and less depressive affects (pessimistic, gloomy, discouraged).

TABLE 14: Affective Climate (Depression-Enthusiasm) as a Mediator Between Shared PCFs and Team-Level Outcomes

Variables	Team Affect DE (T2)	Team Performance (T3)	Team OCBs (T3)	Average Turnover Intention (T3)	Team Engagement Physical (T3)	Team Engagement Emotional (T3)	Team Engagement Cognitive (T3)
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Intercept	3.82*** (0.37)	6.87*** (0.96)	3.97*** (0.84)	4.88** (0.92)	6.18*** (0.42)	3.00*** (0.70)	6.05*** (0.49)
Shared <i>Indiv.</i> PCF (T2)	0.36*** (0.07)	0.15 (0.13)	0.22* (0.11)	-0.12 (0.12)	-0.10* (0.06)	0.08 (0.10)	-0.21*** (0.07)
Team Affect DE (T2)		-0.26 (0.21)	0.11 (0.18)	-0.32 (0.20)	0.16* (0.09)	0.46*** (0.15)	0.19 (0.11)
R^2	.32	.03	.13	0.13	0.07	.26	.15
F	26.68***	0.91	4.03**	4.13**	1.99†	9.78***	4.92**
Indirect Effect		-0.08	0.04	-0.14	0.05	0.16	0.07
Bootstrap = 1000 C.I. 90%		[-.22, .02]	[-.05, .13]	[-.29, .01]	[-.00, .10]	[.04, .30]	[.01, .15]
	Model 8	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14
Intercept	3.85*** (0.35)	6.94*** (0.96)	4.08*** (0.82)	4.87*** (0.93)	6.14*** (0.42)	3.02*** (0.71)	5.98*** (0.49)
Shared <i>Team</i> PCF (T2)	0.36*** (0.07)	0.18 (0.13)	0.26** (0.11)	-0.06 (0.12)	-0.09† (0.06)	0.07 (0.09)	-0.21*** (0.06)
Team Affect DE (T2)		-0.30 (0.21)	0.05 (0.18)	-0.37* (0.20)	0.15† (0.09)	0.47*** (0.15)	0.20* (0.11)
R^2	.34	0.05	0.16	0.12	0.06	.26	.15
F	29.35***	1.29	5.13***	3.73**	1.69	9.66***	5.02***
Indirect Effect		-0.09	0.02	-0.15	0.05	0.16	0.07
Bootstrap = 1000 C.I. 90%		[-.23, .01]	[-.07, .11]	[-.30, .00]	[-.01, .10]	[.04, .30]	[.01, .15]

Note. N=58. Standard errors in parenthesis. Results for shared individual PCF are in the top half portion of the table, whereas results for shared team PCF are in the bottom half portion of the table. *** $p < .01$; ** $p < .05$; * $p < .10$; † $p < .20$

When affective climate (ED) was tested as a mediator, I found mixed results. The indirect effects of shared *individual* PCF on team outcomes through team affect (DE) was significant only for team engagement-emotional (Indirect Effect = 0.16, Bootstrap = 1000 C.I. 90% [.04, .30]) and team engagement-cognitive (Indirect Effect = 0.07, Bootstrap = 1000 C.I. 90% [.01, .15]). The same result were found for the indirect effects of shared *team* PCF on team outcomes through team affect (DE), which were only significant for team engagement-emotional (Indirect

Effect = 0.16, Bootstrap = 1000 C.I. 90% [.04, .30]), and team engagement-cognitive (Indirect Effect = 0.07, Bootstrap = 1000 C.I. 90% [.01, .15]). These results provided mixed support for hypotheses 9a and 9b.

Finally, Table 15 shows that shared individual PCF (Model 1: $b = 0.46$, $SE = 0.10$, $p < .01$, $R^2 = .09$) and shared team PCF (Model 8: $b = .38$, $SE = 0.10$, $p < .01$, $R^2 = .09$) were positively and significantly related to external collective fit, supporting hypotheses 8a and 8b. When external collective fit was tested as a mediator, the only indirect effect that was significantly different from zero was the indirect effect of shared team PCF on turnover intentions (Indirect Effect = -0.10, Bootstrap = 1000 C.I. 90% [-.20, -.003]). The indirect effects of shared individual PCF on average turnover intentions was not significant (Indirect Effect = -0.12, Bootstrap = 1000 C.I. 90% [-.23, .01]). These results generally reject hypotheses 9a and 9b, except for the relationship among shared team PCF, external collective fit, and average turnover intentions.

TABLE 15: External Collective Fit as a Mediator Between Shared PCFs and Team-Level Outcomes

Variables	Collective Fit (T2)	Team Performance (T3)	Team OCBs (T3)	Average Turnover Intention (T3)	Team Engagement Physical (T3)	Team Engagement Emotional (T3)	Team Engagement Cognitive (T3)
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Intercept	3.31*** (0.53)	5.55*** (0.75)	4.27*** (0.65)	4.28** (0.70)	6.74*** (0.32)	4.52*** (0.57)	6.59*** (0.38)
Shared <i>Indiv.</i> PCF (T2)	0.46*** (0.10)	0.01 (0.13)	0.25** (0.11)	-0.15 (0.12)	-0.05 (0.06)	0.22** (0.10)	-0.16** (0.06)
Collective Fit (T2)		0.10 (0.15)	0.03 (0.13)	-0.19† (0.14)	0.01 (0.11)	0.07 (0.11)	0.05 (0.07)
R^2	.27	.01	.13	0.12	0.02	.14	.11
F	20.85***	0.33	3.87**	3.70*	0.46	4.63**	3.41*
Indirect Effect		0.04	0.02	-0.12	0.01	0.06	0.04
Bootstrap = 1000 C.I. 90%		[-.04, .15]	[-.08, .08]	[-.23, .01]	[-.03, .04]	[-.03, .14]	[-.02, .10]
	Model 8	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14
Intercept	3.71*** (0.52)	5.48*** (0.75)	4.16*** (0.64)	4.24** (0.71)	6.73*** (0.33)	4.48*** (0.58)	6.61*** (0.38)
Shared <i>Team</i> PCF (T2)	0.38*** (0.10)	0.04 (0.12)	0.27*** (0.10)	-0.12* (0.11)	-0.04 (0.05)	0.20** (0.09)	-0.15** (0.06)
Collective Fit (T2)		0.08 (0.14)	0.03 (0.12)	-0.22† (0.13)	-0.00 (0.06)	0.09 (0.11)	0.03 (0.07)
R^2	.20	0.01	0.16	0.11	0.01	.15	.11
F	14.38***	0.38	5.13***	3.37**	0.31	4.68**	3.23*
Indirect Effect		0.03	0.01	-0.10	0.00	0.05	0.02
Bootstrap = 1000 C.I. 90%		[-.03, .12]	[-.08, .06]	[-.20, -.003]	[-.04, .03]	[-.02, .13]	[-.03, .06]

Note. N=58. Standard errors in parenthesis. Results for shared individual PCF are in the top half portion of the table, whereas results for shared team PCF are in the bottom half portion of the table. *** $p < .01$; ** $p < .05$; * $p < .10$; † $p < .20$

5.7. Cross-Level Effects of Shared PCFs

To test Hypotheses 10a and 10b, I conducted several analyses using random coefficient modelling (RCM) and the multilevel package developed in R. Hypotheses 10a and 10b stated that shared individual PCF and shared team PCF, respectively, moderate the relationship between individual PCF and individual outcomes, such that the relationship would be stronger when shared PCFs are similar to individual level perceptions of how the organization fulfills employment promises.

Table 16 shows the interaction effects of shared individual PCF whereas Table 17 shows the results for shared team PCF. In model 1, I simply tested the individual level relationship between individual PCF and individual outcomes using RCM. RCM provides unbiased parameter estimates, given that the individual level data are nested in teams and thus are non-independent. In models 2 and 3 I included the direct effects of both individual and team-level PCF variables. In models 2 the slopes per team are fixed, whereas in models 3 the slope per team can vary across teams. In the last two models, I conducted a formal test of variation of slopes. A significant test of random slopes suggests that the slopes per team are significantly different from each other. But even if the slopes did not statistically vary, interactions effects were estimated anyway in models 4, as several authors have strongly recommended to continue with an interaction test when theory supports the effect (Bliese et al., 2017; Snijders & Bosker, 1999). Finally, models 5 test the interaction effects using group-mean centering in order to verify that the interaction effect is not artificially created by group means interacting (Bliese et al., 2017; Hofmann & Gavin, 1998).

As expected, and congruent with the literature on PCF, most of the relationships in models 1 in tables 15 and 16 were significant and in the expected direction, with the exception of

engagement which was not significant. A post-hoc analysis revealed that when engagement is disaggregated into 3 different dimensions, PCF was significantly related to emotional engagement ($b = 0.18, SE = 0.05, p < .001$), but not to physical ($b = 0.02, SE = 0.04, n. sig$) or cognitive engagement ($b = -0.06, SE = 0.04, n. sig$). The models that tested the individual-level relationship between PCF and the 3 dimensions of engagement were the only models where an analysis of subdimensions of engagement created any difference.

Regarding the results of the tests of slope variability, none of these tests was significant, using either shared individual PCF or shared team PCF. This suggests that the tests were not able to detect significant variation of slopes across teams. Also, in the case of turnover intentions, the random slope model 3 did not converge either in tables 16 or 17. This non-convergence occurred even after applying functions to optimize the convergence process. Thus, the test of different slopes for PCF and turnover intentions across teams could not be tested.

Regarding the tests of interaction coefficients, the cross-level shared individual PCF \times individual PCF interaction term was significant when the dependent variable was contextual performance ($b = 0.08, SE = 0.04, p < .10$), turnover intention ($b = -0.20, SE = 0.10, p < .05$), and engagement ($b = 0.08, SE = 0.05, p < .10$). However, when I tested the interaction effects using group-mean centering, the only interaction effect that remained significant was contextual performance ($b = 0.10, SE = 0.06, p < .05$). These results remained the same even when I separately tested the interaction effects for specific dimensions of individual engagement. As shown in Figure 3, individual PCF related more positively to contextual performance when shared individual PCF was high, supporting the hypothesis. In conclusion, all this evidence suggests that Hypothesis 10a was only supported for contextual performance.

