Universidad Ramon Llull

DOCTORAL THESIS

Title	SOCIAL BEHAVIOR AND EMOTIONS AT WORK: REGULATION, ASSESSMENT AND FEEDBACK
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In his autobiographical book called My Universities, the Russian writer Aleksey Maximovich – pseudonym Gorky - shares the story of a man who could not realize his dream of going to college but learned powerful life experiences that were richer than any classrooms could offer. Now, about to hand in my PhD, my memory goes back to that book. Why? I deeply believe that the real university, the most fundamental learning I got out of this journey, were given by the experiences and the people I had the fortune to share this path with. I am grateful to each of them beyond words. They were the people who gave meaning to a world of otherwise “only” publish or perish that, honestly, seems quite questionable to me. With Joan Manuel I learned the beauty to look at all – life, people, work – with an always pure and noble heart, with Başak Canboy I learned to say yes more frequently and the sweetness of a friendship based on deep acceptance, with Margarida Trüninguer I learned to welcome people with extra joy and willingness to help and the beauty of a free and deeply honest mind, with Ricard Serlavòs I learned to observe and listen better, with Alberto Ramírez I learned to be more creative and the beauty to always speak for what you believe, with Robert Emmerling I learned to be more patient and discrete, with Artur Massana I learned to be a much better teacher and the beauty of being inspirational, with Letícia Mosteo I learned to be more persistent and the beauty of great adaptability, with Nicolas Loewe I learned to be more courageous, with Richard Boyatzis I learned that emotional intelligence is an everlasting search, with Clara Manuel I learned how beautiful is to keep dreaming for your dreams, with Steven Poelmans I learned that there is always hope and the fortune to meet a truly understanding and musical soul. With my family and other friends from both sides of the Atlantic I have learned there is no distance and no time constrains for care, support and love. Thank you all, if I am now a better and happier person and professional you were the inspiration and the fuel…The real meaning, and universities, behind it all.

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ABSTRACT

In a service-based society the quality of the relationships among colleagues, client-service provider, managers and their team members, determine a range of outcomes such as turnover intentions, client loyalty, talent retention. Indeed, the quality of the relationship between a client and a service provider may determine client satisfaction as well as willingness to forgive mistakes (e.g. Verghese, 2003; Roter, 2006). This explains why organizations keep increasing its spending in corporate training in management in general and leadership in particular. Leadership and management development are at the top of the list as the number 1 areas of investment. In 2013, following two years of already increasing spending, the US investment in corporate training grew by 15% - over $70 Billion in the US and $130 Billion worldwide (Deloitte Corporate Learning Factbook, 2014). This doctoral thesis is inspired by the key role of social interactions at work for a series of business outcomes such as job satisfaction, client satisfaction, talent relation, individual and organizational performance. In a quest to contribute to the research and practice of social behavioral development at work the main motivation underlying the studies that encompass this dissertation is to answer the overarching question: How can people`s social behavior and emotions be more effective at work? This overarching question was addressed through three studies, one theoretical, one methodological and one empirical.

The aim of the first study is to explore the literature review of neuroscience, psychology and management and, through its integration, provide the mapping of the general types of social behavior a person can display depending on the multiple cognitive-emotion interaction pathways. This review was then used as a basis to propose an emotional regulation model that is expected to facilitate the display of more effective social behavior at work. The second study aims to

support the development of social behavior at work through the first fundamental step necessary to it, which is its assessment. To do so the second study presents the development and the construct validity test of a Spanish instrument to assess personal and social behavior at work. The third study managers' attempts in developing the social behavior of its workers through 360º follow-up feedback. It investigates the paradoxes faced by a manager during a 360º follow-up feedback, how they translate into leadership behaviors and impact the emotional reactions of feedback receivers.

KEYWORDS

Social Behavior, Emotion-cognition Interplay, Emotion Regulation, Regulation Strategies, Personal and Motive-based Competencies, Spanish Questionnaire, Follow-up Feedback, Affective Events Theory, Leadership Paradoxes, Constant Comparative Analysis, Emotional Reactions

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Chapter 1: Introduction

In this introduction I outline the context and the logic that connects the compendium of papers that form this dissertation. The dissertation consists of an introduction, three manuscripts (a literature review that is followed by a model proposition, one methodological and one empirical study) and a chapter with the general conclusions. Each of the three studies is written in line with the scholarly rules and recommendations so they can be submitted to academic journals and conferences. While the three manuscripts are related to each other they can be read independently. In this introductory chapter I will explain how the three following studies that inspired the manuscripts complement each other. The concluding chapter will present an overall discussion of the three manuscripts, their interrelation and suggest a future research agenda. Throughout the paragraphs of this introduction I will explore the context, the purpose and outline of this thesis while briefly describing the studies that compose it.

1.1 Context

The current generation – probably more than any before – relates and depends on others in the working environment (Steers, Mowday & Shapiro, 2004). Indeed most jobs in today's workplace involve service encounters (Toegel, Kilduff & Anand, 2013). It is through social interactions that positive or negative emotions are created and reproduced, respectively fostering or threatening productivity, cooperation and performance (Toegel, Kilduff & Anand, 2013). This is probably due to the fact that we live in a service-oriented and information-based society. In such a society effective social interactions mark the difference between client retention or loss, employee commitment or disengagement, workers' wellbeing or distress (Mattila, 2001; Duffy, Ganster & Pagon, 2002; Heaphy & Dutton, 2008). As

the service industry expands there will be an even increasing need for individuals who are able to maximize their social interactions (Klein, DeRouin & Salas, 2006).

A recent study has shown that the rate of trials against physicians in the US was more strongly associated with the quality of the relationship between client and physician than with the accuracy of medical diagnostics (Verghese, 2003; Roter, 2006). Mattila (2001) showed that service delivery personalization and making the costumer feel special may protect the company from the backlashes of an ineffective or nonexistent recovery effort, thus limiting the negative consequences of service failures on customer loyalty. Duffy, Ganster & Pagon (2002) found that social undermining in the workplace is negatively related to self-efficacy and organizational commitment and positively related to counterproductive behaviors and somatic complaints. Heaphy & Dutton (2008) found that positive work relationships are associated with a series of physiological indicators such as decreased cardiovascular reactivity at work, strength of the immune system, healthier hormone patterns and more proportional responses to stress and long-term reserves of health. As these studies illustrate workplace social interactions and its emotional consequents play a key role in a series of organizational outcomes from organizational and individual performance to wellbeing.

Interpersonal skills play a key role in the display of effective social interactions. The awareness of this relationship in the corporate world is what may be motivating the growing investment in the development of interpersonal skills. In 2013, following two years of already increasing spending, the US investment in corporate training on soft skills grew by 15% - over $70 Billion in the US and $130 billion worldwide (Deloitte Corporate Learning Factbook, 2014). This quest for the development of effective social behavior is consistent with a growing critique to business schools' over-focus on technical rather than social skills (Navarro, 2008). In fact, a few of these schools (e.g. Columbia Business School, Stanford Graduate

School of Business and University of California at Berkeley) are increasingly addressing that gap by reformulating their curriculum to give an increasing attention to the development of skills such as accepting feedback gracefully and speaking to subordinates with respect (Korn & Light, 2011).

The studies composing this dissertation were developed against this backdrop. In the following section I explore the purpose and outline the dissertation.

1.2 Purpose and Outline of the Dissertation

The theoretical and practical relevance of effective social behaviors at work is the main motivator of the studies that compose this dissertation. Each of the three studies aims to contribute to both research and practice of social behavior effectiveness at work. The three independent yet complementary studies together answer the overarching question: How can people achieve effective social behavior and emotions at work?

To accomplish this objective in Study 1, I did a literature review that integrated the literatures of management, psychology and neuroscience to propose a social behavior categorization. Since the focus of the thesis is social behavior, it was mister to do such a review in order to integrate the theories on psychology and management to more recent findings on neuroscience about how social behavior is "formed". This literature reviewed resulted in a social behavior categorization, which is the first part of the study 1. The categorization was then used as a basis for the development of a theoretical model of emotional regulation for effective social behavior. In Study 2, I present the development and construct validity testing of a questionnaire to assess social behavior. In Study 3, I conduct an empirical study that explores the leader's social behaviors during follow-up

feedback and its impact on employee's emotions. These studies answer to the three following specific research questions:

1. What does the integration of the literatures on management, psychology and neuroscience say about how social behaviors are formed? What are the main social behavioral types a person can display? What can be a comprehensive model of emotion regulation that would enhance the successful management of the social behavioral types previously mapped?

2. How to develop and evaluate the construct validity of a Spanish questionnaire for social behavior assessment in the workplace?

3. What are the social behaviors that leaders display when attempting to develop team members' social behavior through follow-up feedback? How those leaders' behavior impact employee´s emotions?

These there studies were conducted at ESADE, Ramon Llull University. The literature review and theoretical study (Chapter 2) offers a review of the process through which emotion-cognition interplay lead to different types of social behavior and proposes a three-phase model of emotional regulation, composed of a preventive, a situational and a post-hoc phase with the aim to foster effective social behavior at work. The second paper (Chapter 3) presents the development and validation process of a Spanish questionnaire for social behavior assessment in the workplace. A valid behavioral assessment is a necessary first step for social behavior development. The use of a valid assessment instruments is a necessary but not sufficient condition to drive change in social behavior. Certain activities such as follow-up feedback may facilitate the development of effective social behavior at work. Thus, the final study of this thesis (Chapter 4) investigates the leaders' social behavior when giving follow-up feedback and the impact of those behavior on employee´s emotions. Last, after a general discussion, the overall

limitations of the studies are revisited, implications of the findings of the above mentioned research are discussed and future research avenues suggested (Chapter 5).

The foundations of this thesis are based in four main concepts: social behavior, emotional regulation, behavioral assessment and behavioral paradox. As it can be seen in the figure 1.1 below the fundamental focus of the thesis is on social behavior, which is explored under multiple lenses in order to contribute to both practice and theory of effective social behavior at work. Since social behavior is the key pillar that inspires all the studies of this thesis, the Chapter 2 (Ch.2) exposes the review of the literature on neuroscience, psychology and management. Through this review it is explained the multiple ways in which social behavior unfold from the interaction between emotion, cognition and the context in which an individual is immersed. To enrich this research with a practical significance the social behavior taxonomy proposed was used as a backdrop against which the most known and recognized theory of emotion regulation (Gross, 1998; 2002; 2007) was revised. Gross`s theory of emotion regulation was then expanded to propose a three-phase model of emotion regulation aimed to help people inside the work environment to display more effective social behavior. While understanding how social behavior is generated and how to better manager it through emotional regulation is key for effectiveness at work, professionals inside organizations face the challenge of reliably assessing the social behaviors of others and themselves. In order to contribute to solving this challenge Chapter 3 (Ch.3) of this thesis presents the development and validation process of a questionnaire aimed to assess social behavior at work. Methodological theories and theories on emotional and social behavioral competencies were used as the main framework to develop and test the validity of the questionnaire. Nevertheless, an important limitation of the application of questionnaires to assess social behavior at work is that while it may provide valuable information

about one´s social behavior this data can be counterproductive if no effective follow-up follows the application of the instrument. To address this, Chapter 4 (Ch.4) of this thesis combines the paradox theory with the affective events theory as a framework to explore the social behavior of leaders when giving 360º follow-up feedback and how those behaviors impact the emotions of the feedback receivers. Together, it is my hope that the theories used as the framework under which this thesis was developed – together with the studies developed - have allowed a multifaceted contribution to literature and practice by advancing knowledge on regulation, assessment and feedback of social behavior at work.

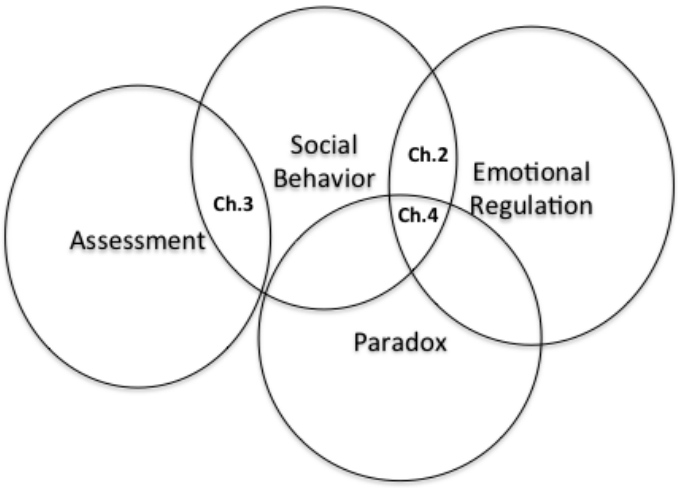

Figure 1.1: Studies key concepts

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Chapter 2: "Cognitive and Emotional Processes and Regulation in Social Behavior at Work: A Socio-Cognitive Neuroscience Model"[1]

[1] A preliminary version of this paper was presented as: Dantas, A.S: Emotional and Social Competency Display: a Motivational Model. XXXV Encontro da ANPAD-EnANPAD. Rio de Janeiro (Brazil), September 2011.