TABLE 16: Cross-Level Analysis of Individual-Level Outcomes (Shared Individual PCF)

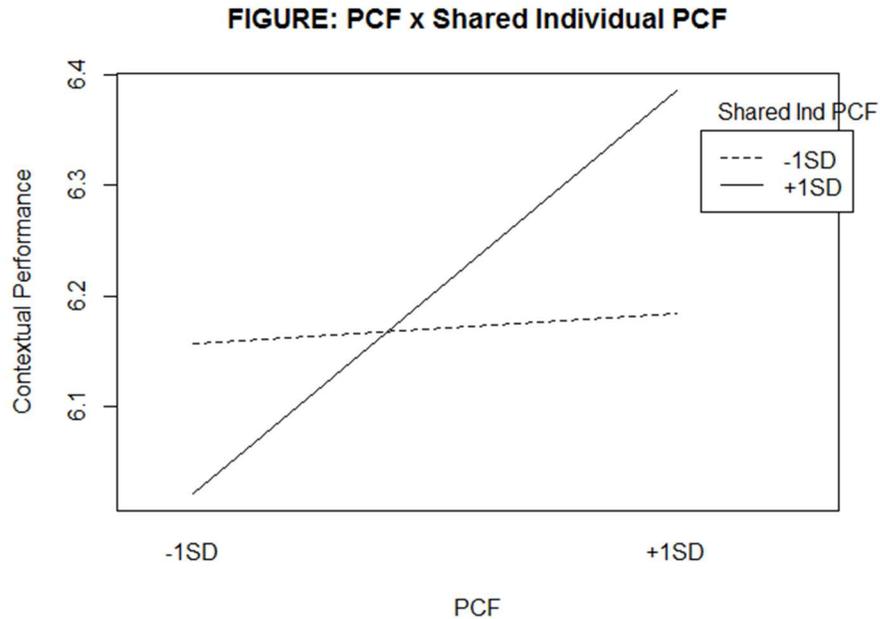
Variables	In-role Performance					Contextual Performance					
	Model 1 Indivi- dual	Model 2 Fixed slope	Model 3 Random Slope	Model 4 Interac- tion	Model 5 Interac- tion	Model 1 Indivi- dual	Model 2 Fixed slope	Model 3 Random Slope	Model 4 Interac- tion	Model 5 Interac- tion	
Intercept	5.24*** (0.20)	4.19*** (0.41)	4.19*** (0.41)	5.32*** (1.33)	4.20*** (0.41)	5.84*** (0.17)	5.70*** (0.26)	5.71*** (0.27)	7.73*** (1.18)	5.74*** (0.26)	
Individual. PCF	0.07* (0.04)	0.02 (0.04)	0.02 (0.04)	-0.20 (0.25)	-0.20 (0.29)	0.08** (0.03)	0.06† (0.04)	0.07† (0.04)	-0.32† (0.22)	-0.45† (0.32)	
Shared <i>Indiv.</i> PCF		0.24*** (0.09)	0.24*** (0.09)	0.01 (0.27)	0.26*** (0.08)		0.04 (0.06)	0.04 (0.06)	-0.37† (0.24)	0.10** (0.05)	
Individual PCF × Shared <i>Indiv.</i> PCF				0.04 (0.05)					0.08* (0.04)		
Individual PCF (Group-mean centered) × Shared <i>Indiv.</i> PCF					0.04 (0.06)					0.10* (0.06)	
Test of Random Slopes		Models 2 vs 3 df=2, L.Ratio=1.08E- 7 p=1.0					Models 2 vs 3 df=2, L.Ratio=.82 p=.66				
		Turnover Intentions					Engagement				
	Model 1 Indivi- dual	Model 2 Fixed slope	Model 3 Random Slope	Model 4 Interac- tion	Model 5 Interac- tion	Model 1 Indivi- dual	Model 2 Fixed slope	Model 3 Random Slope	Model 4 Interac- tion	Model 5 Interac- tion	
Intercept	4.15*** (0.39)	3.87*** (0.55)	---	-1.64 (2.86)	3.86*** (0.55)	5.95*** (0.19)	6.18*** (0.30)	6.18*** (0.30)	8.27*** (1.27)	6.18*** (0.30)	
Individual. PCF	-0.35*** (0.07)	-0.40*** (0.10)	---	0.66 (0.52)	0.49 (0.73)	0.05† (0.04)	0.08* (0.04)	0.08* (0.04)	-0.33† (0.24)	-0.18† (0.34)	
Shared <i>Indiv.</i> PCF		0.10 (0.14)	---	1.19** (0.58)	-0.29*** (0.10)		-0.07 (0.07)	-0.07 (0.07)	-0.50* (0.26)	0.01 (0.06)	
Individual PCF × Shared <i>Indiv.</i> PCF				-0.20** (0.10)					0.08* (0.05)		
Individual PCF (Group-mean centered) × Shared <i>Indiv.</i> PCF					-0.18 (0.14)					0.05 (0.07)	
Test of Random Slopes		---					Models 2 vs 3 df=2, L.Ratio=0.004 p=.99				

Notes. Nobs=209; Ngroups=58. Standard errors in parenthesis.

For models “e”, the Individual PCF variable is the group-mean centered value.

*** $p < .01$; ** $p < .05$; * $p < .10$; † $p < .20$.

FIGURE 3: Shared Individual PCF × Individual PCF interaction effect on Individual Contextual Performance



Similarly, Table 17 shows the analyses to test the interaction effect of shared *team* PCF. The cross-level Shared Team PCF × Individual PCF interaction term was only significant when the dependent variable was turnover intention ($b = -0.20$, $SE = 0.10$, $p < .01$). Figure 4 shows that when shared team PCF was high, the individual level relationship was strengthened but it was attenuated when shared team PCF was low. This provides supports for Hypothesis 10b for turnover intentions only. Note that Model 5 for turnover intentions in table 17 did not converge, which means that I cannot get rid of the alternative explanation that the interaction effect is due to an interaction between the group-mean of individual PCF and shared team PCF.

TABLE 17: Cross-Level Analysis of Individual-Level Outcomes (Shared Team PCF)

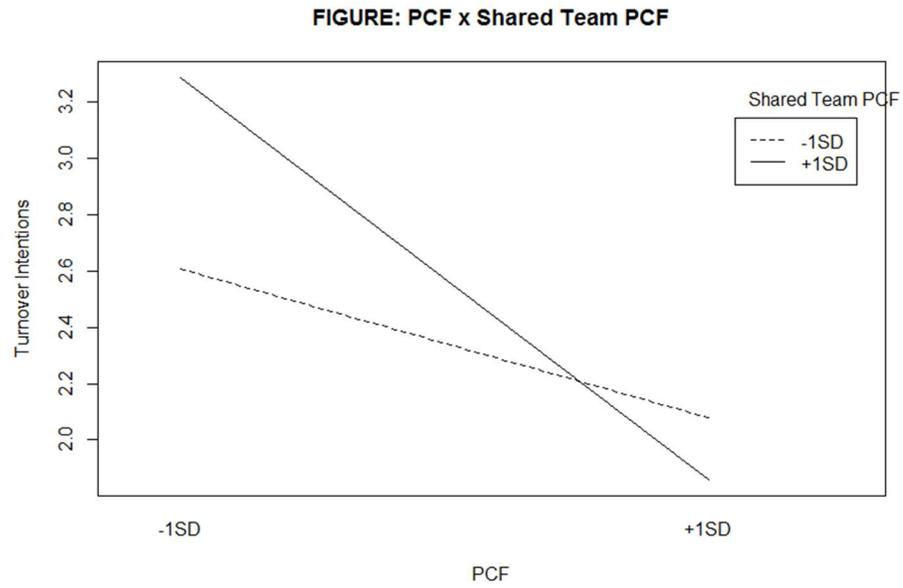
Variables	In-role Performance					Contextual Performance				
	Model 1 Indivi- dual	Model 2 Fixed slope	Model 3 Random Slope	Model 4 Interac- tion	Model 5 Interac- tion	Model 1 Indivi- dual	Model 2 Fixed slope	Model 3 Random Slope	Model 4 Interac- tion	Model 5 Interac- tion
Intercept	5.24*** (0.20)	4.23*** (0.41)	4.23*** (0.41)	4.71*** (1.21)	4.24*** (0.41)	5.84*** (0.17)	5.65*** (0.25)	5.65*** (0.26)	6.52*** (1.12)	5.69*** (0.25)
Individual. PCF	0.07* (0.04)	0.03 (0.04)	0.03 (0.04)	-0.07 (0.23)	-0.05 (0.27)	0.08** (0.03)	0.06† (0.04)	0.06† (0.04)	-0.11 (0.22)	-0.09† (0.30)
Shared <i>Team</i> PCF		0.23*** (0.09)	0.23*** (0.09)	0.13 (0.25)	0.26*** (0.08)		0.05 (0.06)	0.05 (0.06)	-0.12 (0.23)	0.11** (0.05)
Individual PCF × Shared <i>Team</i> PCF				0.02 (0.05)					0.03 (0.04)	
Individual PCF (Group-mean centered) × Shared <i>Team</i> PCF					0.02 (0.05)					0.03 (0.06)
Test of Random Slopes		Models 2 vs 3 df=2, L.Ratio=1.20E- 7 p=1.0					Models 2 vs 3 df=2, L.Ratio=60 p=.74			
		Turnover Intentions				Engagement				
	Model 1 Indivi- dual	Model 2 Fixed slope	Model 3 Random Slope	Model 4 Interac- tion	Model 5 Interac- tion	Model 1 Indivi- dual	Model 2 Fixed slope	Model 3 Random Slope	Model 4 Interac- tion	Model 5 Interac- tion
Intercept	4.15*** (0.39)	3.79*** (0.53)	---	-1.41 (2.70)	---	5.95*** (0.19)	6.14*** (0.30)	6.14*** (0.30)	7.28*** (1.18)	6.18*** (0.30)
Individual. PCF	-0.35*** (0.07)	-0.41*** (0.09)	---	0.62 (0.51)	---	0.05† (0.04)	0.07† (0.04)	0.07† (0.04)	-0.16 (0.23)	0.03 (0.31)
Shared <i>Team</i> PCF		0.13 (0.13)	---	1.14** (0.55)	---		-0.06 (0.07)	-0.06 (0.07)	-0.29 (0.24)	0.01 (0.06)
Individual PCF × Shared <i>Team</i> PCF				-0.20** (0.10)					0.05 (0.05)	
Individual PCF (Group-mean centered) × Shared <i>Team</i> PCF					---					0.01 (0.06)
Test of Random Slopes		---					Models 2 vs 3 df=2, L.Ratio=0.008 p=.99			

Notes. Nobs=209; Nggroups=58. Standard errors in parenthesis.

For models “e”, the Individual PCF variable is the group-mean centered value.

*** $p < .01$; ** $p < .05$; * $p < .10$; † $p < .20$.

FIGURE 4: Shared Team PCF × Individual PCF interaction effect on Individual Turnover Intentions



5.8. Homology Tests of Effects of PCF at Individual and Team Level of Analysis

Hypotheses 11a and 11b were related to the strength of the effects of shared PCFs on several types of variables. Specifically, Hypotheses 11a proposed that the relationship between team PCFs and team motivation, and between team PCF and team outcomes should be stronger at the team level. Following recommendations by Chen et al. (2005), I conducted several analyses to test homology/similarity using different steps. First, I tested for configural similarity. Tables 18 and 19 summarize the results previously presented in tables 11 through 17 in which a comparison of patterns of significance can be observed. Also, in order to make comparisons of the relationships between different variables at the individual and team level, it is first necessary to obtain all the relevant coefficients at both levels of analysis. For that reason, Table 18 also includes unbiased parameter estimates using RCM for the individual level relationship between PCF and motivation variables, which had not been estimated in previous tables. These estimations were needed to compare homology between PCF and motivation variables.

From Table 18, individual-level PCF is significantly related to self-efficacy ($b = 0.07$, $SE = 0.04$, $p < .05$), affect-CT ($b = -0.35$, $SE = 0.06$, $p < .01$), affect-DE ($b = 0.41$, $SE = 0.05$, $p < .01$), and PO Fit ($b = 0.17$, $SE = 0.05$, $p < .01$). These results are congruent with the previous literature on psychological contracts (e.g. Conway & Briner, 2002, 2005). Similarly, these relationships are also significant at the team level for both shared individual PCF and shared team PCF. Thus, PCF shows configural similarity across levels.

From Table 19, individual-level PCF is significantly related to in-role performance, contextual performance, and turnover intentions, but not to engagement (although emotional engagement was significantly predicted by individual PCF, as discussed in section 5.7). These results are also in line with the previous literature on psychological contracts (Bal et al., 2008;

Zhao et al., 2007). When data is tested at the team level, shared individual PCF and shared team PCF are significant predictors of only Team OCB and Average Turnover Intentions, showing configural similarity. This configural similarity occurs for both shared individual PCF and shared team PCF. However, there is no configural similarity for the PCF-Performance relationship at individual and team levels, as the relationship was significant at the individual level but not at the team level.

TABLE 18: Multi-level Regression Results for PCF Predicting Motivation

Variables	Self Efficacy	Affect (TC)	Affect (ED)	PO Fit
<i>Individual-Level Results</i>	Model 1	Model 2	Model 3	Model 4
(Intercept)	5.83*** (0.20)	4.99*** (0.30)	3.57*** (0.26)	5.16*** (0.28)
PCF	0.07** (0.04)	-0.35*** (0.06)	0.41*** (0.05)	0.17*** (0.05)
	Team Potency	Affective Climate CT	Affective Climate DE	Collective Fit
<i>Team-Level Results</i>	Model 5	Model 6	Model 7	Model 8
(Intercept)	4.64*** (0.32)	5.30*** (0.42)	3.82*** (0.37)	3.31*** (0.53)
Shared Indiv. PCF	0.25*** (0.06)	-0.39*** (0.08)	0.36*** (0.07)	0.46*** (0.10)
	Model 9	Model 10	Model 11	Model 12
(Intercept)	4.73*** (0.31)	5.23*** (0.40)	3.85*** (0.35)	3.71*** (0.52)
Shared Team PCF	0.24*** (0.06)	-0.39*** (0.08)	0.36*** (0.07)	0.38*** (0.10)

Notes. Standard errors in parenthesis. *** $p < .01$; ** $p < .05$; * $p < .10$; † $p < .20$

In the case of the PCF-engagement relationship, the patterns of significance were equal at both level of analysis (in this case, not significant at either individual or team level). But this relationship is better described when engagement is studied with its subdimensions. As described in section 5.5, there was a significant relationship between shared PCFs and emotional and cognitive engagement. At the individual level, however, the relationship is significant only for

emotional engagement, which suggests that there's configural similarity only for the PCF-engagement (emotional) relationship.

TABLE 19: Multi-level Regression Results for PCF Predicting Outcomes

Variables	In-role Performance	Contextual Performance	Turnover Intention	Engagement
Individual-Level Results				
	Model 1	Model 2	Model 3	Model 4
(Intercept)	5.24*** (0.20)	5.84*** (0.17)	4.15*** (0.39)	5.95*** (0.19)
PCF	0.07* (0.04)	0.08** (0.03)	-0.35*** (0.07)	0.05† (0.04)
Team-Level Results				
	Team Performance	Team OCB	Average Turnover Int.	Team Engagement
	Model 5	Model 6	Model 7	Model 8
(Intercept)	5.88*** (0.57)	4.38*** (0.49)	3.67*** (0.54)	6.09*** (0.26)
Shared Indiv. PCF	0.05 (0.11)	0.26*** (0.09)	-0.24** (0.10)	0.02 (0.05)
	Model 9	Model 10	Model 11	Model 12
(Intercept)	5.78*** (0.54)	4.28*** (0.45)	3.44*** (0.52)	6.09*** (0.05)
Shared Team PCF	0.07 (0.10)	0.28*** (0.09)	-0.20* (0.10)	0.02 (0.05)

Notes. Standard errors in parenthesis. *** $p < .01$; ** $p < .05$; * $p < .10$; † $p < .20$

Second, I examined scalar similarity using equation (1) in section 4.3. In a concrete example of the use of equation (1), to test scalar similarity of the PCF-Performance relationship when shared team PCF is taken as the homologous team-level construct of Individual PCF, $A = 0.05$ as this is the team-level coefficient that was estimated in model 5 of Table 19. The scalar similarity tests are summarized in Table 20.

TABLE 20: Test of Scalar Similarity of PCF Predicting Motivation and Outcomes Across Levels of Analysis

Variables	Self-Efficacy - <i>A</i> * PCF	Affect CT - <i>A</i> * PCF	Affect DE - <i>A</i> * PCF	PO Fit - <i>A</i> * PCF
<i>Shared Individual PCF</i>				
Intercept	5.83*** (0.20)	4.99*** (0.30)	3.57*** (0.26)	5.16*** (0.28)
Individual PCF	-0.18*** (0.04)	0.04 (0.06)	0.05 (0.05)	-0.29*** (0.05)
<i>Shared Team PCF</i>				
Intercept	5.83*** (0.20)	4.99*** (0.30)	3.57*** (0.26)	5.16*** (0.28)
Individual PCF	-0.17*** (0.04)	0.04 (0.06)	0.05 (0.05)	-0.21*** (0.05)
	Performance - <i>A</i> * PCF	Contextual Performance - <i>A</i> * PCF	Turnover Intention - <i>A</i> * PCF	Engagement - <i>A</i> * PCF
<i>Shared Individual PCF</i>				
Intercept	5.24*** (0.20)	5.84*** (0.17)	4.15*** (0.38)	5.95*** (0.19)
Individual PCF	0.01 (0.04)	-0.18*** (0.03)	-0.11† (0.07)	0.03 (0.04)
<i>Shared Team PCF</i>				
Intercept	5.24*** (0.20)	5.84*** (0.17)	4.15*** (0.38)	5.95*** (0.19)
Individual PCF	-0.01 (0.04)	-0.20*** (0.03)	-0.15** (0.07)	0.03 (0.04)

Notes. Nobs=209; Ngroups=58. Standard errors in parenthesis.

*** $p < .01$; ** $p < .05$; * $p < .10$; † $p < .20$.

According to these results, there is evidence for scalar similarity in the following multilevel relationships: PCF-Efficacy (For shared individual PCF: $B_I = -0.18$, $SE = 0.04$, $p < .01$; For shared team PCF: $B_I = -0.17$, $SE = 0.04$, $p < .01$), PCF-Fit (For shared individual PCF: $B_I = -0.29$, $SE = 0.05$, $p < .01$; For shared team PCF: $B_I = -0.21$, $SE = 0.05$, $p < .01$), and PCF-Contextual Performance (For shared individual PCF: $B_I = -0.18$, $SE = 0.03$, $p < .01$; For shared team PCF: $B_I = -0.20$, $SE = 0.03$, $p < .01$). Moreover, all the significant difference coefficients found in tables 20 were negative, supporting Hypothesis 11a that the relationships at the team level are stronger than at the individual level.

In the case of the PCF-Turnover intent relationship, the coefficients found in table 20 were also significant and negative (For shared individual PCF: $B_I = -0.11$, $SE = 0.07$, $p < .20$; For shared team PCF: $B_I = -0.15$, $SE = 0.07$, $p < .05$), but as this variable is negatively coded, a negative coefficient represents that the relationship at the individual level is stronger than at the team level.

In the case of the PCF-Performance relationship and the PCF-Engagement relationship, there was no evidence for scalar similarity, however, this information must be complemented with the analysis for configural similarity where I couldn't find evidence to support that the relationships are significant at both levels of analysis, excepting for the relationship between PCF and the emotional dimension of engagement. Thus, I conducted an additional scalar similarity test for this specific dimension of engagement. The results show that there's no strong evidence to support scalar similarity of the PCF-Emotional engagement relationship (For shared individual PCF: $B_I = -0.07$, $SE = 0.05$, $p = .16$; For shared team PCF: $B_I = -0.06$, $SE = 0.05$, $p = .23$).

In the case of the PCF-Affect relationships, there was no evidence for scalar similarity. Considering that there was also strong support for configural similarity in these cases, I cannot discard the null hypothesis that the strength of these relationships are equal at both levels of analysis. Thus, for the PCF-Affect relationships, Hypothesis 11a is rejected.

Finally, Hypothesis 11b stated that shared team PCF has a stronger effect on team motivation and outcomes than shared individual PCF. This hypothesis can be evaluated based on the observation of the standardized coefficients of Tables 11-15. Table 21 provides a standardization of the coefficients in those models, which were obtained using the QuantPsys package in the software R. Standardized coefficients are expressed in units of standard

deviations, which mean that they represent how many standard deviations a dependent variable will change when the independent variable increases by one standard deviation. Contrary to what was expected, there was no clear pattern to determine whether shared team PCF or shared individual PCF had stronger effects on team motivation variables and team outcomes. Shared Individual PCF had a stronger effect on team potency, affective climate (CT), external collective fit, and average turnover intentions, whereas shared team PCF showed a stronger effect on team performance, team OCBs, and affective climate (DE). Thus, Hypothesis 11b is generally rejected.

TABLE 21: Summary of Standardized Coefficients of Shared Individual PCF vs Shared Team PCF on Team Motivation and Team Outcomes

Variables	Team Potency	Affective Climate CT	Affective Climate DE	External Collective Fit
<i>Shared Individual PCF</i>	0.50	-0.54	0.57	0.51
<i>Shared Team PCF</i>	0.47	-0.53	0.58	0.43
Stronger Effect:	Shared Indiv PCF	Shared Indiv PCF	Shared Team PCF	Shared Indiv PCF
	Team Performance	Team OCBs	Average Turnover Intent	Team Engagement
<i>Shared Individual PCF</i>	0.06	0.35	-0.29	0.06
<i>Shared Team PCF</i>	0.08	0.38	-0.24	0.06
Stronger Effect:	Shared Team PCF	Shared Team PCF	Shared Indiv PCF	Equal

Finally, Table 22 provides a summary of hypotheses, results, and some relevant observations for each of them.