ABSTRACT

In a service based society effective social interactions mark the difference between client retention or loss, employee commitment or disengagement, or workers' wellbeing or distress. A socio-cognitive neuroscience model of social behavior is developed as a roadmap for proposing a model of emotion regulation strategies in the workplace. Social behavior was classified into four types along the dimensions of consciousness and affect: automatic (A), deliberate (D), emotion-directs-cognition-based (Ecb) and cognition-directs-emotion-based (Ceb). A three-phase model of regulation strategies, composed of a preventive, a situational and a post-hoc phase, is introduced and corresponding strategies are proposed with the aim to foster more effective social behavior at work. To conclude, we discuss both research and practical implications of our model and explore avenues for future research.

KEYWORDS:

Cognition, Emotion, Social behavior, Emotion regulation strategies, Neuroscience, Workplace

2.1 Introduction

The work environment has changed dramatically. Advances in technology have broken the boundaries of time and space, increasingly facilitating interaction between people across time zones and geographical barriers. Our current society has gradually shifted from an agricultural / industrial to a service / knowledge-based economy - resulting in information- and knowledge-intensification, globalization and virtualization. These technological and socio-economic changes are expected to have a profound impact on society at large and business strategies and practices more specifically. Some of the business challenges in the current workplace are knowledge management, workforce diversity, innovation, talent attraction and retention, power redistribution in flat hierarchies and virtual teams, and the retention of growingly demanding clients, all of which are characterized by important degrees of inter-relationship. Moreover, in a service-based economy the product to be delivered is a function of the relationship between client and provider. A recent study has shown that the rate of trials against physicians in the US was more strongly associated with the quality of the relationship between client and physician than with the accuracy of medical diagnostics (Verghese, 2003; Roter, 2006). Indeed, “patients who like their doctors don’t sue, no matter what their lawyer says. Patients sue when their feelings are ignored or when they are angered by lack of genuine concern for their welfare.” (Verghese apud Roter, 2006, p. 313). As Steers, Mowday & Shapiro (2004) claimed, the current generation – probably more than any before – relates and depends on others in the working environment. As a consequence effective social interactions have become a factor that has a major impact on productivity and profitability in the service and knowledge based economy.

This context may be at the origin of the interest in emotional intelligence (Salovey & Mayer, 1990) and emotional competencies (Boyatzis, Stubbs and Taylor, 2002). Despite the different theoretical (ability, trait, behavioral model) and measurement approaches (intelligence-like tests, self-assessment, 360º assessment) of the emotional intelligence (EI) theories, they all converge in that emotions are sources of information and its understanding, use and management is as important as cognition to the comprehension of human behavior and is predictive of effective social interaction. The theories on EI generated a renewed interest in the field of emotions. Ever since the now classic debate between Zajonc (1980) and Lazarus (1982) there has been a discussion about the primacy of emotion or cognition. The first proposes that affective responses can result from automatic information processing with no need of previous cognitive appraisal (affective primacy hypothesis) while the latter argues that cognition is a pre-condition to affective elicitation. Currently, findings in neuroscience point to the difficulty of disentangling affect from cognition and show that they tend to go together in the majority of human experiences (Panksepp, 2003). Nevertheless, a separation between those two systems – affective and cognitive – is still defended by the same researchers that recognize its intricacy (LeDoux, 1998; Panksepp, 2003) as a necessary condition to "help us unravel the neurobiological nature of the basic affective coloring of conscious existence" (Panksepp, 2003:4).

According to reviews of the main theories on emotion we can distinguish four main competing theories: Basic emotions (Darwin, 1872; Ekman, 1992), appraisal theories (Arnold, 1960; Lazarus, 1982), constructivist (Gendron & Barrett, 2009) and social constructivist (Averill, 1980) theories. We propose that for a better understanding of the complexity of human behavior and the influence of emotions on behavior, the different theories of emotions may be seen as complementary rather than competing, as they are elicited by different contexts. As such, theories of emotion can be categorized on a continuum that ranges from emotion as

hardwired and unconscious (in which case its expression could precede or exclude cognition), to emotion as mainly the consequence of cognitive appraisal. The basic emotions theory (Ekman, 1992), inspired on Darwin´s work on "The Expression of Emotions in Man and Animals" (1872) proposes that emotions are a heritage from other mammalian species and its expression is automatic and universal, not requiring will or intent. On the other side of the continuum, appraisal theory proposes that emotions arise as a consequence of the meaning made out of the interpretation of an external stimulus situation (Arnold, 1960; Lazarus, 1982) and thus are conditioned by cognitive interpretations. Social constructivist theory of emotion (Averill, 1980), according to which emotions are cultural products derived from learning of social rules, and psychological constructivist models (Gendron & Barrett, 2009), according to which emotions arise from making sense of internal bodily states are theories of emotion that fall into the basic-appraisal continuum model of emotion.

Emotions may be hardwired or socially constructed, conscious or unconscious, result of the interpretation of external or internal stimuli, generated by oneself or triggered by others and are at the core of social relationships. If the work environment and organizational outputs are in great part determined by the emotions generated through relationships, the quality of social interactions may play an important role in a wide variety of organizational outcomes. Indeed, Mattila (2001) showed that service delivery personalization and making the costumer feel special may protect the company from the backlashes of an ineffective or nonexistent recovery effort, thus limiting the negative consequences of service failures on customer loyalty. Duffy, Ganster & Pagon (2002) found that social undermining in the workplace is negatively related to self-efficacy and organizational commitment and positively related to counterproductive behaviors and somatic complaints. Heaphy & Dutton (2008) found that positive work relationships are associated with a series of physiological indicators such as

decreased cardiovascular reactivity at work, strength of the immune system, healthier hormone patterns and more proportional responses to stress and long-term reserves of health. As these studies illustrate, emotions play a key role in the dynamics of the interplay between social interactions, wellbeing and productivity.

Given the great relevance of effective social interaction in the workplace, when or why do people fail or prevail? How do emotion, cognition and their interaction influence social interactions? What strategies can people use not just to manage but to leverage emotions and cognitions in the workplace? Emotions have gained growing attention from psychology, neuroscience, management, and economics, after decades of neglect for being considered an unwelcomed guest in the cognitive rein. As a consequence, there has been a surge of research in emotions such as emotional labor (e.g. Beal, Trougakos, Weiss & Green, 2006), emotional regulation (Gross, 2002), emotional intelligence (Salovey & Mayer, 1990), emotion and leadership (e.g. transformational leadership, Ashkanasy, Härtel & Daus, 2002), and emotional contagion (Barsade, 2002). While those studies on emotion implicitly assume or suggest that emotion and cognition influence each other, we build on Drevets & Raichle's (1998) findings on the cross-interactions between emotion and cognition to propose a further investigation of its influence on social interrelations.

Drevets & Raichle's (1998) showed that neural activity in the different areas required in cognitive processing become less active or can even be suppressed during higher emotional processing, and vice-versa. Competition for brain processing resources may explain why, during intense emotional responses, blood flow suppression to areas devoted to cognitive processing (e.g. working memory and deep processing for visual-spatial or semantic information) permit more rapid automatic responses to govern behavior. This comes at the cost of frustrating experiences such as words spoken less judiciously, decisions made less prudently,

and problem solving performed more reflexively than during periods of mild anxiety or relaxation. Similarly, the stimulation of higher cognitive processing (e.g. work-related tasks) and the consequent reduction of blood flow on areas devoted to emotional processing of patients suffering from major depressive episodes of mild-to-moderate severity lead to a diminishment of their dysphoria (Drevets & Raichle's, 1998). As knowledge on brain functioning advances it becomes clearer that it is a disservice to the understanding of human behavior to talk about cognition without emotion and vice-versa (Damasio, 1994; LeDoux, 1998; Carter, 2000). Our question is how do emotion and cognition interactions produce social behavior? Moreover, what are the emotion regulation strategies that can help to better manage emotions thus leading to more effective social behavior at work?

Over the last few decades we have seen a surge of neuroscience research. However, only recently we have seen the rise of social cognitive and affective neuroscience that study the processes underlying the cognitive and affective processes leading to effective and ineffective social behavior (Lieberman, 2007). *The purpose of this manuscript is to contribute to the study of effective social interactions at work by integrating insights from psychology and neuroscience, focusing on processes of cognitive and emotional interaction and regulation*. We contribute to the literature on management and work psychology by taking a neuroscience perspective to examine the interactions between emotion and cognition that produce effective social behavior, from which we derive a model of regulation strategies through which people would be able to better manage and leverage cognition and emotion and improve social interactions at work.

The paper proceeds as follows. First, we explain that the effectiveness of social interactions is a function of the context and the feedback it provides. Second, we briefly discuss how emotion and cognition can function both as more independent or interacting behavioral drivers. Third, we present the socio-cognitive

neuroscience model of social behavior at work. We explore four types of social behavior along the dimensions of consciousness (automatic - deliberate) and affect (emotion-directs-cognition-based and cognition-directs-emotion-based). This classification serves as a basis for proposing a model of emotion regulation and corresponding strategies to foster effective social behavior at work. To conclude we discuss future research and practical implications.

2.2 Effectiveness of Social Interaction as a Function of Contextual Feedback

In order to assess the effectiveness of a social interaction it is necessary to take the context into account. The basic orientation of a human being from a neuroscience point of view is to seek rewards and avoid threat (Gordon, 2008). If, as Le Doux (1998) argues, "social situations are often survival encounters" (LeDoux, 1998:177) we could infer that in order for a social interaction to be deemed effective it should fit the demands of the social context, thus receiving (or perceiving) its positive feedback, or at least, not receiving (or perceiving) any negative feedback. Social behaviors, such as aggression, attachment and social recognition (Kirsch et al., 2005) are a few of the responses that may occur in an organizational environment in situations such as evaluation processes, competition of workers for social status, (mis)communication of emotions through virtual interactions, coping with personal failures and managing the failure of others, conflict in customer service interactions.

Responses that represent a "reward" or positive feedback could be key to the success in building and maintaining coalitions, maintaining respect from other group members, gaining power, to name just a few of the social goals human

beings pursue and increase survival probabilities (Kenrick, Maner & Norma, 2005). However, we are still left with the fact that as contexts change the possible effective responses may also change, since it is the social behavior fit or misfit to the context that determines the behavioral effectiveness (Gross & Thompson, 2007). For instance, questioning and confrontational behaviors are evaluated as positive in organizational cultures that value courage, passion and that are more results oriented. That same behavior may result in negative feedback in an organizational culture that values compliance to hierarchy, emotional temperance and that is more process oriented. As a consequence, one same behavior (e.g. questioning the president's reasoning) may cultivate respect or damage a relationship depending on the organizational culture. To conclude, effective social behavior requires ongoing assessment of the context and adaptation of behavior. This adaptation can be automatic or deliberate, informed by different levels of affect and cognition. In the following section we will elaborate on how cognition and affect interact to produce behavior.

2.3 Cognition and Affect: Duality, Congruence and Incongruence

2.3.1 Dual Information Processing and Behavioral Drive

From a neuroscience perspective, the human brain processes a stimulus through dual and parallel systems. One system is fast and unconscious, allowing quick reaction (i.e. "low road"). The other system takes longer time to process information and it is conscious, allowing the stimulus to be cognitively assessed

(i.e. “high road”) (LeDoux, 1998; Carter, 2000). The two different modes of processing may not be the most parsimonious but its qualitative differences, one automatic and the other controlled, provide complementary benefits (Schneider & Chein, 2003). The dual-neural processing of events is consistent with the dual process models in psychology according to which people are complex systems constituted by multiple sub-systems (Epstein, 1994; McClelland, Koestener & Weinberger, 1989; Metcalfe & Mischel, 1999; Kehr, 2004) that drive, direct and select behavior in different ways (McClelland et al, 1989; Kehr, 2004; Kahneman, 2011). The cold, explicit, analytical, reflective system is more consciously goal-directed, less spontaneous and emotional and is associated to controlled processes, which involve awareness, capacity for interruption, effort and intention (Lieberman, 2007). The hot, implicit, fast, reflexive system is more experiential and likely to be more strongly associated with affective reactions (Metcalfe & Mischel, 1999) and automatic processes, lacking one or more of the qualities that correspond to the reflective system (Lieberman, 2007). A person´s behavior is a function of the processing route that his/her brain follows during social interaction, as well as the (in)congruence between the high and low route (Cohen, 2005).

2.3.2 (In)Congruent Information Processing and Behavioral Drive

As Epstein (1994) pointed out, even though the affective-experiential and the logical-rational systems operate in parallel and can process information independently they may also communicate with each other. The systems that operate in our brain, work synergistically to achieve our goals for the most time, however “in the circumstances of modern life, these systems may prescribe

different behaviors" (Cohen, 2005: 7). Emotional and cognitive processes may influence and guide each other (Damasio, 1994; Phelps, 2006) but at times they compete within domains (e.g. multiple affective responses competing with each other) as well as between domains (Cohen, 2005; Ochsner, Hughes, Robertson, Cooper & Gabrieli, 2009). Clashes may derive from situations that activate concepts that contain affective contents and links to behavioral schemata that are incongruent with knowledge, and symbolically represented intentions in the reflective system, thus generating self-regulatory conflicts (Deutsch & Strack, 2006:169). When incongruence arises the resulting behavior mirrors the competition between the systems (Cohen, 2005). For instance, in the ultimatum game, in which one person proposes how to split a sum of money and the other person either accepts or rejects the proposed amount, the rational choice would be to accept any amount offered as the utility is always higher than zero. Nevertheless, studies show that offers that are lower than 20% are consistently rejected, even when the money to be received would correspond to a month's pay. In this game, the incongruence between the logical-rational and the affective choice can be resolved either in favor of the emotional response to reject an unfair offer or of the cognitive choice to accept the amount.