TABLE 22: Summary of Hypotheses and Results

Hypotheses	Tested Relationship	Results	Observation
Hypothesis 1a: Shared individual PCF is distinguishable from shared team PCF, forming two different constructs.	Shared Individual PCF vs. Shared Team PCF	Not supported	Even though the data is better modeled with two team level factors, the correlation between the two variables was very high ($\phi = .93$), questioning discriminant validity.
Hypothesis 1b: At the team level, shared individual PCF and shared team PCF are positively related.	Shared Individual PCF vs. Shared Team PCF	Supported	Even though the latent correlation was positive, the value was too high ($\phi = .93$) to provide evidence of discriminant validity.
Hypothesis 2a: Justice Climate positively predicts shared individual PCF.	PJ Climate \rightarrow SIPCF	Supported	Positive and significant relationship.
Hypothesis 2b: Justice Climate positively predicts shared team PCF.	PJ Climate \rightarrow STPCF	Supported	Positive and significant relationship.
Hypothesis 3a: POS Climate positively predicts shared individual PCF.	POS Climate \rightarrow SIPCF	Supported	Positive and significant relationship. The relationship becomes not significant when PJ Climate is controlled.
Hypothesis 3b: POS Climate positively predicts shared team PCF.	POS Climate \rightarrow STPCF	Supported	Positive and significant relationship. The relationship becomes not significant when PJ Climate is controlled.
Hypothesis 4a: Smaller team size facilitates the emergence of shared individual PCF.	Team Size \rightarrow SIPCF	Not supported	No significant relationship was found.
Hypothesis 4b: Smaller team size facilitates the emergence of shared team PCF.	Team Size \rightarrow STPCF	Not supported	No significant relationship was found.
Hypothesis 5a: High team interdependence facilitates the emergence of shared individual PCF.	Interdependence \rightarrow SIPCF	Not tested	The Interdependence measure was not reliable at either individual or team level of analysis.
Hypothesis 5b: High team interdependence facilitates the emergence of shared team PCF.	Interdependence \rightarrow STPCF	Not tested	The Interdependence measure was not reliable at either individual or team level of analysis.
Hypothesis 6a: LMX differentiation will undermine the emergence of shared individual PCF.	LMX Diff. \rightarrow SIPCF	Not supported	No significant relationship was found.
Hypothesis 6b: LMX differentiation will undermine the emergence of shared team PCF.	LMX Diff. \rightarrow STPCF	Not supported	No significant relationship was found.

Note. PCF: Psychological Contract Fulfillment; SIPCF: Shared individual PCF; STPCF: Shared team PCF; LMX: Leader-member exchange, PJ: Procedural Justice; POS: Perceived Organizational Support; OCB: Organizational Citizenship Behaviors; CT: Calmness-Tension; DE: Depression-Enthusiasm.

TABLE 22: (Continued)

Hypotheses	Tested Relationship	Results	Observation
Hypothesis 7a: Shared individual PCF will predict team-level outcomes (team performance, team-level OCB, average turnover intentions, team engagement).	SIPCF → Team Performance	Not supported	No significant relationship was found. However, SIPCF was significantly and positively related to the average individual performance.
	SIPCF → Team OCB	Supported	Positive and significant relationship.
	SIPCF → Average Turnover Intention	Supported	Negative and significant relationship.
	SIPCF → Team Engagement	Partly supported	Positive and significant relationship for emotional team engagement. Negative and significant relationship for cognitive team engagement. No significant relationship was found for physical team engagement.
Hypothesis 7b: Shared team PCF will predict team-level outcomes (team performance, team-level OCB, collective turnover intentions, team engagement).	STPCF → Team Performance	Not supported	No significant relationship was found. However, SIPCF was significantly and positively related to the average individual performance.
	STPCF → Team OCB	Supported	Positive and significant relationship.
	STPCF → Average Turnover Intention	Supported	Negative and significant relationship.
	STPCF → Team Engagement	Partly supported	Positive and significant relationship for emotional team engagement. Negative and significant relationship for cognitive team engagement. No significant relationship was found for physical team engagement.
Hypothesis 8a: Shared individual PCF will predict team motivational states (team potency, team external collective fit, team affective tone).	SIPCF → Team Potency	Supported	Positive and significant relationship.
	SIPCF → Team Affective Tone (CT)	Supported	Negative and significant relationship.
	SIPCF → Team Affective Tone (DE)	Supported	Positive and significant relationship.
	SIPCF → Team External Collective Fit	Supported	Positive and significant relationship.
Hypothesis 8b: Shared team PCF will predict team motivational states (team potency, team external collective fit, team affective tone).	STPCF → Team Potency	Supported	Positive and significant relationship.
	STPCF → Team Affective Tone (CT)	Supported	Negative and significant relationship.
	STPCF → Team Affective Tone (DE)	Supported	Positive and significant relationship.
	STPCF → Team External Collective Fit	Supported	Positive and significant relationship.

Note. PCF: Psychological Contract Fulfillment; SIPCF: Shared individual PCF; STPCF: Shared team PCF; LMX: Leader-member exchange, PJ: Procedural Justice; POS: Perceived Organizational Support; OCB: Organizational Citizenship Behaviors; CT: Calmness-Tension; DE: Depression-Enthusiasm.

TABLE 22: (Continued)

Hypotheses	Tested Relationship	Results	Observation
Hypothesis 9a: Team motivation states will mediate the relationship between shared individual PCF and team outcomes.	SIPCF → Team Potency → Outcomes	Not supported	No significant mediation effect was found for any of the team outcomes.
	SIPCF → Team Affective Tone (CT) → Outcomes	Partly supported	A significant mediation effect was found for the following outcomes: - Team OCB - Average turnover intent - Team engagement (Physical) - Team engagement (Emotional)
	SIPCF → Team Affective Tone (DE) → Outcomes	Partly supported	A significant mediation effect was found for the following outcomes: - Team engagement (Cognitive) - Team engagement (Emotional)
	SIPCF → Team External Collective Fit → Outcomes	Not supported	No significant mediation effect was found for any of the team outcomes.
Hypothesis 9b: Team motivation states will mediate the relationship between shared team PCF and team outcomes.	STPCF → Team Potency → Outcomes	Not supported	No significant mediation effect was found for any of the team outcomes.
	STPCF → Team Affective Tone (CT) → Outcomes	Partly supported	A significant mediation effect was found for the following outcomes: - Team OCB - Average turnover intent - Team engagement (Physical) - Team engagement (Emotional)
	STPCF → Team Affective Tone (DE) → Outcomes	Partly supported	A significant mediation effect was found for the following outcomes: - Team engagement (Cognitive) - Team engagement (Emotional)
	STPCF → Team External Collective Fit → Outcomes	Partly supported	A significant mediation effect was found only for average turnover intent.
Hypothesis 10a: Shared individual PCF will moderate the relationship between individual PCF and individual outcomes (in-role performance, OCBs, turnover intentions, engagement).	(SIPCF x PCF) → Individual Outcomes	Partly supported	SIPCF significantly moderated the relationship between PCF and OCBs (but not for the rest of individual outcomes).
Hypothesis 10b: Shared team PCF will moderate the relationship between individual PCF and individual outcomes (in-role performance, OCBs, turnover intentions, engagement).	(STPCF x PCF) → Individual Outcomes	Partly supported	STPCF significantly moderated the relationship between PCF and turnover intent (but not for the rest of individual outcomes).

Note. PCF: Psychological Contract Fulfillment; SIPCF: Shared individual PCF; STPCF: Shared team PCF; LMX: Leader-member exchange, PJ: Procedural Justice; POS: Perceived Organizational Support; OCB: Organizational Citizenship Behaviors; CT: Calmness-Tension; DE: Depression-Enthusiasm.

TABLE 22: (Continued)

Hypotheses	Tested Relationship	Results	Observation
Hypothesis 11a: The relationships between PCF, motivation, and outcomes at team levels of analysis are stronger than at individual levels of analysis.	Scalar similarity between PCF and motivational states.	Partly supported	Scalar similarity was found for the following relationships: - PCF-Efficacy - PCF-Fit Configural similarity was also found for PCF-Affect.
	Scalar similarity between PCF and outcomes.	Partly supported	Scalar similarity was found for the following relationships: - PCF-OCBs - PCF-Turnover intent (stronger at individual level)
Hypothesis 11b: Shared team PCF has a stronger effect on team motivation and team outcomes than shared individual PCF.	SIPCF → Motivation/Outcomes vs. STPCF → Motivation/Outcomes	Not supported	No clear pattern to determine whether SIPCF or STPCF had stronger effects on team motivation variables or team outcomes

Note. PCF: Psychological Contract Fulfillment; SIPCF: Shared individual PCF; STPCF: Shared team PCF; LMX: Leader-member exchange, PJ: Procedural Justice; POS: Perceived Organizational Support; OCB: Organizational Citizenship Behaviors; CT: Calmness-Tension; DE: Depression-Enthusiasm.

CHAPTER 6: DISCUSSION AND IMPLICATIONS

Since the very early conceptualizations of the psychological contract construct, this field has evolved to become now a very important topic in organizational behavior research. In the last 50 years, the field has established clear definitions of psychological contract, it has gathered evidence about its existence and its effects, and it has developed well-accepted measurement instruments. However, the field is still in an “augmentation” stage (Reichers & Schneider, 1990), where reconceptualizations of the construct appear and new lenses are applied to develop more useful explanations of how psychological contracts can be better managed to help organizations to be more efficient and productive. In this dissertation, I strived to contribute to this field by expanding theory and empirical research on psychological contracts in the team context, enriching our understanding of whether or not team members share perceptions of PCF, by studying ways to operationalize PCF in teams, and by more generally providing a new conceptualization of PCF at the team level. Below, I discuss the results of the formal tests of my proposed hypotheses and their implications for my initially proposed research objectives.

6.1. Discussion of Research Objectives

6.1.1. Construct Validity of Shared PCF Constructs.

First, regarding research objective #1 (regarding hypotheses 1a and 1b about whether shared PCF could be treated as two separate constructs or not), the data suggests that at the individual level of analysis, team members may be able to differentiate their perceptions of fulfillment of their own psychological contracts versus the ones of their team. The correlation between the items at the individual level and at the within-team level (group-mean centering) suggest that employees have somewhat different perceptions of fulfillment of promises to them individually or to the team (step 2 in Van Mierlo et al.’ procedure). The correlations among items

were below the $r=.85$ cut point to establish lack of discriminant validity, but they were still very high (.84 at individual level; .75 at the within-team level), which suggest that they are similar constructs.

However, that important distinction is clearer at the team level. My results show that shared individual PCF and shared team PCF are very highly correlated, which means that practically speaking, there is not much of a difference between constructs, even though confirmatory factor analyses suggest that models with two latent constructs fit the data better than single construct models (step 1 in Van Mierlo et al.'s procedure). In fact, with only a few exceptions, shared individual PCF and shared team PCF demonstrated very similar relationships with antecedents and outcomes. One potential explanation for this phenomenon is that individuals may be reporting individual and team promises as a single phenomenon as the experience of fulfillment of promises to individuals and to teams may be aligned in team members' psychology due to more collectivistic approaches to face organizational phenomena or other unknown cognitive processes used to interpret employment-related events. Thus, individual perceptions of PCF and team PCF may bias the evaluations of each other.