2.4 Socio-Cognitive Neuroscience Model of Social Behavior at Work

The socio-cognitive neuroscience model of social behavior at work explores the multiple paths through which social behavior may unfold, which in turn is used as a basis for an emotion regulation model and corresponding strategies for effective social behavior at work. We will refer to automatic social behavior (A) as behavior

that results from automatic processing, and deliberated social behavior (D) that derives from controlled processing. We distinguish between two types of social behavior that are driven by an interaction between cognition and emotion: emotion-directs-cognition-based (Ecb) and cognition-directs-emotion-based (Ceb). Throughout the following sections we will explore this classification of social behaviors in greater detail.

2.4.1 Automatic Social Behaviors (A)

The deeply wired responses that human beings may automatically display in the face of emotionally charged stimuli are associated with the most primitive part of human brain. Darwin (1872) proposed that animal and human emotions are homologues and many emotional expressions in humans are inherent patterns of action. His findings led to the proposition that a limited set of fundamental or 'basic' emotions – such as fear, anger and sadness - are present across species and cultures, having provided adaptation and selective advantage. MacLean´s (1990) triune architecture of the brain classifies the human brain into three formations: reptilian, old and new mammalian. Anatomically as well as biochemically, those formations reflect the evolution of the more ancient reptilian brain, considered to be the seat of primitive emotions, to the 'old' mammalian brain, which elaborates social emotions, and from this to the 'new' mammalian brain that connects emotion with cognition and is capable of controlling emotional responses retrieved by other systems (Panksepp, 1998; Dalgleish, 2004). The neuronal structures related to emotion are usually subcortical, such as the amygdala, the hypothalamus and the ventral striatum (Pessoa, 2008). These structures are often considered evolutionarily conserved, or primitive. Research in affective

neuroscience substantiates that animals have evolved brain functions with genetically ingrained psycho-behavioral potentials that function as ‘‘evolutionary operants’’ (Panksepp, 1998, p. 55) which are inherited emotional command systems fostering adaptive behavior. Thus, much of how we behave is traceable to the older parts of the brain.

According to Dolan (2002) the brain regions that are involved in emotional experience are orbitofrontal, insular, anterior and cingulate cortices and the amygdala is what links perception with automatic responses. In face of high emotional processing the blood flow in those regions increases and decreases in the areas dedicated to cognitive processing (Drevets & Raichle’s, 1998), hence the difficulty to volitionally influence the behavioral outcome of an emotional surge. Some automatic behavioral responses such as attack, freeze, avoid, or hide from a stimulus that represents a real or apparent threat, are deeply wired in humans as well as other species (LeDoux, 1998) and have been fundamental for survival. Automaticity can be instinctive (Tiedens & Fragale, 2003) as well as learned (Schneider & Chein, 2003) given previous events, repetition and consequent memorization of experiences (Tiedens & Fragale, 2003). Automatic social behaviors are those behaviors that are innate as well as those that develop gradually through experience as learning potentiates existing pathways or shapes new ones (Miller & Cohen, 2001). These “hardwired” pathways are advantageous because they allow highly familiar behaviors to be executed quickly since they derive from automatic processing that is spontaneous and rapid (Dimberg, Thunberg & Elmehed, 2000). However as they are emotionally charged, less controllable (Metcalfe & Mischel, 1999), and occur without conscious awareness, active control or attention (LeDoux, 1998; Schneider & Chein, 2003) they can also result in socially adverse behavior.

The great majority of our daily behavior is driven by System 1 of information processing which is fast, automatic and unconscious and lead to fast and usually biased responses (Kahneman, 2011). These are "by default" behaviors, instinctive and associative responses (Kahneman, 2011). On the one hand automatic behaviors can be effective, time efficient and fundamental to avoid the overload of re-thinking each action as if it was the first time. On the other hand, they are also inflexible, stereotyped reactions elicited by just the right stimulus (Miller & Cohen, 2001). Furthermore, they do not generalize effectively to novel situations, and in the case of automatic behaviors learned through experience they take a great extent of time to develop (e.g. development of a new habit). As a consequence, these sorts of social behavior can lead quite frequently to at least questionable responses especially when influenced by situations of stress, lack of time, tiredness or uncertainty. In those circumstances automatic behaviors may leave us wondering: Why did I do that? Have I lost my mind? Why didn't I wait until tomorrow to reflect instead of acting out?

2.4.2 Deliberate Social Behaviors (D)

There is a consensus that it is due to the more recently evolved part of the human brain, the neo-cortex, and more specifically the pre-frontal cortex (PFC) - and its ability to orchestrate thought and action in consonance with internal goals (Miller & Cohen, 2001) - that human beings have the capacity to deliberate and display coordinated behaviors that look purposeful and voluntary. While not crucial for carrying out automatic behavior, the PFC (with the three major areas being dorsal, orbital and medial) determines our capacity to make more complex decisions (Miller & Cohen, 2001; Ratey, 2001). The dorsal PFC has connections with structures of the motor system that may be fundamental to control overt behavior

while the orbital and medial PFC are closely related to limbic structures necessary for long-term memory and internal states (e.g. affect and motivation) processing. Goal-directed behavior depends on people´s ability to relate a wide range of external and internal information. More complicated behaviors depend on general rules that may require more complex mapping. PFC provides both a venue for the interrelation between information generated by multiple brain systems as well as is fundamental for learning rules (Miller & Cohen, 2001; Ratey, 2001). Furthermore, the lateral and ventromedial areas of the PFC signal the relationship between behavior and a possible reward and strengthens the connections among neurons and representations in the PFC that guide the behaviors that will lead to those rewards (Miller & Cohen, 2001; Ratey, 2001).

Deliberate social behaviors are less emotionally charged, more controllable, unfold slowly and involve awareness (e.g. Metcalfe & Mischel, 1999; Schneider & Chein, 2003). Such deliberation probably emerged when human were mostly hunters and gatherers as it allowed them to anticipate seasons, track prey, set traps and coordinate actions. It may also represent a growing advantage in a complex society in which survival is greatly dependent on the effectiveness with which we navigate social encounters. Once an event such as thinking that you better be liked by your supervisor in order to be promoted (an internal-private event) takes place, one may be driven to purposefully choose how to do so. Indeed, people may deliberately engage in social behaviors such as flattery, favor-doing and opinion conformity – forms of other-enhancement – as a means of influencing others positively and making oneself more appealing (Ralston & Elsass, 1989).

There are a myriad of social behaviors at work that can be mainly driven by deliberative efforts (Weiss & Cropanzano, 1996; Tedeschi & Melburg, 1984; Organ, 1990; Organ & Konovsky, 1989). In fact, “individuals often engage in more conscious and deliberate attempts to gain the social approval of others, to build

rewarding relationships with them, and in the process, to enhance their self-esteem" (Cialdini & Goldstein, 2004). For instance, assertive impression management tactics (e.g. self-presentation and other-enhancement), differently from the defensive ones, are not mere reactions to situational demands (Tedeschi & Melburg, 1984) and can lead to more successful outcomes (e.g. Stevens & Kristof, 1995). Studies on organizational citizenship behavior (Organ, 1990; Organ & Konovsky, 1989) show that helping behaviors mirror deliberate rather than expressive emotional behavior. However, the possibility that a same social behavior can be motivated by a spontaneous affective reaction or by deliberation may be at the origin of contradictory findings in the field of organization citizenship behaviors with some pointing that pro-social behaviors directed at individuals have a deliberate character (Williams & Anderson, 1991; Organ & Konovski, 1989), while others suggest that it has an affective antecedent (Lee & Allen, 2002).

Events that violate one´s model of reality call for the System 2 of information processing which is slow, deliberate and effortful (Kahneman, 2011). Those are situations in which "the mappings between sensory inputs, thoughts, and actions either are weakly established relative to other existing ones or are rapidly changing" and one´s representations of goals and the means to achieve them are needed (Miller & Cohen, 2001, p. 168). Thus, in novel situations and / or in situations in which a reward is anticipated as a consequence of planned behavior deliberate behaviors may unfold (Miller & Cohen, 2001). On the one hand, deliberate behaviors have the potential to produce effective outcomes thanks to data-analysis, anticipation and planning (e.g. the decision to do a favor to a co-worker anticipating that in the future you may be the one needing a favor). On the other hand, deliberative decision-making can be compromised if one has to respond under circumstances of time pressure and stress (e.g Cialdini & Goldstein, 2004). Contrary to automatic behavior, deliberate social behavior requires

awareness, behavioral deliberation and selection and often implies conscious reward analysis. Following the premise of bounded rationality, our capacity to fully capture complex social situations and correctly anticipate feedback from the context is limited. Therefore even deliberate social behavior can still turn out to be quite ineffective. This is why individuals turn to intuition and emotional intelligence to extract more information from the context to inform adaptive social behavior.

2.4.3 Emotion-directs-Cognition-based Social Behavior (Ecb)

The properties of the enhancement as well as impairment of cognition by emotion have been observed in attention (Pessoa, 2008; Phelps, Ling, & Carrasco, 2006) and response inhibition (Pessoa, Padmala, Kenzer & Bauer, 2012). While the interaction between emotion and cognition and its influence on behavior is evident in both everyday and clinical experience, the identification of its neural correlates is a quest currently in progress. Studies of cognitive interference through emotional distraction were related to impaired performance and increased activity in the ventral system which includes brain regions involved in ‘‘hot’’ emotional processing such as the amygdala, the ventrolateral PFC (VLPFC) and the medial PFC (MPFC) and reductions in the ‘‘cold’’ executive functions, like the dorsolateral prefrontal cortex (DLPFC) and the lateral parietal cortex (LPC) (Dolcos & McCarthy, 2006; Simpson, Snyder, Gusnard & Raichle, 2001). Moreover, evidence points to the central role of the amygdala in the impact of emotion on cognition, with differences in brain activity depending on emotion enhancement or impairment of cognition (Dolcos, Iordan & Dolcos, 2011).

Emotions have also shown to play both a positive and detrimental role in decision-making. On the one hand, emotion-related processes can advantageously

influence cognitive processes (Dolan, 2002). Indeed, as Damasio´s (1994) somatic-marker-hypothesis proposes, the implicit ability to use unconscious emotional signs to choose between multiple decision choices is essential to decision making. Emotional states can support the resolution of control dilemmas by modulating cognitive processing in a situation-specific way and "dynamically setting processing priorities among conflicting alternatives or trade-offs" (Gray, 2004, p. 47). The amygdala and the ventromedial PFC (VMPFC) are components of the neural network that plays a crucial role in judgment and decision-making (Damasio, 1994). On the other hand, at times emotions overruling cognitive processes can lead to detrimental choices (e.g. Sanfey, Rilling, Aronson, Nystrom, & Cohen, 2003), a process that is associated with an increased activation of the anterior insula (related to processing of negative emotion, notably disgust) (Dolcos, Iordan & Dolcos, 2011). Thus, emotion is a "double-edged-sword" as it can impact cognition and behavior in positive but also negative ways (Dolcos, Iordan & Dolcos 2011, p.669). We thus call emotion-directs-cognition-based social behavior those behaviors in which emotion either energizes or overrules cognition determining social behavior accordingly.

In organizational settings we are all familiar with situations in which emotions (e.g. sympathy for a new co-worker) can energize cognitions (e.g. intention to introduce the rooky to colleagues from different departments) and cases in which emotions (e.g. indignation with a boss who commits a fraud) can counteract – and at times overrule cognitions (e.g. avoid accusing people in public) changing the social behavior displayed (e.g. whistle-blowing instead of maintaining silence). Indeed, in his research on change Gersick (1991) found that strong emotions can provide "major sources of energy for revolutionary change" (Gersick 1991), but such emotions may also hinder cognition and performance in a similar way as stress (Barr & Huff 1997, Driskell & Salas 1996). In another study of acts of compassion in the workplace, Frost, Dutton, Worline & Wilson (2006) found that while

expression of pain is usually a violation of display rules in organizations it opens spaces for acts of compassion that are "more than normative compliance to well-grooved display rules" (Frost, Durron, Worline & Wilson, 2006, p. 28). Acts of compassion involves letting one's emotions guide actions by responding to the "human dilemma of whether one wants to care for another in a particular time, at a particular place, or at a particular level of connection" (Frost et al., 2006, p.38).

The neural substrate of various aspects of the interactions between emotion and cognition points to dynamic interplays between separate but interconnected systems implicated in emotional and cognitive processing (Dolcos, Iordan & Dolcos, 2011). This is coherent with the argument that automatic processes, related to emotions (i.e. System 1, reflexive process) and controlled processes, related to cognition (i.e. System 2, reflective process) may influence each other in determining behavior (Cohen, 2005) and this interaction can be synergetic but can also be conflictive (Cohen, 2005; Phelps, 2006). In the specific case of emotion-directs-cognition-based social behavior we focus on those cases in which emotion leads cognition either by energizing or overruling it, thus guiding social behavior. Conflicting choices are at times solved by emotional signalization (Damasio, 1994), in which case the emotion is energizing a specific cognitive option and promoting it against others. At other times emotion can overrule cognition, as when anger reactions can drive negotiators to refuse offers that, from an economic standpoint, would be best for them (e.g. Pillutla & Murnighan, 1996). Nevertheless, given the distinctive value that cognitive processes are given over emotional processes in our society, with emotions still seen as disturbances to rational choices, there has been relatively little concern for how emotional processes can leverage cognition into determining more effective social behavior. This may explain why the vast majority of regulation strategies revolve around cognitive efforts to manage emotion. However, if emotions play an equally important role as cognition in determining behavior – socio-cognitive

neuroscience model of social behavior shows - should we not give more attention to the ways in which emotion can guide cognition and explore ways to allow or even encourage the display of emotion in the workplace? In the section on regulation strategies we will address this by taking a closer look at emotion regulation strategies.

2.4.4 Cognition-directs-Emotion-Based Social Behavior (Ceb)

As Damasio (2003) pointed out, our emotional responses can be modulated. The cross-fire that at times takes place between cognition and emotion can be resolved by the cognitive systems either "muting or transforming the affective response" (Swann, Griffin, Predmore & Gaines, 1987: 887). While pathways involving the amygdala and subcortical structures can activate rapid emotional responses, slower emotional behaviors rely on prefrontal and parietal cortical processing that involves self-regulatory components (Adolphs, 2003, p. 174). This is consistent with Cohen´s (2005) argument that the capacity to override emotional responses relies greatly on the most recently evolved parts of the brain, which support types of behaviors that are recognized as "rational". The dorsal anterior cingulate (dACC) and lateral prefrontal cortex (LPFC) are two brain regions associated with the process through which people purposefully override dominant responses or impulses (MacDonald, Cohen, Stenger & Carter, 2000; Lieberman, 2007). Cognitive control relevant to emotion, such as suppressing the processing of emotional information or controlling emotional feelings, is associated to lateral (LPFC) and medial prefrontal (MPFC) regions (Banich, Mackiewicz, Depue, Whitmer, Miller & Heller, 2009; Miller & Cohen, 2001). Cognitive control is also related to subcortical and posterior cortical regions that codify and represent specific types of information which allow, by the increased or decreased activation

of particular representations, enabling selective attention to - and maintenance of goal-relevant information and resisting interference (Ochsner, Bunge, Gross & Gabrieli, 2002; Miller & Cohen, 2001).

Even though certain stimuli may naturally tend to evoke an emotional reaction, the way in which those stimuli may be processed and interpreted can profoundly impact both internal states and manifested behaviors. The change of emotional responses through cognitive processes and strategies is an example of the impact that cognition can exert on emotion (Phelps, 2006). In fact, one of the fundamental purposes of educational development is to influence the relationship between causative objects and emotional responses through an evaluative step (Damasio, 2003:54). Thus, in addition to overriding emotion (e.g. muting) cognition can also direct social behavior by channeling the emotions (e.g. transforming) resulting in different social behavior. Hence with cognition-directs-emotion-based social behavior (Ceb) we refer to those behaviors that ensue from cognition either channeling or overruling emotional reactions. One of the ways in which cognition can channel emotion is through reappraisal of a situation, thus altering the experience of emotion (Gross, 2002) and the consequent social behavior. The dorsomedial prefrontal cortex (DMPFC), a region associated with emotional awareness, was most strongly activated by reappraisal (Oschner, Bunge, Gross & Gabrieli, 2002). Reappraisal success was also correlated with activation of the left lateral PFC region (LLPFC), which was in turn inversely correlated with activation of the amygdala, which suggests PFC´s role in inhibiting the amygdala response (Phelps, 2006).

There are plenty of situations in organizational settings where cognitions (e.g. need to keep the affective display rule in the organization) override emotions (e.g. frustration with a free-rider) and cases in which cognitions (e.g. there may be another way to interpret the apparent lack of contribution of this worker) channel

our emotions (e.g. patience with an idle worker) differently determining the social behavior displayed (e.g. coaching the worker). Surface acting and deep acting are other examples of cognition-directs-emotion-based social behavior at work. While the former refers to the muting or suppression of an unwanted emotion in name of displaying desired behavior, the latter refers to attempts to alter the actual emotional experience through, for instance, reappraisal of the situation (Beal, Trougakos, Weiss & Green, 2006). Emotional suppression, in which un-wanted feelings are suppressed in favor of an expression that matches desired display (Beal, Trougakos, Weiss & Green, 2006), is an example of cognition overriding emotions that is frequently used and has important negative consequences (e.g. generates stress and negatively affects memory), despite its possible social benefits (e.g. peacefully work with people we would rather not have as colleagues) (Richards & Gross, 1999). Beal et al. (2006) showed that while negative emotion has a direct negative association with affective delivery, both surface and deep acting strategies attenuated and even positively converted that relationship (Beal et al., 2006). Emotional labor is a type of cognitive intervention over affect, thus fostering social behaviors potentially more efficient in the situation (e.g. showing sympathy for an overly demanding client).

Intentional emotional regulation requires three elements: "(a) awareness of the influence or at least the possibility of the influence, (b) motivation to exert the control, and (c) enough attentional capacity (or lack of distractions) at the time of engaging in the control process" (Bargh, Chen & Burrows, 1996:241). Self-control has been shown to be a limited resource and, as it is expended, control impairment ensues - a mechanism that is referred to as ego-depletion (Baumeister, 2002). This condition thus puts important limits on the cognitive control of emotions with consequences for the social behavior displayed. To conclude, neuro-scientific studies show that emotion and cognition closely interact and that human behavior mostly is a consequence of their mutual

influence, thus generating different mixed types of behavior, which we here refer to as cognition-directs-emotion-based (Ceb) social behavior and emotion-directs-cognition-based (Ecb) social behavior. If congruent, emotion and cognition collaborate and the behavior displayed unfolds without stress or difficulty. If incongruent, frictions between emotion and cognition can lead to tension and competition and the consequent behavior will be a result of (resolving) that conflict. Here we refer to attempts to control automatic behavior and deliberate and manage conflicts between emotional and cognitive processes as regulation strategies. These regulation strategies are an integral part of the behavioral fabric since they are an ongoing attempt to calibrate emotions, cognitions and behavior towards the aim of displaying a social behavior that will be adaptive and result in positive feedback (or at least not receiving a negative feedback) and can thus be deemed effective.

2.5 Three-phase Process Model of Emotion Regulation

While emotions and cognitions have shown to be both important in determining social behavior, the former have been historically addressed as a threat to effective behavior as they are generally unconscious, fast, difficult to control and unpredictable. This potential dark side of emotion has led to multiple research traditions concerned with the management of emotions, with emotion regulation being the most recent, greatly influenced by previous research currents such as psychoanalysis and stress management or coping (Gross, 1998; Folkman & Moskowitz, 2004). Emotion regulation “refers to the heterogeneous set of processes by which emotions are themselves regulated” (Gross & Thompson,

2007). Emotion regulation strategies play a key role in shaping emotions and, consequently, influencing social behavior and a myriad of individual and organizational outcomes that may derive from that behavior (e.g. Mattila, 2001; Duffy, Ganster & Pagon, 2002; Heaphy & Dutton, 2008). Indeed, employees use a wide variety of emotion regulation strategies at work beyond surface (i.e. changing expression) and deep acting (i.e. changing cognitions and feelings) (Diefendorff, Richard & Yang, 2008). Recent research efforts to tap into the neural bases of emotion regulation have suggested that there are two systems involved in the cognitive control of emotion: the top-down description-based appraisal system (DBAS), consisting of the dorsal PFC (DPFC) and cingulate systems, and the top-down outcome-based appraisal system (OBAS), consisting of orbitofrontal and ventral PFC (OPFC; VPFC) and cingulate regions (Ochsner & Gross, 2007). According to Ochsner & Gross (2007) the two systems – DBAS & OBAS – work together to allow us to exert multiple types of control over our emotional responses.

Emotions are very difficult to manage in the heat of the moment and that is probably why four out of the five groups of strategies of the most dominant theory on emotion regulation (Gross, 1998) focus on antecedent-focused regulation - occurring previous to the emotion generation (Gross, 1998; Gross & Muñoz, 1995). Managing full blown emotions just before they take place – have also been referred to as "emotion-focused coping" because they are elicited in response to the depiction of disturbing, stressful events that the individual is unable to control or change (Folkman & Moskowitz, 2004: 763). However, volitional regulation (e.g. attention control and emotion control), "needed to support cognitive preferences insufficiently motivated by or discrepant from actual implicit behavioral tendencies" (Kehr, 2004, p.), can be ineffective, block cognitive capacities, be related with rigid self-control, have negative side effects and, most importantly, consume limited resources (Kehr, 2004). We will therefore

explore the role of learning in emotion regulation through a three-phase process model framework (see Figure 2.1 below) composed of a preventive phase, a situational phase and a post-hoc phase of emotion regulation.

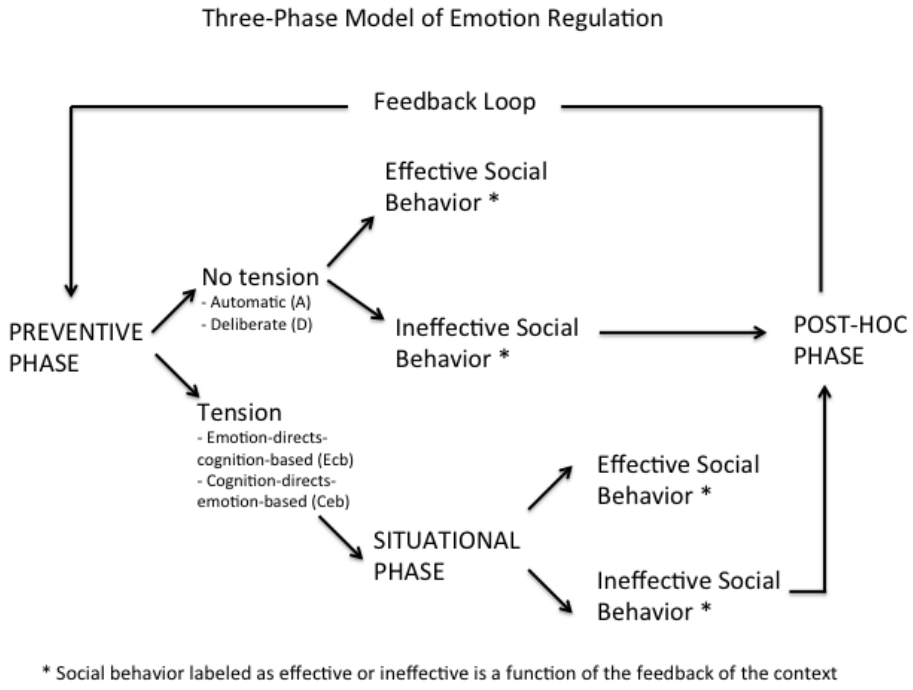

Figure 2.1: Three-Phase Model of Emotion Regulation

We will also point out the emotion regulation strategies that are less concerned with controlling of emotion and rather with gaining awareness and accepting, represented in the following table 2.1:

Table 2.1: Strategies of the Three-Phase Model of Emotion Regulation

STRATEGIES OF THE THREE-PHASE MODEL OF EMOTION REGULATION		
PREVENTIVE PHASE	SITUATIONAL PHASE	POST_HOC PHASE
Well-described Strategies	**Well-described Strategies**	**Well-described Strategies**
Planning	Attention deployment	Reflection
Social drilling	Reappraisal	Sense-making
Psychotherapy	Perspective taking	After-action review
Coaching	Labelling	Trial and error attempts
Situation selection	Normalizing	Looking for support
Situation modification	Positive self-talk	Relaxation
Alternative Strategies	**Alternative Strategies**	**Alternative Strategies**
Mindfulness-based training	Mindful presence	Acknowledgement
Spiritual routine	Personal accountability	Discovery of meaning
Physical activities	Hunch-following	Active feedback-seeking

The model works as follows: first, the strategies from the preventive stage, if pursued routinely, are expected to help people to generate resources that will support a better management of the multiple processes leading to behavior, including emotional processes. In case there is no tension between emotional and cognitive processes (either because they are congruent or because one is much stronger than the other, as in the case of automatic and deliberate behavior) social behavior may unfold without further intervention, which can be either effective or ineffective as a function of feedback. Second, in case there are tensions between emotional and cognitive processes in the situational phase individuals can apply regulation strategies to address the tension and adapt behavior to the contextual demands, which can be effective or not. The third phase of emotion regulation develops post-hoc and is essentially a learning phase during which individuals reflect on (in)effective emotion regulation processes to inform preventive strategies and help generate more resources for improving future social behavior. Throughout the following sections we share a checklist of regulation strategies that can support emotion regulation in each of the three phases of the model. We do not pretend to give a systematic or exhaustive review.

For instance, strategies that have shown to be detrimental to health and wellbeing such as suppression, drug and alcohol use and rumination (Aldao, Nolen-Hoeksema, Schweizer, 2010) are not listed. Rather, we propose strategies that logically follow from the classification of social behaviors, but that have been generally neglected in the field of organizational behavior; these are regulation strategies that put less emphasis on cognitive control and /or direct volitional effort to manage emotions, and more on following the guidance of emotions and physiological states more directly.