An alternative explanation is that, team members may be constructing their opinions about team PCF from a weighted average of the PCF of other team members, and not *exclusively* from perceptions of fulfillment of promises made to the team as an autonomous entity. Similarly, individuals may be considering how the organization fulfills promises to the team as a way to evaluate the perceptions of their own PCF. Individuals may be extending their identities to what happen with their teams such that breaches to other team members are perceived as breaches to oneself. In any case, the results show that the distinction between shared individual PCF and shared team PCF is more conceptual than empirical (at least, when using global measures of

PCF). In practice, using these two different measures can make little difference in terms of affecting the significance of relationships with other constructs or in the capacity to detect significant effects. Most likely, this distinction may create little or no differences in terms of testable effects in future meta-analyses. In other words, both shared individual PCF and shared team PCF seem to be appropriate ways to capture a team-level construct of within-team sharedness of perceptions of PCF.

Regardless of the high correlation between shared individual PCF and shared team PCF, the data suggested that an important portion of the individual level variance of PCF is explained by team membership. It seems that employees tend to share their opinions about how the organization fulfills the promises to all the members of the same team and to the team as a whole, creating a shared, emergent team-level phenomenon for both shared PCFs. This is mainly shown by high median values of r_{wgs} , which suggest strong agreement of PCF among team members; and also by relatively high ICC1s, which show a relatively high proportion of variance of PCF that is explained by team membership. That means that individuals strongly define their perceptions of fulfillment based on phenomena occurring at the team level. This has implications for organizations and managers who should be careful about not breaching promises to any team member (or to the team as a whole) because what the team thinks about the organization has an important effect on how individuals behave.

6.1.2. Antecedents of the Level of Shared PCF Constructs

Research objective #2 intended to explore the relationship that shared PCFs have with other social exchange indicators at the team level (Hypotheses 2a, 2b, 3a, and 3b). The results support the hypotheses that procedural justice climate and perceived organization support (POS) climate are significant predictors of shared PCFs. In teams with shared perceptions that the

procedures to arrive at rewards are consistent and free of bias and feel free to express thoughts and feelings about those procedures, it is more likely to have higher levels of shared PCFs. Companies that are transparent about procedures to distribute rewards, and openly ask employees for feedback about those procedures, may be indirectly creating a positive environment that decreases the likelihood of team members perceiving employment breaches. The same is true with respect to POS climate. Teams that perceive that the organization values the contribution of team members, shows interest for team members, and considers the need of team members, are more likely to display higher perceptions of fulfillment of individual and team psychological contracts. As theorized in previous chapters, both justice climate and POS climate may create a generalized environment that decrease social vigilance, giving the organization the benefit of the doubt when individuals evaluate whether promises had been fulfilled or breached. Thus, these findings are important as they suggest that a practical way to increase shared PCFs may be to alter the levels of justice climate or POS climate.

When justice climate and POS climate were evaluated as antecedents of shared PCFs in the same model, the effects of POS climate disappeared. It is likely that the high correlation between justice climate and POS climate is constraining the available variance to be estimated in the model. In addition, future research should examine the possibility of more intricate relationships. For example, at the individual level, Tekleab et al. (2005) argued that POS may work as a mediator between procedural justice and psychological contract violations. Whether this mediation relationship holds at the team level is still an open researchable question.

6.1.3. Antecedents of the Strength of Shared PCF Constructs

In research objective #3, I studied whether some relevant variables affected the strength of shared PCFs (Hypotheses 4a, 4b, 6a, and 6b). Contrary to the study's predictions, the data

collected in this dissertation shows that neither team size nor LMX differentiation was a significant predictor of shared PCFs strength. One potential explanation for these non-significant results is a possible lack of variability to be estimated on the strength variables. For example, the coefficient representing the relationship between LMX differentiation and shared individual PCF strength was very close to the cut point of .10, suggesting that there may be a significant effect that could not be discovered. Another alternative explanation is that there are unmeasured mediators that are more strongly driving these effects. For example, as hypothesized in chapter 3, team size should be related to the strength of shared PCFs because team size can shape the types of interactions within teams. However, I did not directly measure the level of interaction of team members. It may be the case that, for some unknown reason, the level of interaction of team members is not strongly driven by team size in my sample. Another possibility is that the part-time workforce (not surveyed), which is relatively unstable, untenured, and that vary team by team, may be contaminating the measure of team size or even slightly altering the level of interaction within teams.

Finally, in this data collection effort it was not possible to provide a reliable measure of team interdependence at time 1 as a predictor of the strength of shared PCFs. The chosen measure of interdependence did not only show poor internal consistency at the individual level, but it also showed poor aggregation indexes at the team level, which means that it was not possible to use it at time 1 to test hypothesis 5a and 5b. Future research may examine this relationship as it can better inform researchers how shared PCFs emerge from individual perceptions.

6.1.4. Team-Level Outcomes of Shared PCF Constructs

In research objective #4, I proposed to test the relationship between shared PCFs and team-level outcomes, namely, team performance, team OCBs, average turnover intentions, and team engagement (Hypotheses 7a and 7b). First, shared PCF variables were significant predictors of team OCBs. This suggests that when teams have a high shared perception that the organization fulfill its promises to individuals or teams, they also tend to display more organizational citizenship behaviors toward other individuals (e.g. helping others who have been absent, showing concern and courtesy for others, assisting other team members with their duties) and toward the organization (e.g. defending the organization when others criticize it, expressing loyalty, demonstrating concern about the image of the company). This result is important for organizations because it shows that one way to foster positive behaviors that goes beyond the mandatory duties or essential functions of a job, is to develop teams where most of the individuals perceive that employment promises are fulfilled. That is, individuals will not only display these citizenship behaviors as reciprocate behaviors that respond to fulfilled individual promises, but because a social environment is created within teams where most team members display these behaviors, and by their actions, the behavior is reinforced and promoted within the team.

Shared PCFs were also significant predictors of average turnover intentions within teams. As expected, these relationships were negative, meaning that the more team members think that organizations fulfill promises, the less the average intention to leave the organization. That is, when organizations take care of the shared perceptions of fulfillment of psychological contracts, they may be also reduce the likelihood of actual turnover by influencing the behavioral intentions and thoughts associated with leaving the company. Nevertheless, I need to emphasize that the

variable “average turnover intention” is merely an average within teams, not an emergent team-level construct (as indicated by its low Rwg’s and ICC’s).

Although shared PCFs initially were not predicting team engagement, an analysis of subdimensions of team engagement show more nuanced results. Both shared individual PCF and shared team PCF were predicting the emotional and cognitive dimensions of team engagement, but not the physical dimension. First, shared PCFs were positively predicting team emotional engagement, supporting the initial hypothesis. That is, when team members share perceptions that organizations generally fulfill promises made to team members and to the team, team members tend to be more excited or energetic in their jobs (emotional team engagement). Second, the results show, in contrast, that high shared PCFs were negatively related to cognitive team engagement. That is, when team members share perceptions that organizations generally fulfill promises made to team members and to the team, team members tend to be less concentrated, less absorbed, or less focused on their jobs. This effect was opposite to what was originally theorized. One potential explanation for this result is that in teams with low shared PCFs, team members may be exerting more cognitive effort in trying to do their jobs flawlessly and thus signaling the company that they are units that deserve a better treatment.

Contrary to what was expected, shared individual PCF or shared team PCF were not significantly related to team performance. At the individual level, however, the relationship between individual PCF and individual performance was significant at the $\alpha=.10$ level, which was expected from the psychological contract literature (Zhao et al., 2007). One possible explanation for this non-significant result at the team level is that the team performance measure had been contaminated by the fact that team leaders were biased to evaluate team performance as a measure of their own performance as managers. Another potential alternative explanation is

that there are unknown mediators or moderators that were not measured. As a post-hoc analysis, I tested the relationship between shared PCFs and the average performance scores of team members in each team. The relationship was significant and in the expected direction for shared individual PCF ($b = 0.26$, $SE = 0.08$, $p < .01$) and shared team PCF ($b = 0.26$, $SE = 0.08$, $p < .01$).

In conclusion, shared PCFs seem to be significant predictors of team-level outcomes in general. These results provide compelling evidence to believe that shared PCFs could be important constructs in OB/HR research. Future research should both confirm these results in other samples, industries, and/or countries, and expand the range of outcomes that can be predicted by shared PCFs.

6.1.5. Team Motivation as Mediator of Shared PCF and Team Outcomes

In research objective #5, I examined whether team motivation could be a mediator between shared PCFs and team outcomes (Hypotheses 8a, 8b, 9a, and 9b). Team motivation was operationalized with 4 team-level variables: team efficacy, team affect (calmness-tension), team affect (depression-enthusiasm), and external collective fit. I will discuss the mediation effect of each of these variables separately.

First, the results show that team potency was significantly predicted by shared PCFs. That is, teams with high shared perception of fulfillment of promises tend to perceive higher levels of potency, or the extent to which the team members believe that the team can mobilize enough resources to be successful in general. However, team potency was not significantly related to any of the team outcomes. The mediation tests showed that all the indirect effects of shared PCF constructs on team outcomes through team potency, were not significantly different from zero. A possible explanation for these non-significant results is the low reliability of the team means of team potency (i.e. $ICC2 = .13$), which may impede the detection of significant

effects. Another potential explanation is that although previous research supports a linear relationship between potency and team performance, recent theories have also proposed a curvilinear relationship where overconfident teams may display lower performance (e.g. Park, Kim, & Gully, 2017). A post-hoc analysis, however, did not show any significant nonlinear effects.

Second, the results show that the calmness-tension dimension of team affect was significantly predicted by shared PCFs. That is, teams with high shared perception of fulfillment of promises tend to have environments dominated by more calmness and less tension affects. Fulfilled promises to several individuals or to the team as a whole could foster an environment of positive affect as several team members display more calmness and those affect states can become more contagious within teams, reinforcing a team-level state. Moreover, the calmness-tension dimension of team affect significantly mediated the relationship between shared PCF constructs and team OCBs, average turnover intentions, team engagement (physical), and team engagement (emotional). These results suggest that some of the most important effects of shared PCFs are explained, in part, by their effects on shared experiences of affect within teams. Regarding team engagement, it is important to note that shared PCFs show significant indirect effects on the physical dimension of team engagement through team affect, but there was a non-significant direct effect between the predictors and the outcome (as shown in Table 10). This suggests that the calmness-tension dimension of team affect could be fully mediating the effect of shared PCFs on the physical dimension of team engagement.

Third, the depression-enthusiasm dimension of team affect was also significantly predicted by shared PCFs. That is, teams with high shared perception of fulfillment of promises tend to have environments with more enthusiasm, optimism, and cheerfulness, and less

depression, pessimism, or discouragement. Breached promises are likely to boost depressive states, which can also be spread out to other team members through multiple interactions. In addition, this dimension of team affect significantly mediated the relationship between shared PCF constructs and emotional and cognitive team engagement. This means that shared PCF constructs facilitate environments of general enthusiasm which have an impact in the way team members are engaged in the workplace. Regarding average turnover intentions and physical team engagement, the confidence intervals of the indirect effects in Table 14 only included zero closer to its limit, which may suggest that there may be a mediation effect that the current data was not able to strongly detect. I would suggest that these results are still evidence for mediation. Nevertheless, more research is needed to confirm this preliminary conclusion.