2.5.1 Preventive Regulation Strategies

The aim of the preventive phase is to equip people with enough emotional, cognitive and physiological resources that can support the generation of effective responses to social encounters at work. Following the premise that emotions are difficult to control "in the heat of the moment", and that our capacity to activate cognition for regulation decreases with the depletion of physical and psychological resources over time, we give special attention to the generation, maintenance and replenishment of resources and resilience. The strategies suggested in this phase follow a holistic view of the human being, according to which engaging and developing the whole person (i.e. physically, emotionally, mentally and spiritually) is fundamental to one´s wellbeing, which is associated with a broader and deeper repository of resources, needed for effective social behavior. Some well-described strategies that can be categorized as preventive are: a) planning (e.g. Berger & Bell, 1988), b) social drilling (repetitive training of positive social habits) (e.g. Matson & Senatore, 1981), c) psychotherapy (e.g. Matson & Senatore, 1981), d) coaching (Peterson & Hicks, 1995), e) situation selection (e.g. refrain from certain social situations that drain your energy) (Gross, 2002) and f) situation modification

(e.g. change the situation in order to minimize energy loss) (Gross, 2002). When taken together these strategies are associated with goal progression, goal commitment, environmental mastery (Spence & Grant, 2007), effectiveness of plans (i.e. likelihood of success) and desired social behavioral outcomes (Berger & Bell, 1988).

Some examples of other preventative emotion-regulation strategies are: a) mindfulness-based training, b) spiritual routine and c) physical activities. Mindfulness-based training may encompass activities such as body-scan meditation, breath-work, hatha yoga, loving-kindness meditations, sitting meditations, movement and sensorimotor awareness (Baer, 2003; Jain, Shapiro, Swanick, Roesch, Mills, Bell & Schwartz, 2007). Its aim is to promote cultivation of the present-moment, nonjudgmental awareness that helps the mind to focus better and better apprehend, comprehend, and integrate one's perceptions of self and environment (Baer, 2003; Jain et al, 2007). Mindfulness is related to higher levels of positive affect in daily life (Warren, Lerner, & Phelps, 2011), improvement of emotion regulation (Roemer & Orsillo,2003) and, by fostering nonjudgmental acceptance and decentering it helps to respond to emotional contents and recover from that response faster (Roemer & Orsillo, 2003). Spirituality is defined as "personal beliefs and values related to the meaning and purpose of life, which may include faith in a higher purpose or power." (Revheim & Greenberg, 2007, p. 308). A spiritual routine may involve meditation, prayer, worship and reading scriptures and its practice has been associated with improvement in a series of health outcomes (Revheim & Greenberg, 2007; Vaillant, 2008). Regular engagement in physical activities has been shown to significantly improve general and health-related quality of life, functional capacity, enhance mood states, reduce anxiety and clinical depression, facilitate individual´s capacity to cope with stress and reduce psycho-social stress response (Scully, Kremer, Meade, Graham & Dudgeon, 1998; Penedo & Jason, 2005).

2.5.2 Situational Regulation Strategies

The second phase of the three-phase emotion regulation model, named situational regulation, encompasses strategies that are expected to help people manage conflicts between emotional and cognitive processes underlying ongoing social interactions. Most strategies for managing emotion-cognition tensions usually focus on ways to control and / or re-shape emotions. Such strategies depart from the general idea that emotions are disturbances that need to be controlled to avoid negative outcomes. Examples of strategies that can be used in this phase are: a) attention deployment (Gross & Thompson, 2007), b) reappraisal (Gross & Thompson, 2007), c) perspective taking (e.g. Druskat & Wolf, 2001), d) labeling (Salovey, Mayer & Caruso, 2002) e) normalizing (e.g. Lev & Owen, 2000) and f) positive self-talk (e.g. Lev & Owen, 2000). However, research has shown that effective behavior and decision in particular depends on emotional guidance (Damasio, 1994). In this case, emotion has a positive role of better informing the cognitive processes instead of compromising them. This implies that "managing" emotions may at times consist in recognizing them to inform and guide cognition and behavior. In the next paragraph we introduce some alternative situational emotion regulation strategies, with a focus on acceptance and self-responsibility rather than on the control of emotion: a) mindful presence, b) personal accountability and c) hunch-following.

Mindful presence is to be entirely conscious and aware in the present moment (Senge, Scharmer, Jaworski & Flowers, 2004). Mindful presence requires openness beyond preconceptions. It can be described as "letting come" attitude that embraces the present moment in a non-judgmental way and it has shown to facilitate the capacity to respond less defensively, lead to reduced emotional reactivity in face of interpersonal conflict, and a lack of worldview defense in face of social identity threat (Brown, Ryan, Creswell & Niemiec, 2008; Reid, 2009;

Senge et al. 2004).). "As with mindfulness, for living presence moments there needs to be an intention, a willingness to surrender" (Reid, 2009, p. 182). Personal accountability is taking ownership for what happens to oneself without blaming others or self (Samuel & Chiche, 2004; Connors & Smith, 2014). It departs from the fact that life brings difficult and challenging circumstances but, instead of being a victim, personal accountability pushes oneself to take actions that can promote one´s desired outcomes (Samuel & Chiche, 2004; Connors & Smith, 2014). In the context of emotion regulation, personal accountability can be understood as taking ownership for one's own emotions and instead of responding impulsively to external triggers, looking for ways to effectively manage social inputs and threats. Hunch following is close to what Damasio (1994) called gut-feeling which is an emotional signaling associated with different cognitions. Following a hunch, or intuition, consists in letting one´s unconsciousness guide thought and action. This has indeed been shown in certain circumstances to lead to better results than consciously trying to come up with a solution, choice or idea, such as when confronted with highly complex situations and cases that require creativity and insight.

2.5.3 Post-hoc Regulation Strategies

The post-hoc regulation strategies phase is composed of reflection and learning based on feedback and outcomes of previous cognitive and emotional processes underlying social behavior. The aim of this phase is to go beyond emotional regulation strategies that focus on anticipating emotional challenges or managing them as they occur. Post-hoc strategies focus on the learning that can be derived from past experiences, successes or failures in emotion regulation efforts and the consequent (un)adaptive social behavior. It has some points in common with a

more recent stream of research on coping called future-oriented positive coping and, in particular, the dimension of evoking and using feedback about the success of one's efforts (Folkman & Moskowitz, 2004). Learning from social behavior, especially ineffective behavior, as well as unpacking the underlying emotional and cognitive processes, is key in the regulation strategies process, because the lessons that can be derived from post-hoc strategies trigger learning that is necessary for adapting social behavior in future occasions. Some well-described post-hoc strategies are: a) reflection (Clarke, 2006), b) sense-making (Schwandt, 2005), c) after-action review (Morrison & Meliza, 1999), d) trial and error (Young, 2009), e) social support (Thoits, 1986), and f) relaxation (Deffenbacher & Mckay, 2000).

Alternative post-hoc strategies here introduced are: a) acknowledgement, b) discovery of meaning and c) active feedback-seeking. "To acknowledge means not only to become aware rather means being open for the other in his or her concrete, typical, unique way of being" (Schmid, 2001, p. 156). According to Schmid (2001) true acknowledgement is independent of others' socially undesirable behavior and leads to acknowledgement of oneself, acceptance and esteem. Therefore, acknowledgement – that here encompasses recognition, gratitude, apology and forgiving - may foster self-awareness while also enriching social relationships. Discovery of meaning is about finding a positive meaning in stressful situations (e.g. Bower et al, 1998, Gottlieb & Gignac, 1996). It is close to what the literature on coping calls meaning-focused coping (Folkman & Moskowit, 2004). We here use discovery for meaning as a strategy to attach a positive meaning to an ineffective social behavior (e.g. opportunity to learn, unveil own emotional, cognitive and behavioral patterns, gain further awareness of own ongoing or complex ways to face social challenges). Active feedback seeking is one´s "solicitation of feedback from those who are important parts of their social

structures." (Ashford & Tsui, 1991, p. 252). It is an inherent part of gaining and maintaining self-awareness and interpersonal acumen. Through active feedback seeking, one gathers information from the environment that can support the minimization of the discrepancy between one´s displayed behavior and the behavior that would lead to one´s desired outcomes (Ashford & Tsui, 1991). This strategy can thus allow adjustments of future social behavioral display according to environmental demands, which thus leads to positive feedback from the context.

2.6 Discussion

2.6.1 Contributions

In this paper we have addressed how emotional and cognitive processes interact to determine social behavior in the workplace. Through the cross-fertilization of the fields of psychology and neuroscience we have explored different interactions between cognition and emotion that represent different pathways through which emotions influence social behavior. Given the importance of emotions and our limited cognitive capacity to manage emotions when they surge emotional regulation becomes an inseparable element of the social behavioral "fabric". We proposed a three-phase process model of emotion regulation and explored some alternative strategies for each of the three phases.

In doing so, we made two contributions. First, we add a neuroscience-based perspective to the psychological research of the antecedents and consequences of social behavior at work. The knowledge derived from the growing field of

neuroscience has refined our understanding of the actual cognitive and emotional processes underlying social behavior. We have argued that social behavior falls on a continuum that ranges from mainly automatic (System 1, Reflexive) to mainly deliberate (System 2, Reflective) with behavior derived from interactions between emotion and cognition varying on that continuum. Our categorization provides a neuroscience-based framework to classify and understand the emotional and cognitive processes that determine the myriad of social behavior displayed at work.

Second, given the difficulty to manage raw emotions and the potential of emotions to harm as well as aid social behavior, we have developed a three-phase process model of emotion regulation. In the first, preventive phase, resources are generated a priori to avoid emotional and cognitive deregulation and impulsive, un-adapted social behavior; In the second, situational phase, we focus on how individuals cope with tensions between cognitive and emotional processes while interacting with others; Third, we propose a post-hoc phase, in which individuals reflect on ineffective social behavior displayed in any of the two previous phases in order to generate learning that will feed back into the preventive phase thus closing the circle.

Third, our study contributes to the literature on emotion regulation and coping by expanding on the limited focus on the cognitive regulation of detrimental effects of emotional upheavals, by examining the advantageous influence of emotion on cognitive processes and behavior. We have argued that emotions should at times, instead of being controlled, be acknowledged and leveraged to guide cognitive processes and behavior accordingly. The three-phase process model also stresses the potential for enhancement and learning from emotional processes and their consequences for social behavior. In line with our argument that cognitive strategies to manage emotions are over-explored and have important limitations

(e.g. Baumeister, 2002; Kehr, 2004), we have explored alternative strategies for emotion regulation that focus on emotional and physiological processes rather than cognitive efforts to keep emotion in check.

2.6.2 Limitations

A first limitation of our model is that it is theoretical and needs to be tested. We have integrated insights from different disciplines (neuroscience, psychology, organizational behavior), fields of research that have been hardly connected until recently. Whereas social psychological research has informed organizational behavior for many decades, and neuroscience has been integrated with psychological research in the discipline of neuropsychology, this has not been the case in neuroscience informing leadership and organizational behavior studies. In other words, our model is based on research insights drawn from two mostly independent research disciplines. Empirical research in the field of neuroleadership, which operates on the fringe of neuroscience and organizational behavior, has only recently started to emerge, with socio-cognitive neuroscientists, social psychologists and management scholars teaming up. In sum, the contribution of this paper of offering integration is at the same time its weakness. We need much more inter-disciplinary research to test our model in the laboratory and the real world and encourage studies that look at the neurophysiologic substrates of interactions and main effects of the psychological processes of emotion and cognition in social behavior in the workplace.

A second limitation of our study is related to recent findings in neuroscience showing that emotional and cognitive neuronal networks closely interact with each other and may be indeed integrated in the human brain (Pessoa, 2008). As a consequence the categorization of social behavior as automatic or deliberate, the

two extremes of our proposed neuroscience-based model of social behavior at work can seem somehow contradictory. However, the distinction between emotional and cognitive processes is still defended, especially for research purposes, by the very neuroscientists who have demonstrated the integration of cognitive and emotional circuits in the brain (LeDoux, 1998; Pankseep, 1998,2003).

A third limitation concerns the argument that most of the emotion regulation strategies currently focus on cognition controlling emotions and our proposal to give more attention to alternative strategies where emotions guide cognition. While this proposal is still valid and has important implications for research and practice, the use of all strategies, whether conventional or alternative, may require some level of meta-cognition. Meta-cognition, which Kornell (2009, p. 11) defines as "the ability to think about one's own thoughts, make judgments about one's own memories, and generally (as the name suggests) engage in cognitive processing about one's own cognition" may be a necessary condition for people to engage in more effective emotion regulation strategies in the first place, and therefore requires further exploration of emotional regulation strategies, both in the preventive, situational, and post-hoc phases of emotional regulation.

2.6.3 Implications for Research

The model developed here offers several potential contributions to the fields of organizational behavior and emotion regulation. First, our neuroscience-based model of social behavior has implications for research on social behavior at work – one of the core concerns of the field of organizational behavior. As noted earlier, while emotions may have a detrimental effect on cognitive processes and social behavior they may also have positive effects. While Damasio´s (1994, 2003) research and somatic marker hypothesis has shown the fundamental role of

emotion on decision-making, little research has been done on: 1) beneficial effects of emotion on cognition and behavior, 2) how that positive influence can be leveraged and 3) how our focus on cognition may have hindered our capacity to accept and integrate emotions favorably and what can be done to do so.

Second, the three-phase process model of emotion regulation has implications for research in organizational behavior. It provides an understanding of the whole process of emotion regulation, from the time proceeding the generation of emotion, during the interaction with cognitive processes, and after social behavior has been displayed. The model allows a fresh look at the process of emotion regulation as a process that not only avoids the generation of a counterproductive emotion (e.g. through attention deployment, situation selection or situation modification), or changes the emotional experience (e.g. through reappraisal) but also generates positive emotions and resources that could in fact help a person to respond to emotionally charged situations and social encounters. The model also acknowledges a learning phase in emotion regulation. Given the difficulty to manage raw emotions and the idiosyncrasies of each person´s contexts and emotional and cognitive patterns, learning from ineffective social interactions is undoubtedly key in becoming more competent at regulating one´s emotions.

Third, we proposed some alternative strategies that can be employed in each of the emotion regulation phases (i.e. preventive, situational and pot-hoc) to address some non-cognitively dominated pathways to leverage emotions. We believe that using our full potential depends not only on a better understanding of the integration between cognition and emotion at the neuronal level but also on the behavioral level, in understanding, accepting and reconciling, sometimes contradictory, emotional and cognitive processes. Studies have typically focused on only one facet of this reconciliation, in which cognition overrules or channels emotion. To address this promising line of research we have provided examples of

non-conventional emotion regulation strategies that profit from emotions' potential to override and energize cognitive processes in favor of our social interactions. We call for more research on these emotion-focused strategies in order to understand their impact on social behavior.

Fourth, new methods of investigation will need to be developed and used in order to build a bridge between neuroscience and organizational behavior research. This excludes some of the conventional ways of studying neural activity in individuals, like pet-scans and fMRI studies, because they essentially prohibit observing persons interacting in a naturalistic setting. Rather, we need laboratory research using biometric (e.g. heart rate, galvanic skin response) and neurophysiologic indicators (e.g. EEG) using mobile and wireless measurement instruments like wristbands or headsets that allow individuals to move freely and interact spontaneously with others in controlled lab experiments. This will allow researchers to associate pen-and-pencil surveys of social behavior in combination with neurological and biological data to triangulate different indicators of cognitive and emotional activity during social interactions.

2.6.4 Implications for practice

The neuroscience-based model of social behavior and emotion regulation at work has practical implications for professionals and managers, organizational consultants and human resource and management development professionals. It is important to understand the emotional and cognitive antecedents that influence social behavior at work and how they can better manage emotions in order to display social behavior that fits the context´s demands. Once they have gained that self-awareness, knowledge of a broad range of emotional regulation strategies can equip workers with resources and techniques that can be used to

better navigate complex social situations. Another practical contribution of the study consists in expanding on the conventional emotion regulation strategies and suggest some powerful alternatives like resource generation (in the preventive phase); being in the present / accepting, taking ownership and listening to one´s emotions (situational phase); and learning from previous failures (post-hoc phase) as a way to change future behavior.

The model presented here also holds the promise of becoming a tool for organizational consultants and coaches in designing interventions. The quality of social interactions is a key element for the success of organizations in a service and knowledge based economy. As a consequence organizations as well as business schools have been increasingly investing in the development of social skills of business professionals. The model presented can help trainers, consultants and coaches in designing programs to assess and develop social competencies of workers and in delivering more sophisticated content to help clients in assessing and gaining understanding of emotional and cognitive processes that influence social behavior. Once they have gained that awareness employees can be trained in the use of a broader range of emotion regulation strategies, so they can test which strategies address best the specific challenges they need to confront.

2.7 Conclusion

To conclude, in this manuscript we dissected the interaction between cognitive and emotional processes underlying social behavior in order to inform an expanded range of cognitive and emotional regulation strategies. We developed a three-phase model of emotion regulation, distinguishing specific emotion regulation strategies for each phase. We suggested new lines for research and

implications for practice based on this model. Individual wellbeing, social welfare, and organizational effectiveness are a direct result of a complex and ongoing interaction between cognitive and emotional processes with substrates in different circuits of the brain in the form of neural activity. We invite scholars of organizational behavior and practitioners in the domain of human and organizational development to simultaneously study and consider processes at the nano-level of neural processes in the brain, at the micro-level of psychological processes, and at the meso-level of social interactions at the dyad, team, and organizational level. Only then will we fully capture the complex, multi-layered nature of pervasive social interactions for outcomes at those same three levels, nano- (neurophysiologic indicators of cognitive workload, engagement, empathy; biometric indicators of stress), micro- (cognitive indicators of attention, memory, cognitive flexibility; emotional indicators of feelings and stress; behavioral indicators of social competency and adaptation), and meso- (indicators or the frequency and quality of social interactions). This research agenda is of paramount importance, given the gradual but irreversible shift in our society towards knowledge- and service-based organizations and economies. Twenty-first century organizations while thrive to the extent they can harness the emotional competency of their employees and managers. The time has come for researchers in neuroscience, psychology and management to join forces to unravel the complexity of social behavior and provide models and techniques to regulate more effectively emotions in the workplace. In the final analysis, this research will not only inspire employees and organizations to leverage their potential and effectiveness, but society at large, as emotional regulation plays an essential role in our interactions with family members, fellow citizens, clients, stakeholders, and the effectiveness of representatives of large social groups, institutions and nations in policy making, social order and peace-keeping.

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Chapter 3: "Design and Evaluation Process of a Personal and Motive-based Competencies Questionnaire in Spanish-speaking Contexts"[2]

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3.1 Abstract

Most questionnaires used for managerial purposes have been developed in Anglo-Saxon countries and then adapted for other cultures. However, this process is controversial. This paper fills the gap for more culturally sensitive assessment instruments in the specific field of human resources while also addressing the methodological issues that scientists and practitioners face in the development of questionnaires. First, we present the development process of a Personal and Motive-based competencies questionnaire targeted to Spanish-speaking countries. Second, we address the validation process by guiding the reader through testing the questionnaire construct validity. We performed two studies: a first study with 274 experts and practitioners of competency development and a definitive study with 482 members of the general public. Our results support a model of nineteen competencies grouped into four higher-order factors. To assure valid construct comparisons we have tested the factorial invariance of gender and work experience. Subsequent analysis have found that women self-rate themselves significantly higher than men on only two of the nineteen competencies, empathy and service orientation. The effect of work experience was significant in twelve competencies, in which less experienced workers self-rate higher than experienced workers. Finally, we derive theoretical and practical implications.

KEYWORDS:

Personal and motive-based competencies, Confirmatory factor analysis, Competency-based questionnaire, Construct validity, Questionnaire development, Factorial invariance.

3.2 Introduction

One of the main challenges in human resource (HR) management is assessing and developing the competencies that allow for adaptation and success in increasingly competitive environments (Armstrong & Taylor, 2014). As the display and development of individual competencies is expected to stimulate workers to propel their organizations and themselves toward success there has been a growing investment on competency modeling and development (Du Gay, Salaman & Rees, 1996). However, although the body of knowledge on competency-based approaches to managing and developing personnel is significant (Armstrong & Taylor, 2014), there is a gap in the literature with regard to the psychometric evaluation of competency assessment instruments specific to the languages and cultures to which they are applied.

The usual application of Anglo-Saxon language questionnaires to different cultural contexts has been shown to result in less accurate comparable data (Batista-Foguet, Boyatzis, Guillén & Serlavós, 2008; Extremera, Fernández-Berrocal & Salovey, 2006). Indeed, the back-translation of questionnaires cannot guarantee construct equivalence and a series of methodological problems such as invalid substantive inferences and perpetuation of unreliable measures may derive from that, thus compromising the systematic accumulation of research findings (Cheung, 2004). This is in line with a growing call for the development of valid HR assessment instruments for cultures other than Anglo-Saxon (e.g.,; Extremera et al., 2006; Vandenberg and Lance, 2000).

In addition, the assessment of behavior at work through managerial measurement instruments is controversial, and scholars have raised concerns about the validity of such measures for research purposes (e.g., Scullen, Mount & Judge, 2003). Researchers mostly focus on internal, statistical or external validity rather than on

bridging the gap between abstract theoretical constructs and their measurements i.e., on the previous necessary test of instruments´ construct validation (Bagozzi, 1984). The present paper addresses this issue while responding to appeals made by Bagozzi (1984) and Jarvis, Mackenzie & Podsakoff (2003) to spend more effort theoretically justifying measurement (i.e., epistemic relationships) hypotheses by proposing and illustrating a comprehensive approach to construct validity. We argue that the common use of either Exploratory or Confirmatory Factor Analysis (EFA or CFA) and the (ab)use of Cronbach's alpha coefficient do not guarantee construct validity. These practices over-simplify construct validity assessment; consequently, measurement misspecifications lead to biased estimates of the structural relationships among the variables. This caveat is important, because it can seriously limit the validity of further research findings and ultimately result in the development of interventions that lack the appropriate empirical foundation. Thus, the objective of this paper is twofold: first, to fill the gap for more culturally sensitive assessment instruments in the specific field of human resources by developing a Spanish Questionnaire of Personal and Motive-based Competencies and second, to test its psychometric properties and factorial invariance based on gender and work experience while critically reflecting on the common use of those testing techniques that helped to find validity evidences (e.g. Exploratory or Confirmatory Factor Analysis) that alone cannot guarantee construct validity.

In this paper, we attempted to contribute to two streams of literature. First, we added to the research on managerial competencies by developing a questionnaire for Spanish-speaking countries, thereby avoiding construct bias due to the different meanings attached to the test dimensions by different groups (Libbrecht, De Beuckelaer, Lievens & Rockstuhl, 2014). Second, we also supplemented the literature on methodological issues related to the measurement of competencies (e.g. Batista-Foguet, Saris, Boyatzis, Guillén & Serlavòs, 2009) by illustrating good practices for the validation process of a newly designed questionnaire. Herein, we

guide the reader throughout the steps that might need to be considered by scientists and practitioners embarking in similar projects; this emphasis on the methodology supplements the previous literature on competency development by providing a tool that can foster accurate assessment and development of competencies in Spanish speaking countries.

3.3 Theoretical framework: A motive-based structure of competencies

Competencies have been proposed to predict life and job outcomes. A growing number of studies have examined this legacy and have shown that competencies lead to numerous positive job outcomes, such as popularity, individual performance and status achievement (e.g., Emmerling & Boyatzis, 2012; Du Gay et al., 1996). Unlike other constructs, such as cognitive intelligence, which is considered relatively stable across the lifespan, competencies are shaped by experience and can be developed (Emmerling & Boyatzis, 2012). In fact, people learn, change and grow over the course of their careers, and the assessment of competencies followed by feedback of strengths and weaknesses provide a road map for the development of executives throughout their careers.

Nonetheless, scholars are raising concerns regarding the structure of competencies that can best serve organizations (Bartram, 2005). Management literature suggests two types of competencies: personal competencies, which are based on the idea that effective leadership depends on the characteristics of the leader, such as his/her personality, and social competencies, which are based on the idea of leadership as social processes (Bartram, 2005; Petrides and Furnham, 2001). Since we understand that being effective in the work environment requires

both adequate personal characteristics as well as relational skills our instrument draws from the two streams of literature to propose personal and motive-based competencies.

With respect to social competencies, scholars advocate that competencies should be placed within the motivational realm (e.g., McClelland & Boyatzis, 1982). The three-factor structure based on the three social motives of affiliation, achievement and power of McClelland, Atkinson, Clark & Lowell (1953) has been repeatedly used across studies to classify social competencies into motive-based dimensions (e.g., Batista-Foguet et al., 2008; Guillén & Saris, 2013). Indeed, the three motive-based clusters of competencies have been shown to have different personality correlates and are related to different facets of performance at work (Guillén & Saris, 2013). Thus, drawing on previous research linking motives with behavior at work (e.g., Bartram, 2005; Guillén & Saris, 2013), we classified social competencies into three higher-order dimensions: collaboration (manifestations of the affiliation motive), mobilization (manifestations of the power motive) and achievement (manifestations of the achievement motive). Following a literature review targeting competencies to include in each of the motive-based dimensions (e.g., Bartram, 2005; Guillén & Saris, 2013), we propose the following: mobilization includes inspirational leadership, influence, communication, conflict management, service orientation and development of others; collaboration encompasses empathy, teamwork and flexibility; achievement includes achievement orientation, responsibility, problem solving and planning and organization.

With respect to the personal competencies included in our model, we drew on the emotional intelligence (EI) and management literature. A review of this literature indicates the following personal characteristics are commonly linked to effective behavior at work and are the basis for effective management: self-efficacy, self-control, optimism, assertiveness, initiative and stress management (Bar-On, 2006;

Bartram, 2005; du Gay et al., 1996; Petrides & Furnham, 2001). This body of research demonstrates that these competencies are related to positive job outcomes, such as commitment, performance and satisfaction. For these reasons, our personal competency cluster includes self-confidence, self-control, positive-outlook, stress management and assertiveness. The 19 competencies are defined in Table 3.1.