Finally, shared PCFs significantly predicted external collective fit. This evidence may confirm the assertion that when team members perceive high shared PCF constructs they may think that some of the reasons of that fulfillment is that the team as a whole has what is necessary to attend the demands that the company requests. However, there was a general weak relationship between external collective fit and team outcomes. In terms of the mediation analysis, the results show that the indirect effect of shared PCFs on team outcomes through external collective fit was significantly different from zero only for average turnover intentions.

More generally, the results show that the most important mediator between shared PCF constructs and team outcomes are team affect variables. In contrast, team potency has no apparent role in this relationship, and external collective fit only mediates the effect of shared PCFs on average turnover intention. Considering that team affect has been treated in the past as a relevant operationalization of team motivation (Park et al., 2013), it can be argued that, similar to what occurs at individual levels, motivation may explain *why* shared PCFs could impact team

outcomes. Regarding this research question, future research may expand other mediators explaining the relationship between shared PCFs and team outcomes. In addition, more research should confirm the mediation results in this dissertation with samples in other organizations, industries or countries.

6.1.6. Shared PCF Constructs as Moderators of the PCF-Outcome Relationship

In research objective #6, I examined the cross-level moderating effects of shared PCF constructs on PCF-outcome relationships at the individual level (Hypotheses 10a and 10b). In chapter 3, I argued that when individuals evaluate the appropriate behaviors to respond to the fulfillment of individual psychological contracts, they may also consider how the company fulfills other individuals or entities' promises. Negative shared PCFs should neutralize the known positive associations between individual PCF and individual outcomes. These hypothesized cross-level interactions lie at the heart of social information processing (Salancik & Pfeffer, 1978) and the multi-level theory of PCF in teams (Laulié & Tekleab, 2016) as social contexts provide important information that individuals use to make sense of the world that they experience. However, I only found one significant interaction effect: shared individual PCF moderating the positive relationship between individual PCF and contextual performance.

When shared individual PCF was high, the positive relationship between PCF and contextual performance was strengthened. In contrast, low shared individual PCF neutralized the PCF-Contextual Performance relationship. This suggests that the effects of fulfilled psychological contracts are much stronger when individuals perceive that the organization fulfilled the promises to all their team members, and that individuals reciprocate the organization only when they perceive consistency in fulfillment of employment promises in general. This result has many implications. For example, if organizational agents want to focus on fulfilling

employment promises to some team members but not to others, such an action is likely to neutralize the positive effects of any positive action toward fulfilling individuals' psychological contracts. Thus, organizations should try to enhance perceptions of fulfillment of promises of all team members at the same time, because shared perceptions of high PCF can actually boost individual level outcomes.

Regarding the effect of shared team PCF on the individual level relationship between PCF and turnover intentions, the results show that when promises to the team are fulfilled, this creates an environment that reinforces individual's intention to leave when they perceive that their own psychological contracts have been fulfilled. In contrast when individuals perceive low individual PCF but also low shared team PCF, this can buffer the effects of low individual PCF. A possible explanation is that when individuals perceive that not only their promises but also promises to the team have been breached, this could facilitate resignation thoughts. However, these results must be evaluated carefully as the model that contained the test of the significant interaction term using group-mean centering could not converge. That means that the alternative explanation that shared team PCF and the average of individual PCF were interacting to affect turnover intentions cannot be ruled out.

The data did not provide evidence for any other significant interactive effects. Nevertheless, these non-significant results should also be interpreted cautiously. As noted by Mathieu, Aguinis, Culpepper, and Chen (2012, p. 961), in multilevel research "[generally,] the power to detect significant cross-level interactions is quite modest." According to these authors, the power of these tests is primarily determined (in order) by the magnitude of the interaction effect, the magnitude of the direct cross-level effect, and the variability of individual-level slopes, followed by level-1 and level-2 sample size (Mathieu et al., 2012). Thus, it is likely that

the significant interaction coefficients were detected when contextual performance and turnover intentions were the dependent variables, because they displayed strong direct effects of shared PCFs. Complementarily, and as suggested by the non-significance of the tests of different slopes, the variability of level-1 slope coefficients may have not been enough to strongly detect interaction effects. Thus, future research should further explore these results.

6.1.7. Homology of PCF

In research question #7 I explored how PCF-outcome relationships generalize across levels (individuals, teams) (Hypotheses 11a and 11b). This research question is especially relevant from theoretical and practical points of view. First, it is important to decipher whether the known literature on PCF can be generalizable to other levels of analysis because if they do, this can add parsimony and more simplicity to theoretical backgrounds. Second, if these relationships differ across levels, this can show that there are boundary conditions that need to be better understood and further explored.

In line with my hypotheses, results showed that the relationships between PCF and motivation and between PCF and outcomes are generally stronger at the team level. These results are in line with recent developments in the psychological contract literature which have shown that social contexts may have a key role in different outcomes of PCF (e.g. Dabos & Rousseau, 2013; Ho & Levesque, 2005; Ho et al., 2006). Moreover, the evidence that support stronger effects at the team level may be showing that social contexts and social interactions may be driving the effects of PCF with a higher importance than what has been previously theorized.

In practice, this implies that organizations may try to focus their efforts on managing PCF at the level of analysis that is more likely to have a bigger impact on concrete outcomes: the team. For instance, organizations should try to build shared psychological contracts (or

normative contracts), to put more effort on the promises made to the majority of team members, to train team leaders and HR representatives to form more unified psychological contracts, or to put more effort in identifying which promises are more important for the majority of team members. Organizations may also want to more consciously design communicational strategies, emphasizing the fulfillment of explicit organizational promises to all the members of the team.

In addition, results from this dissertation show that the stronger effects of shared PCFs on motivation and outcomes did not vary according to the use of shared individual PCF or shared team PCF. In practice, promises made to several individuals and promises made to the team as whole, although theoretically different, are practically equivalent at the team level. For research purposes, this may show a lack of discriminant validity between shared individual PCF and shared team PCF, but it also shows that future researchers are equally equipped to detect significant effects using either construct.

6.2. Theoretical and Practical Implications

The results of this dissertation contribute to both research and practice. This dissertation not only expanded psychological contract theory to higher levels of analysis, but also provided important pieces of evidence that support that individuals within teams tend to converge in their perceptions of PCF above and beyond what is expected by random error. In the previous pages, I expanded this emerging field on PCF in teams, examining the antecedents, mediators and outcomes of shared PCFs. As the field starts to grow in number of studies and in number of interested researchers, it needs a more complete understanding of what are the most important correlates of these variables. Importantly, my dissertation results provided evidence to confirm that shared PCFs significantly predict relevant team-level outcomes such as team OCBs, average

turnover intentions, and some dimensions of team engagement. This also suggests that the field of PCF in teams is a relevant topic that needs to be better understood in the future.

This dissertation also expanded the field by empirically testing whether shared individual PCF is a construct similar or different from shared team PCF. This test was important in order to improve the construct validity of shared PCFs. As previously discussed, the results show that these two constructs are very highly correlated, which implies that future theoretical and empirical advancements of team PCF theory should be equally equipped to test different propositions using either measure. However, at this stage of the development of this research topic, I still recommend researchers to keep measuring both shared individual PCF and shared team PCF if possible, until more evidence confirm (with different samples) that the results found in this dissertation hold in other settings.

This dissertation also expanded theory by examining some of the mechanisms that explain *why* PCF at the team level can have an impact on several team-level dependent variables. By integrating the emerging literature of PCF at the team level with the growing literature on team motivation, this dissertation provided new insights about how teams develop motivational states from experiences of fulfillment of psychological contracts. Concretely, the results suggest that affective climate, especially, is an important mediator between shared PCFs and team outcomes. Although previous research has emphasized that broken promises may alter daily moods and spark emotional reactions at the intra-individual level (Conway & Briner, 2002), these relationships had not been previously tested at the team level. Thus, this dissertation broadens our understanding of mediators of shared PCFs.

Although the idea that psychological contracts could be shared among coworkers had been theorized by researchers in the past (Alcover, Rico, Turnley, & Bolino, 2017; De Vos &

Tekleab, 2014; Laulié & Tekleab, 2016; Marks, 2001; Rousseau, 1995), no study had compared and tested the configural and scalar similarities (homology) between PCF and outcomes at both individual and team levels of analysis. My dissertation results suggest that although the psychological contract field assumes that PCF affect important outcomes, these effects tend to be even stronger at higher levels. Consequently, this dissertation provides evidence that future theoretical and empirical research on PCF at the team level may have a greater impact on organizations and their effectiveness.

This study also contributes to practice. Organizations should realize that developing shared and more positive perceptions of PCF at the team level can have a very concrete business-related impact as it can affect the dynamics and the collective behaviors of team members. This may have implications, for instance, when organizations decide communicational strategies, interventions, or training programs. For example, HR representatives may decide to communicate employment promises to the entire team, instead of focusing on individual promises. Likewise, managers could be trained to not only manage perceptions of fulfillment at the individual level, but also at the team level. As discussed in previous pages, managers should learn a) that the interactions of different team members may alter the perceptions of PCF of different individuals, b) that high shared PCFs can actually help teams to display better outcomes, and c) that the fulfillment of employment promises to some individuals but not to others might be detrimental to the organization. Knowing that shared perceptions of PCF can alter team outcomes is a relevant piece of information to make better decisions about how to increase organizational effectiveness.

Managers and organizational agents in general should also be aware of less obvious ways to create promises to a team as a whole. For instance, providing more security in teams with

contact with the public, hiring more team members for professional teams, or buying new machinery for manufacturing teams are decisions that may be normally seen by leaders as decisions to reach certain organizational goals (strategic or operational decisions). However, in the eyes of team members, announcements of strategic or operational decisions like these could be interpreted as employment promises to the team, influencing the development of shared PCFs. From the results of this dissertation it can be inferred that when these strategic decisions change they could create unintended changes in shared PCFs and potentially, changes in team-level outcomes. Team leaders who are aware of this possibility should be more likely to obtain more positive results.

6.3. Future Research

Treating PCF as a team-level construct added explanatory power to a more general theory of psychological contracts that has a longer tradition on studies at the individual level of analysis. However, as Hackman (2003) argued, research in organizations may benefit from “bracketing” focal phenomena, that is, by conducting conceptual and empirical research at both lower but also higher levels of analysis. In terms of lower levels, future research may expand our understanding of how shared PCFs emerge from individuals’ social interactions and day to day organizational events and routines. Knowing a more extended list of antecedents of the strength of shared PCFs could benefit the literature as well as examining the types of variables or conditions under which shared PCFs emerge in time. Some examples of that research may include questions such as:

What social network properties may affect the convergence of opinions of PCF?

Are there individual actions or special team configurations that may allow the emergence of shared PCFs?

How daily perceptions of PCF (trajectories) may affect more global perceptions of PCF?

What relevant events may create convergence or divergence of PCF perceptions?