Table 3.1: Competencies included in the SQPMBC

Cluster	Competency	Competency definition
Personal	**Self-confidence**	Being convinced of one's own abilities
	Self-control	The capacity to control one's impulses and emotions and avoid negative consequences for one's own conduct
	Positive Outlook	Having an optimistic outlook on life
	Stress Management	The capacity to handle pressure in difficult situations or when subject to various demands
	Assertiveness	Showing conviction and firmness in one's own ideas and aims
	Initiative	Getting in early and proposing new measures, even though there are no norms or references for taking such action
Achievement	**Achievement Orientation**	Dealing forcefully with challenges and objectives
	Responsibility	Being concerned about the viability and carrying out of commitments made
	Problem Solving	Being resolute in solving problems while taking the possible alternatives into consideration
	Planning & Organization	Foreseeing circumstances and effectively managing resources, especially time
Mobilization	**Inspirational Leadership**	Knowing how to involve others in a common project while taking on the responsibility of leadership
	Influence	The ability to convince (influence) others by using suitable arguments (means at hand)
	Communication	Effectively transmitting an idea or information to an audience verbally
	Conflict Management	Being able to defuse conflicts and act as a mediator between sides by promoting communication and mutual respect
	Service Orientation	The ability to understand and satisfy the needs of others

	Developing Others	Stimulating others and helping them to feel their own worth
Collaboration	**Empathy**	Being interested in people and understanding how others feel and, as a result, establishing an emotional link with them
	Teamwork	Feeling comfortable when working with others, even though they are very different from oneself, and being able to put the group's interests ahead of one's own
	Flexibility	Being able to adapt to change in various situations

In summary, the competencies on our Spanish questionnaire include personal and motive-based competencies. However, the discussion relative to its content validity remains rather broad, and further empirical evidence is needed to gain an understanding of how such taxonomy is suited to a Spanish-speaking culture. As noted earlier, assessment instruments are often developed for Anglo-Saxon cultures and then translated into different languages (Batista-Foguet et al., 2008). Given the risk of a lack of semantic (i.e., linguistic differences), conceptual (disparity of measures), scaling (scoring formats interpretation or calibration) and equivalence across samples (Libbrecht, et al., 2014), this procedure has drawbacks. In the ensuing discussion, we explored this issue by addressing the psychometric properties of a Spanish questionnaire of personal and motive-based competencies. We focused on construct validity, which is a major concern when using questionnaires to assess behavioral dimensions at work (Scullen et al., 2003), since it can lead to weak content validity, unstable factor structures and a lack of empirical support for divergent or convergent validity (McEnrue & Groves, 2006).

Figure 1 illustrates the overall research plan and structure of this paper. First, we provided a brief introduction of the sample in this study and presented the competency model development process of the questionnaire (steps 1-5 in Fig. 1). Second, we illustrated the process for assessing the content validity of the items intended to measure competencies (step 6). After agreeing on the definite competency model (step 7), we performed a second study to reassess the

psychometric properties of the scale and study its external validity by evaluating the effects of gender and work experience on each of the proposed competencies (step 8). Because we are targeting a generic public in Spanish-speaking countries, it is important to check the external validity of our test. The paper concludes by discussing the implications of the results for the research and practice of management assessment methods.

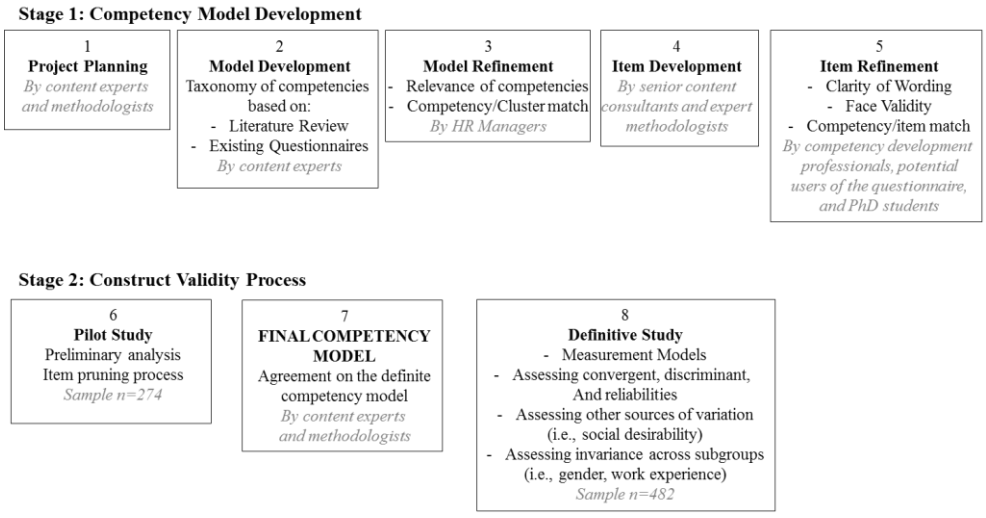

Figure 3.1: Competency model development and validation process

3.4 Method

3.4.1 Participants

Two different groups in two independent studies completed the questionnaire. A study group composed of scholars, coaches and people from organizations expert in competency development (n_1 = 274) participated in the first testing of the questionnaire. The sample for the second study consisted of participants (n_2 = 482)

from a public institution, the Chamber of Commerce in Navarra, Spain, who voluntarily enrolled for an assessment of their competencies. The assessment of the psychometric properties of the Spanish Questionnaire of Personal and Motive-based Competencies (SQPMBC) was based on this definitive sample, which included 244 men (M) and 238 women (W), with a mean age of 35.7 years (SD = 7.83) and a mean number of years of work experience of 3.1 (SD = 2) for the women and 3.8 (SD = 2.2) for the men.

Both samples can be considered "convenience sample" since subjects were gathered because of their knowledge of the topic in the first study, and because of their accessibility, actually self-selection, in the second study.

3.4.2 Instrument Development

As a preliminary step, we undertook a systematic literature review with special focus on recognized questionnaires such as, the Trait EI Questionnaire (TEIQue, Petrides & Furnham, 2001), the EI Questionnaire (EIQ, by Dulewicz, Higgs & Slaski, 2003) and the "Inventario Bochum de Personalidad y Competencias" (Hossiep & Parchen, 2006). We analyzed the best practices in competency modeling in other European settings (a review of the handbook of the competency conference held in London in 1997) and took advantage of our twenty years of experience in teaching evaluation and development of *emotional and social competencies* at a Spanish Business School and other organizations. Once the theoretical foundations of the dimensions were identified and ratified by scholars and expert practitioners, we continued with the scale development process by taking a deductive approach. However, the appropriateness of the approach in our particular situation did not preclude us from taking preventive measures to assure face and content validity in the generation of the initial items.

In the original questionnaire it has been attached 6 items to each of the 19 competencies displayed in Table 1. So it included 114 items. Since the 11-point scale has shown to be an answer modality that provides higher quality data when the aim is to assess the frequency of behaviors (Batista-Foguet et al., 2009), which is the case with our questionnaire, we have used this scale. Accordingly, the respondents were asked to indicate the frequency of the behavior attached to each item on an eleven point-scale ranging from (0) 'the behavior is never shown' to (10) 'the behavior is consistently shown'.

3.4.3 Procedure

To look for evidences of validity of the proposed taxonomy of competencies, ten HR managers were asked to classify each of the competencies in Table 1 according to the personal and motive-based theoretical structure proposed: *personal, collaboration, mobilization and achievement*. The managers were asked to complete the task individually and then reach a group consensus. All competencies were successfully assigned to the theoretical clusters. The next step was to generate a set of six items per competency and to do rounds of discussions to achieve consensus and content validity. Following this, three external groups (coaches involved with leadership development, potential users of the questionnaire and a group of professionals from HR departments) were invited to take part of the content validity process. Thus, after the generation of items, a preliminary version of the questionnaire was distributed to these three external groups, who were then asked to comment on the clarity of the wording, face validity of the items and to assign each item to the hypothesized competency. To do so, the items, competency labels and competency definitions were randomly presented to the external groups with a request to first match each competency

definition to what they believed to be its corresponding competency label. Subsequently, the items were asked to be match with corresponding competency labels. This process led to a few amendments before the questionnaire was made available for the first study. The first proposal of the SQPMBC comprised 114 items aimed at assessing the 19 competencies listed in Table 1. An ad hoc web platform was built for collecting the participants' responses.

3.4.4 Data Analysis

Once the data were gathered, we screened for missing values. We found a maximum of 1% of missing values per variable and missing values were imputed using the SPSS EM maximum likelihood method (Cuesta & Fonseca-Pedrero, 2014; Fernández-Alonso, Suárez-Álvarez, & Muñiz, 2012).

In order to assess the underlying factor structure of a questionnaire it is first necessary to study the nature of the items, i.e., whether they are formative or reflective (see Bisbe, Batista-Foguet & Chenhall, 2007; Jarvis et al., 2003). While in management research it is common to consider management constructs as reflective; scholars are beginning to acknowledge the importance of the distinction between reflective and formative items (Bisbe et al., 2007; Jarvis et al., 2003).

We suggest that management related competencies can be formed of reflective and formative items and that scientists and practitioners should be aware of this difference when developing and assessing their questionnaires. Otherwise, the "ritual" usually followed, rooted in Classical Test Theory (Nunnally, 1978), leads to the use of tools based on internal consistency, such as EFA and Cronbach's □□ which could lead to misspecification of the epistemic relationships and,

consequently, to biased estimates of the structural relationships (Bisbe et al, 2007; Jarvis et al., 2003).

Thus, our concern is not with Cronbach´s and factor analysis per se, but with the unreflective (or ritualistic) use of both. In regard to Factor Analysis, what the paper proposes is the need to do a previous assessment of the formative or reflective nature of the items, otherwise some items would have been discarded because they would have been erroneously deemed as unreliable. And, in regard to Cronbach´s usefulness, what we point out, and correct for in our study, is its frequent use without checking the application pre-conditions such as the need for tau-equivalence.

To test the hypothesis that the relationship among the items can be accounted for by the nineteen hypothesized factors (i.e., the competencies distinct scales), we used LISREL 8.80 on the covariance matrix to estimate the factorial structure of the questionnaire.

The different nature of the items (i.e., reflective or formative) entails assessing the items differently to reduce questionnaire's length, to avoid boredom and fatigue. We examined reflective items' relevance in our pilot study according to their internal competency consistency (loading magnitude) and thereby eliminated those items with factor loadings less than .65. However, formative indicators are not expected to correlate with each other; therefore, traditional measures that help to find validity evidences are not appropriate (Bisbe et al., 2007). Thus, we assessed the formative indicators by their relevance to the domain.

Concerning reliability, we used Cronbach's for assessing the internal consistency of the set of reflective items. However, for those competencies in which tau-equivalence was not fulfilled, we used Heise & Bohrnstedt's coefficient (Heise & Bohrnstedt, 1970), which only requires fitting to the factor analysis model.

3.5 Pilot and First Study

After the three external groups reached a consensus regarding the test content, as described in the procedure section, we assessed the psychometric properties of the items. Since the questionnaire included both formative and reflective items, it was required specifying a multiple indicators-multiple causes (MIMIC) model for data analysis to assess the scale's psychometric properties. In the pilot study (n=274) CFA did not reject the hypothesized 19-factor structure.

This pre-test led to the elimination of a number of items; the questionnaire was reduced from 114 to 95 items and then to 76 items (i.e., from the original five or six items per competency to four items per competency). The items were pruned according to the following criteria: a) we excluded those formative items that showed less substantial contribution and b) we excluded the reflective items with lowest reliabilities.

3.6 Definitive Study Results

3.6.1 Social Desirability

It is well known that the characteristics of a questionnaire and respondents can often lead to a systematic answering of questions (known as response style) in ways that undermine conclusions. According to Steenkamp, De Jong & Baumgartner. (2010), this is due to respondents' enduring tendency to provide overly positive self-descriptions (i.e., a socially desirable response, SDR). In fact, people may delude themselves into thinking that they are doing what is desired.

On the one hand, as the SQPMBC is a self-assessment questionnaire, it is likely that the data provided biased information due to the inflated self-perceptions of the respondents. To address this potential SDR problem, we included a subset of 20 items from Paulhus's (1991) Balanced Inventory of Desirable Responding (BIDR), which assess the degree of a conscious moralistic response tendency (MRT, 10 items) and egoistic response tendency (ERT, 10 items).

On the other hand, our data collection process allowed us to assume that the respondents' incentives toward favorable self-assessment were minimal. Indeed, there was no incentive to make an impression because the respondents were answering the questionnaire on a voluntary basis and under conditions of guaranteed anonymity. However, the average scores were generally fairly high, indicating a ceiling effect due to the frequency of responses on the right side of the scale. We initially interpreted this tendency toward higher scores to be related to the social desirability factor. However, results showed that most of the correlations between each of the 19 competencies and the SDE-ERT or MRT were either non-significant or negligible, i.e., none of the standardized regression coefficients exceeded 0.2 (Steenkamp et al., 2010).