Likewise, future research should “go up” in the levels of analyses in which shared PCFs are conceptualized and operationalized. For example, shared PCFs may be studied at the organizational level, examining whether there could be more general PCF “climates” in different organizations. Similarly, researchers should better understand whether different regional or national cultures could affect the way in which individual and teams understand and evaluate psychological contracts (e.g. Rousseau & Schalk, 2000).

Future research should also assess whether the results in chapter 5 hold when using a composite measure of shared PCFs, instead of a global measure as the one used in this dissertation. Composite measures of PCF ask individuals to rate the fulfillment of promises using specific items or currencies of exchange (e.g. autonomy, pay, training opportunities) and may alter the scope of promises that are brought to mind to individuals. If researchers ask directly about team-level types of promises that are difficult to make to single individuals (e.g. provide a right number of team members), it is more likely that shared individual PCF and shared team PCF have a lower correlation, and may display a slightly different nomological network. Thus, more research is needed in terms of different ways to capture these team-level shared PCFs.

Finally, future research would benefit from integrating the PCF literature in teams with other relevant literatures in the organizational sciences, such as the leadership literature. For example, certain types of leadership styles (such as servant leadership) or certain types of leader messages (such as social accounts) may be more suitable for enhancing the level of shared PCFs. The answers to all these questions may better inform organizational agents on ways to better manage shared perceptions of PCF.

6.4. Limitations and Strengths of the Study

In this section, I identify some limitations of the present study. First, the data used in this dissertation was collected in a single organization and thus it was not possible to rigorously assess whether the organizational culture or any other characteristic of the industry may be altering some of the relationships found. Continuous studies about shared PCFs in other companies may contribute to support the external validity of these findings. Second, the data used in this dissertation was collected in Chile, a country with a particular national culture that may or may not have affected the results of the study. Chile is known as a more collectivistic culture (in comparison to strongly individualistic cultures such as the US), where individuals value group harmony and are more likely to develop meaningful relationships in the workplace. Thus, it may be possible that team-level phenomena were easier to observe in this setting. Third, even though the sample size collected was equivalent to similar studies at the team level (Chen et al., 2007; Liao & Rupp, 2005; Vidyarthi et al., 2016), it would have benefitted from a larger sample in order to increase the power of the different statistical tests. This was especially relevant in the non-significant results found for the tests of antecedents of the strength of shared PCFs and the tests of cross-level interactions. Future replication studies should try to test the hypotheses of this dissertation using larger samples.

In this dissertation, I collected data in a field setting, and thus, it was not perfectly possible to control or manipulate different variables, as in a lab study, to fully address causality. Nevertheless, collecting data from a field setting was also a strength as it allowed the observation of the phenomenon of psychological contracts with individuals who actually experience employment relationships with a company. Also, the design of the study generally measured antecedents before the data collection of outcomes and the lapse of time between surveys was

enough to let some psychological variables to have an impact on other attitudes, behaviors, and other psychological states at the team level. The fact that I collected multiple surveys and that I used multiple sources were also strengths of the research design as they help to reduce common method variance (Podsakoff et al., 2003), which could have artificially inflated some correlations among variables.

6.5. Conclusion

In the book “Psychological Contracts in Organizations”, Rousseau (1995, p. 47) stated that “the sharing of a contract makes the contract even stronger.” In this dissertation, I tried to test the veracity of that statement, but I also examined different antecedents, mediators, and outcomes of shared perceptions of psychological contracts within teams. I hope to have contributed to this field by providing evidence to expand theory of PCF in teams.

APPENDIX A: SCALES

A. ANTECEDENTS

POS Climate (From Bashshur et al, 2011, based on Gonzalez Romá et al., 2009;)

1. Team members feel supported by the organization	1	2	3	4	5	6	7
2. You can tell that the company is interested in the members of the team.	1	2	3	4	5	6	7
3. The human resources management is carried out keeping the team members in mind.	1	2	3	4	5	6	7
4. The team manager contributes to creating a friendly and cordial work climate.	1	2	3	4	5	6	7

Procedural Justice Climate (From Erhart, 2004, based on Colquitt et al., 2002)

For the following items, think about the procedures used to arrive at rewards in your team. With regard to those procedures, to what extent...

Have those procedures been applied consistently in your team?	1	2	3	4	5	6	7
Have those procedures been free of bias in your team?	1	2	3	4	5	6	7
Have people in your team been able to express their views and feelings about those procedures?	1	2	3	4	5	6	7
Have those procedures in your team upheld ethical and moral standards?	1	2	3	4	5	6	7

Task Interdependence (From Wageman, Hackman, and Lehman Team diagnostic survey, Also used in McClelland, Giles P. Leach, Desmond J, Clegg, Chris W McGowan, Ian, 2014)

Please indicate how strongly you AGREE or DISAGREE with each statement using the scale:

1. Members of this team have their own individual jobs to do, with little need for them to work together. (R)	1	2	3	4	5	6	7
2. Generating the outcome or product of this team involves a great deal of communication and coordination among members.	1	2	3	4	5	6	7
3. Members of this team depend heavily on one another to get the team's work done.	1	2	3	4	5	6	7

LMX (Bauer and Green, 1996, based on Scandura and Graen, 1984, & Liden et al., 1993)

Please indicate how strongly you AGREE or DISAGREE with each statement using the scale:

1. Regardless of how much power he/she has built into his/her position, my supervisor would be personally inclined to use his/her power to help me solve problems in my work.	1	2	3	4	5	6	7
2. I can count on my supervisor to "bail me out," even at his or her own expense, when I really need it.	1	2	3	4	5	6	7
3. My supervisor understands my problems and needs.	1	2	3	4	5	6	7
4. My supervisor recognizes my potential well.	1	2	3	4	5	6	7
5. My supervisor has enough confidence in me that he/she would defend and justify my decisions if I were not present to do so.	1	2	3	4	5	6	7
6. I usually know where I stand with my supervisor.	1	2	3	4	5	6	7
7. I usually know how satisfied my manager is with me.	1	2	3	4	5	6	7
8. I would characterize the working relationship I have with my manager as extremely effective.	1	2	3	4	5	6	7

C. PCF MEASURES

Individual Psychological contract fulfillment (Robinson & Morrison, 2000)

Please indicate how strongly you AGREE or DISAGREE with each statement using the scale:

1. Almost all of the promises made to me by my employer have been kept so far.	1	2	3	4	5	6	7
2. I feel that my employer has come through in fulfilling the promises made to me when I was hired.	1	2	3	4	5	6	7
3. So far my employer has done an excellent job of fulfilling its promises to me.	1	2	3	4	5	6	7
4. I have not received everything promised to me in exchange for my contributions. (R)	1	2	3	4	5	6	7
5. My employer has broken many of its promises to me even though I've upheld my side of the deal. (R)	1	2	3	4	5	6	7

Team Psychological Contract Fulfillment (From Robinson & Morrison, 2000, Team PCF Climate in DeVos et al, Study 1).

Please indicate how strongly you AGREE or DISAGREE with each statement using the scale:

1. Almost all of the promises <u>made to my team</u> by my employer have been kept so far.	1	2	3	4	5	6	7
2. I feel that my employer has come through in fulfilling the promises made to <u>my team</u> .	1	2	3	4	5	6	7
3. So far my employer has done an excellent job of fulfilling its promises to <u>my team</u> .	1	2	3	4	5	6	7
4. <u>My team</u> has not received everything promised to <u>us</u> in exchange for <u>our</u> contributions. (R)	1	2	3	4	5	6	7
5. <u>Our</u> employer has broken many of its promises to <u>my team</u> even though <u>we</u> 've upheld <u>our</u> side of the deal. (R)	1	2	3	4	5	6	7

D. MOTIVATION ITEMS**Team Potency (Collins, G., Catherine, Parker, K., Sharon, 2010 based on Guzzo et al 1993)**

Please indicate how strongly you AGREE or DISAGREE with each statement using the scale:

1. My team believes it can become unusually good at producing high-quality work.	1	2	3	4	5	6	7
2. This team expects to be known as a high performing team.	1	2	3	4	5	6	7
3. My team feels it can solve any problem it encounters	1	2	3	4	5	6	7
4. My team has confidence in itself.	1	2	3	4	5	6	7
5. My team believes it will get a lot done when it works hard.	1	2	3	4	5	6	7
6. No task is too tough for this team.	1	2	3	4	5	6	7
7. My team believes it can be very productive.	1	2	3	4	5	6	7
8. My team expects to have a lot of influence in the organization.	1	2	3	4	5	6	7

Self Efficacy (Modified from above)

Please indicate how strongly you AGREE or DISAGREE with each statement using the scale:

1. I believe I can become unusually good at producing high-quality work.	1	2	3	4	5	6	7
2. I expect to be known as a high performing worker.	1	2	3	4	5	6	7
3. I feel I can solve any problem I encounter.	1	2	3	4	5	6	7
4. I have confidence in myself.	1	2	3	4	5	6	7
5. I believe I will get a lot done when I work hard.	1	2	3	4	5	6	7
6. No task is too tough for me.	1	2	3	4	5	6	7
7. I believe I can be very productive.	1	2	3	4	5	6	7
8. I expect to have a lot of influence in the organization.	1	2	3	4	5	6	7

Team Affective Climate (Gamero et al 2008, also Bartel and Saavedra 2000)

Please, indicate to what degree your job has made you feel like each of the adjectives listed below in the past few weeks.

1. Tense,	1	2	3	4	5	6	7
2. Jittery,	1	2	3	4	5	6	7
3. Anxious,	1	2	3	4	5	6	7
4. Calm (R)	1	2	3	4	5	6	7
5. Tranquil (R)	1	2	3	4	5	6	7
6. Relaxed(R)	1	2	3	4	5	6	7
7. Cheerful,	1	2	3	4	5	6	7
8. Enthusiastic,	1	2	3	4	5	6	7
9. Optimistic,	1	2	3	4	5	6	7
10. Pessimistic (R)	1	2	3	4	5	6	7
11. Gloomy (R)	1	2	3	4	5	6	7
12. Discouraged (R)	1	2	3	4	5	6	7

Collective DA Fit (Kristoff-Brown et al., 2014, based on Cable & DeRue, 2002)

Please indicate how strongly you AGREE or DISAGREE with each statement using the scale:

1. Our team members' knowledge, skill, and abilities are a good fit with the requirement of our team's task.	1	2	3	4	5	6	7
2. Our team members' abilities and training provide a good match with the demands that our team's task places on them.	1	2	3	4	5	6	7
3. The match is very good between the demands of our team's task and our skills.	1	2	3	4	5	6	7

P-O Fit (Cable & DeRue, 2002)

Please indicate how strongly you AGREE or DISAGREE with each statement using the scale:

1. The match is very good between the demands of my job and my personal skills	1	2	3	4	5	6	7
2. My abilities and training are a good fit with the requirements of my job	1	2	3	4	5	6	7
3. My personal abilities and education provide a good match with the demands that my job places on me	1	2	3	4	5	6	7

E. OUTCOMES**Work Engagement (Job Engagement Scale JES, Rich et al 2010, recommended by Byrne et al., 2016)**

Please indicate how strongly you AGREE or DISAGREE with each statement using the scale:

1. I work with intensity on my job	1	2	3	4	5	6	7
2. I exert my full effort to my job	1	2	3	4	5	6	7
3. I devote a lot of energy to my job	1	2	3	4	5	6	7
4. I try my hardest to perform well on my job	1	2	3	4	5	6	7
5. I am enthusiastic in my job	1	2	3	4	5	6	7
6. I feel energetic at my job	1	2	3	4	5	6	7
7. I feel positive about my job	1	2	3	4	5	6	7
8. I am excited about my job	1	2	3	4	5	6	7
9. At work, my mind is focused on my job	1	2	3	4	5	6	7
10. At work, I focus a great deal of attention on my job	1	2	3	4	5	6	7
11. At work, I am absorbed by my job	1	2	3	4	5	6	7
12. At work, I concentrate on my job	1	2	3	4	5	6	7

Turnover Intention (From Cammaman et al., 1983)

Please indicate how strongly you AGREE or DISAGREE with each statement using the scale:

1. I will probably look for a new job in the next year.	1	2	3	4	5	6	7
2. I often seriously think about quitting.	1	2	3	4	5	6	7

Contextual Performance (Used by Mohammend et al., 2002)

While performing my job, how likely is it that I would

1. Volunteer to help out when others were busy.	1	2	3	4	5	6	7
2. Follow proper procedures and avoid unauthorized shortcuts.	1	2	3	4	5	6	7
3. Support and encourage team members with problems.	1	2	3	4	5	6	7
4. Cooperate well with others.	1	2	3	4	5	6	7
5. Voluntarily doing more than the job required in order to help others or contribute to team effectiveness.	1	2	3	4	5	6	7
6. Take the initiative to solve work problems.	1	2	3	4	5	6	7
7. Exercise personal discipline and self-control.	1	2	3	4	5	6	7
8. Tackle difficult work assignments enthusiastically.	1	2	3	4	5	6	7
9. Defend the management team's decisions.	1	2	3	4	5	6	7

SUPERVISOR - OCB (Modified from Lee and Allen,2002,JAP, also used by Matta et al,2015,AMJ).

Please indicate how strongly you AGREE or DISAGREE with each statement using the scale: People in the team I lead...

1. Help others who have been absent.	1	2	3	4	5	6	7
2. Willingly give their time to help others who have work-related problems.	1	2	3	4	5	6	7
3. Adjust their work schedules to accommodate other employees' requests for time off.	1	2	3	4	5	6	7
4. Go out of the way to make newer employees feel welcome in the work group.	1	2	3	4	5	6	7
5. Show genuine concern and courtesy toward coworkers, even under the most trying business or personal situations.	1	2	3	4	5	6	7
6. Give up time to help others who have work or nonwork problems.	1	2	3	4	5	6	7
7. Assist others with their duties.	1	2	3	4	5	6	7
8. Share personal property with others to help their work.	1	2	3	4	5	6	7
9. Attend functions that are not required but that help the organizational image.	1	2	3	4	5	6	7
10. Keep up with developments in the	1	2	3	4	5	6	7

organization.

11. Defend the organization when other employees criticize it.	1	2	3	4	5	6	7
12. Show pride when representing the organization in public.	1	2	3	4	5	6	7
13. Offer ideas to improve the functioning of the organization.	1	2	3	4	5	6	7
14. Express loyalty toward the organization.	1	2	3	4	5	6	7
15. Take action to protect the organization from potential problems.	1	2	3	4	5	6	7
16. Demonstrate concern about the image of the organization.	1	2	3	4	5	6	7

SUPERVISOR - Team performance (Zellmer-Bruhn & Gibson, 2006.)

Please indicate how accurate are the following items regarding the performance of the team you lead (1 = "very inaccurate," and 7 = "very accurate").

1. This team achieves its goals	1	2	3	4	5	6	7
2. This team accomplishes its objectives	1	2	3	4	5	6	7
3. This team meets the requirements set for it	1	2	3	4	5	6	7
4. This team fulfills its mission	1	2	3	4	5	6	7
5. This team serves the purpose it is intended to serve	1	2	3	4	5	6	7

SUPERVISOR - Individual Task Performance (In Mero, Neal, P., Guidice, Rebecca, M., & Werner, Steve, 2014)

Rate the effectiveness of each employee you supervise on every performance item listed below.

1. Performing technical aspects of the job	1	2	3	4	5	6	7
2. Performing job-related tasks	1	2	3	4	5	6	7
3. Performing complex tasks	1	2	3	4	5	6	7
4. Maintaining a proficiency in job-specific tasks	1	2	3	4	5	6	7
5. Keeping up with new work methods	1	2	3	4	5	6	7
6. Advising others on task procedures	1	2	3	4	5	6	7
7. Explaining job-related processes	1	2	3	4	5	6	7

APPENDIX B: IRB APPROVALS

**WAYNE STATE
UNIVERSITY**

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Detroit, Michigan 48201
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NOTICE OF EXPEDITED APPROVAL

To: Lyonel Laullie Cerda
Management
Management, 5201 Cass Avenue

From: Dr. Deborah Ellis or designee D. Ellis, Ph.D / 2.2
Chairperson, Behavioral Institutional Review Board (B3)

Date: November 10, 2016

RE: IRB #: 096116B3E
Protocol Title: Toward a better understanding of psychological contract fulfillment (PCF) at the team level
Funding Source: Unit: Management
Protocol #: 1609015271

Expiration Date: November 09, 2019

Risk Level / Category: Research not involving greater than minimal risk

The above-referenced protocol and items listed below (if applicable) were **APPROVED** following *Expedited Review* Category (#7)* by the Chairperson/designee for the Wayne State University Institutional Review Board (B3) for the period of 11/10/2016 through 11/09/2019. This approval does not replace any departmental or other approvals that may be required.

- Revised Protocol Summary Form (revision received in the IRB office 11/08/16)
 - Research Protocol (revision received in the IRB office 11/08/16)
 - Medical records are not being accessed therefore HIPAA does not apply
 - A waiver of written documentation of consent has been granted according to 45CFR 46 117(c) and justification provided by the Principal investigator in the Protocol Summary Form. This waiver satisfies: 1) risk is no more than minimal, data are survey responses with minimal risk content, 2) That the research involved no procedures for which written consent is normally required outside the research context, consent would not be required for these procedures outside the research context, 3) The consent process is appropriate, 4) An information sheet disclosing the required and appropriate additional elements of consent disclosure will be provided to participants.
 - Research Information Sheet – Team Member (revision dated 11/07/2016)
 - Research Information Sheet – Supervisor (revision dated 11/07/2016)
 - Email Invitations: invitation 1 (Team Members time 1), invitation 1 (Team Members time 2) and invitation 1 (Supervisors)
 - Data Collection Tools (3): i) Survey – Team Member Time 1, ii) Survey – Team Member Time 2 and iii) Survey – Supervisors Time 2
 - Please note: This submission was reviewed under the IRB Administration Office Flexible Review and Oversight Policy, therefore the expiration date is November 09, 2019.
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* Federal regulations require that all research be reviewed at least annually. You may receive a "Continuation Renewal Reminder" approximately two months prior to the expiration date, however, it is the Principal Investigator's responsibility to obtain review and continued approval before the expiration date. Data collected during a period of lapsed approval is unapproved research and can never be reported or published as research data.

* All changes or amendments to the above-referenced protocol require review and approval by the IRB BEFORE implementation.

* Adverse Reactions/Unexpected Events (AR/UE) must be submitted on the appropriate form within the timeframe specified in the IRB Administration Office Policy (<http://www.irb.wayne.edu/policies-human-research.php>).



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NOTICE OF EXPEDITED AMENDMENT APPROVAL

To: Lyonel Laulie Cerda
 Management

Management, 5201 Cass Avenue

From: Dr. Deborah Ellis or designee A. Yacour/em
 Chairperson, Behavioral Institutional Review Board (B3)

Date: June 29, 2017

RE: IRB #: 096116B3E

Protocol Title: Toward a better understanding of psychological contract fulfillment (PCF) at the team level

Funding Source: Unit: Management

Protocol #: 1609015271

Expiration Date: November 09, 2019

Risk Level / Category: Research not involving greater than minimal risk

The above-referenced protocol amendment, as itemized below, was reviewed by the Chairperson/designee of the Wayne State University Institutional Review Board (B3) and is APPROVED effective immediately.

- Protocol - Administrative changes and the addition of an international site. Changes include the inclusion of data previously collected in Chile regarding a secondary use of previously collected data.
- Receipt of Protocol Summary Form: Appendix A - International Research

Notify the IRB of any changes to the funding status of the above-referenced protocol.

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ABSTRACT**TOWARD A BETTER UNDERSTANDING OF PSYCHOLOGICAL CONTRACT FULFILLMENT (PCF) AT THE TEAM LEVEL**

by

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Despite the fact that the literature on psychological contracts has flourished in the last 20 years (Rousseau, 2011; Zhao et al., 2007), prior research provides limited insight about what psychological contract fulfillment (PCF) represents at higher levels of analysis. A growing line of research has started to empirically assess the existence of PCF at the team level of analysis (e.g. De Vos & Tekleab, 2014) and new theoretical developments have been recently published (e.g., Laulié & Tekleab, 2016). However, several questions remain unanswered as the literature is still in a fledging state. In this dissertation, I develop and test a model of shared PCFs at the team level.

Hypotheses were examined in an organization in Chile using data from multiple teams, multiple times, and multiple sources. The results show that employees of the same team tend to share their opinions about how the organization fulfills the promises to all the team members and to the team as a whole, creating a shared, emergent team-level phenomenon. The results also support that justice climate and perceived organizational support climate were significant antecedents of shared PCFs. Shared PCFs were significant predictors of team organizational citizenship behaviors (OCBs), average turnover intentions, and team engagement. Moreover, the

results support that the effects of shared PCFs on different team outcomes are generally stronger than the effects of individual PCF on individual-level outcomes. In addition, team affective tone was found to be an important mediator between shared PCFs and team outcomes. Shared PCFs were also significant moderators of the relationship between individual PCF and some specific individual-level outcomes (contextual performance, turnover intentions). Implications for theory and practice are also discussed.

Keywords: Psychological contract fulfillment, social exchange, team effectiveness.

AUTOBIOGRAPHICAL STATEMENT

Lyonel Laulié is a doctoral student and an instructor of MGT 5700 Human Resource Management at the Mike Ilitch School of Business of Wayne State University. His research has been accepted for publication in journals such as *Group & Organization Management* and *System Research and Behavioral Science*, and presented at leading management conferences such as the Academy of Management. He holds Master's degrees in Industrial Engineering (University of Santiago of Chile) and in Human Resources and Labor Relations (Michigan State University). He has considerable experience conducting survey research with large organizations in topics related to attachment, employment relationships, and strategy. Lyonel has recently accepted a position as an assistant professor at the University of Chile.