3.6.2 Global Goodness of Fit and Detailed Diagnosis

All loadings of the reflective selected items per competency of the final version of the SQPMBC are above .65. All global indexes, such as the χ^2/df ratio, RMSEA, CFI, SRMR NNFI, or PGFI, were above the usual thresholds (Hu & Bentler, 1999). However, it is well known that these indexes may have important drawbacks that can lead to erroneous conclusions (Saris, Satorra & Van der Veld, 2009). Therefore, in the diagnostic stage, we avoided looking only at indexes of overall model fit and ignoring a more detailed diagnosis indicators. We checked whether 1) all the

estimated values were reasonable and of the expected sign, 2) the correlation residuals suggested the addition of parameters and 3) the modification indexes and expected parameter changes led to plausible estimates. This process is in agreement with a recent proposal (Saris et al., 2009) to focus more attention on the detection of misspecification errors rather than solely on the global fit and to consider the power of the test in addition to the significance levels. Because our initial model led to some misspecifications, generally magnified due to the high power situation (large sample size and high reliability), we released a few justified constraints on uncorrelated uniqueness. As a result, the model fit was much better, with values of Satorra-Bentler χ^2 = 4043 (df = 2484), 90% CI RMSEA = (0.048; 0.056), CFI = 1.00 and SRMR of 0.0413.

Table 3.2: Loading range of the reflective items and number of formative item

Cluster	Competency	Loadings range	Number of formatives out of 4 items
Personal	**Self-confidence**	.871-.885	1
	Self-control	.701-.750	1
	Positive Outlook	.742	2
	Stress Management	.682-.924	1
	Assertiveness	.787-.887	1
	Initiative	.760	2
Achievement	**Achievement Orientation**	.760-.859	0
	Responsibility	.810	2
	Problem Solving	.707-.800	1
	Planning & Organization	.767-872	0
Mobilization	**Inspirational Leadership**	.707-.832	0
	Influence	.742-.821	1
	Communication	.750	2
	Conflict Management	.684-.815	1

	Service Orientation	.700-.828	1
	Developing Others	.632-.800	1
Collaboration	**Empathy**	.651-.847	1
	Teamwork	.760	2
	Flexibility	.701-.755	1

3.6.3 Convergent and Discriminant Validity and Reliability

The results showed that all the reflective items had loadings above 0.65, and that the corresponding competencies had an Average Variance Extracted (AVE; i.e., the average communalities per competency) above 0.5. As mentioned, for these competencies that had only reflective items reliability was assessed with Cronbach's □□ or Heise & Bohrnstedt's □□coefficient.

Table 3.3: AVE*, Cronbach´s α□and Omega of the 19 competencies

Constructs	AVE*	Cronbach's α	Ω***
SelfConf	0.659	0.905	
SelfCont	0.664		0.89
Positout	0.488	0.55**	
StressMg	0.674		0.86
Assertiv	0.591	0.780	
Initiative	0.438	0.57**	
AchOr	0.661	0.819	
Responsi	0.351	0.66**	
ProbSolv	0.504		0.75
Plan & Organizat.	0.712		0.89
Insplead	0.659	0.852	
Influenc	0.511	0.61	
Comunic	0.500	0.56**	
ConflRes	0.567		0.79
ServOrie	0.593	0.722	
DevepOth	0.496		0.81
Empathy	0.602		0.84

TeamWork	0.471	0.58**	
Flexibil	0.537	0.769	

*AVE was computed excluding the formative items
**The correlation is provided for those competencies that only have 2 reflective items
***Ω was computed instead of for the reflective items of those competencies that were not tau-equivalent

Discriminant validity was assessed by comparing the square root of the AVE (Table 3) of each reflective construct with the correlations between the constructs (Table 4). The results suggested that the competencies were adequately discriminated, despite the relatively high magnitude of some correlations. In fact, every model with the correlation between two competencies constrained to one was rejected. Therefore, these results suggested the appropriateness of maintaining these competencies as separate facets of the clusters of competencies.

Table 3.4: Correlation Matrix of the 19 competencies

	Sct	Scon	PosOu	Stress	Assert	Initiati	AchOr	Respo	ProbS	PlanOr	Empa	TWor	Flexib	Insple	Influe	Comu	Confl	ServO
Sconfid	.549																	
PositOu	.681	.551																
StressM	.706	.735	.576															
Assertiv	.616	.470	.485	.562														
Initiati	.663	.514	.596	.605	.593													
AchOr	.763	.556	.615	.624	.640	.662												
Respon	.487	.549	.439	.409	.445	.384	.520											
ProbSo	.709	.587	.631	.652	.616	.689	.677	.542										
Planorg	.593	.595	.448	.531	.533	.477	.671	.620	.639									
Empat	.383	.475	.393	.393	.442	.385	.466	.415	.483	.372								
TeamW	.423	.433	.526	.413	.393	.419	.398	.390	.446	.390	.558							
Flexibil	.626	.585	.638	.656	.519	.626	.544	.412	.631	.429	.605	.596						
Insplead	.696	.574	.598	.625	.645	.704	.725	.444	.675	.572	.524	.509	.626					
Influenc	.553	.495	.479	.540	.620	.605	.547	.412	.594	.438	.492	.324	.541	.673				
Comuni	.619	.631	.508	.546	.595	.604	.641	.519	.646	.634	.535	.486	.549	.691	.572			
ConflRe	.614	.687	.630	.637	.567	.633	.622	.479	.685	.523	.572	.535	.667	.673	.556	.660		
ServOr	.484	.579	.504	.472	.502	.504	.530	.481	.555	.491	.690	.554	.597	.614	.547	.589	.615	
DevepO	.596	.584	.553	.541	.619	.637	.681	.493	.646	.580	.617	.537	.606	.799	.611	.716	.687	.661

3.7 Effect of Gender and Work Experience on the SQPMBC Self-Evaluation

Since one of the main challenges of the use of questionnaires is coping with external validity issues, we addressed it by assessing whether the structure of the 19 competencies was invariant according to gender and work experience. If invariance were not fulfilled, it would suggest that the differences between the competencies among groups were likely due to different meanings attached to those factors. This problem is present in both the psychology (Meredith, 1993) and management literature (Batista-Foguet et al., 2008; Vandenberg & Lance, 2000).

The equivalence of the underlying competencies of the SQPMBC across gender and work experience can be established through sequential steps in nested multi-group mean and covariance structural equation models. To test the gender and work experience invariance, we specified a CFA model for each of the 4 proposed clusters of competencies (*Personal, Achievement, Mobilization* and *Collaboration*). Table 5 illustrates how we tested the three equivalence requirements (i.e. configural, metric and scalar invariance) for gender - columns a, b and c, respectively. The results show that males and females used the same factor model (column a), the same loadings on each competency (column b) and the same origins of the measurement scales (column c).

Table 3.5: Factorial Invariance of the SQPMBC: Females vs. Males

Clusters	**Competencies**	**SEM's Fit Indexes**	**Configural Invariance**	**Strong Factorial Invariance**	**Scalar Invariance**
Personal	Self-confidence Self-control Positive outlook Stress management Assertiveness Initiative	*Robust* χ^2 *(df)*	647 (419)	655 (437)	682 (461)
		$\Delta\chi^2$ (Δdf)		8 (18)	32 (24)
		RMSEA	.0491	.0473	.0487
		CFI	1.00	1.00	1.00
		SRMR	.0399	.0444	.0463

Achievement	Achievement Orientation Responsibility Problem resolution Planning &Organization	*Robust* χ^2 *(df)*	242 (159)	257 (171)	278 (187)
		$\Delta\chi^2$ (Δdf)		15 (12)	21 (16)
		RMSEA	.0483	.0475	.0
		CFI	.999	1.000	1.000
		SRMR	.0408	.0444	.0475
Mobilization	Inspirational Leadership Influence Communication Conflict management Service & Costumer orient Developing others	*Robust* χ^2 *(df)*	650 (418)	680 (436)	711 (460)
		$\Delta\chi^2$ (Δdf)		22 (18)	31 (24)
		RMSEA	.0490	.0491	.0501
		CFI	1.000	1.000	1.000
		SRMR	.0396	.0494	.0924
Collaboration	Empathy Teamwork Flexibility	*Robust* χ^2 *(df)*	117 (88)	133 (97)	155 (109)
		$\Delta\chi^2$ (Δdf)		16 (9)	22 (12)
		RMSEA	.0322	.0396	.0500
		CFI	.910	1.000	1.000
		SRMR	.0646	.0410	.0415
			(a)	(b)	(c)

Results also showed that equality restrictions did not lead to a deterioration of the global fit of the model, and equality constraints held true for respondents with different work experiences, except in the Collaboration cluster. It should be noted that, if the three requirements were not fulfilled, the competency comparison between gender or work experience would not be meaningful because the differences in loadings and intercepts could easily mask differences in the meaning of the underlying construct.

Once we succeeded in assuring factorial invariance, we were able to evaluate the effect of gender and work experience on each competency. Table 6 shows the results of the mean comparison of competencies by gender and work experience. Taylor & Hood (2011) showed that professional women tend to be under-estimators (their self-assessment is often lower than the assessment of their behavior by others), whereas professional men tend to be over-estimators.

However, our data (Table 6) showed that both males and females typically rate their competencies quite similarly. Although there are some exceptions, as in the competencies of "Service Orientation" and "Empathy", for which women (coded with 1) rated themselves higher than men (coded with 0), none of the other competencies present significant (ns) differences between the means (as shown in the t-test and Mann-Whitney U test[3] in Table 6).

Table 3.6: Student T-tests and U Mann-Whitney, mean comparison tests of competencies by gender and work experience

		Gender		**Work experience**	
Clusters	**Competencies**	**t-test**	**Mann-Whitney U p-value**	**t-test**	**Mann-Whitney U p-value**
Personal	**Self-confidence**	0.87	ns	-3.6	**
	Self-control	0.21	ns	-3.7	**
	Positive outlook	0.54	ns	-3.0	**
	Assertiveness	1.08	ns	2.6	*
	Stress Management	0.73	ns	-4.3	**
	Initiative	1.11	ns	-5.0	**
Achievement	**Ach. Orientation**	1.91	ns	-3.4	**
	Responsibility	1.11	ns	-3.5	**
	Problem Resolution	0.46	ns	-4.5	**
	Plan & Organization	1.80	ns	-3.9	**
Mobilization	**Insp. Leadership**	0.45	ns	-3.7	**
	Influence	1.50	ns	1.7	ns
	Communication	1.6	ns	-4.3	**
	Conf. Management	1.1	ns	-3.6	**
	Service Orientation	2.64	*	-4.0	**

[3] To test the relationship between a dichotomous variable, such as gender or work experience, and a continuous variable, as each of the competencies, it is usually used the parametric test Student's-T. However, as in our case some competencies have non-Normal distributions it is more appropriate to also include the Mann-Whitney-U non-parametric test.

	Developing Others	1.14	ns	-3.9	**
Collaboration	**Empathy**	5.00	**	1.10	ns
	Teamwork	0.96	ns	-3.5	**
	Flexibility	0.32	ns	-3.5	**

* p < 0. 05
** p < 0. 001

In contrast, we predicted that work experience would be positively related to the self-assessment of the constructs proposed. However, except for “Influence” and “Empathy”, which show non-significant mean differences, and “Assertiveness” in which more experienced workers rated themselves higher, the workers with less experience generally rated themselves as more competent.

3.8 Discussion

In this study, we sought to contribute to HR management research and practice by providing an instrument to assess personal and motive-based competencies in Spanish-speaking countries. We led the reader through the steps to test the construct validity of the questionnaire. Moreover, we addressed the methodological issues that researchers developing questionnaires in the HR field might face by guiding them throughout the process of the SQPMBC development. The identification of personal and motive-based competencies that may promote work achievement in workplace settings is a very important goal. However, in the last two decades, the few published tests that promised to measure similar constructs, such as emotional-social intelligence, have not been empirically evaluated or have been developed without much attention to the standard methods used to establish validity evidences (McEnrue & Groves, 2006).

Furthermore, most of the tests published have been validated in English-speaking countries, compromising their construct validity when applied in other countries (Batista-Foguet et al., 2008; Extremera et al., 2006).

The construct validity of the proposed 76 items for measuring 19 competencies, which are clustered into four broad groups according to personality and motives, was first assured by establishing the items' face and content validity with a group of experienced coaches, a group of potential users and five experts in the field. The CFA results in the second sample (n = 482) were also consistent with the hypothesized 19-factor model with four clusters. The fit indexes of the measuring model were satisfactory, as were the factor loadings. The results of the discriminant validity analysis also showed that all the competencies are adequately discriminated. Once the evidence of validity was established, we addressed reliability issues. However, because of the inclusion of formative items in the questionnaire, the routinely applied reliability 0.70 threshold for basic research or above 0.90 for applied settings with substantial stakes (Nunnally, 1978) could not be considered. If the formative nature of the items identified (Table 2) had not been considered, they would have been discarded because they would have been erroneously deemed as unreliable.

Furthermore, our results provided evidence that the SQPMBC was relatively free of the social desirability threat (likely because of the non-evaluative situation in which the data were collected) since the correlations with Paulhus' (1991) social desirability scale were either negligible or very low (and below the usual threshold of .2). However, social desirability might become a challenge for the validity of competency assessments in applications other than purely developmental (i.e., linked, for example, to performance evaluations). Future research should address this issue.

In routine use of HR-related questionnaires it is common to perform sub-group comparisons by performing ANOVAs between females vs. males, novice vs. experienced professionals or U.S. vs. European test takers. However, as Vandenberg and Lance (2000) have noted, an approach based only on mean differences is problematic because researchers assume that the particular scale's measurement are equivalent across groups without investigating whether this assumption is satisfied. The measurement of factor invariance is a logical prerequisite for making decisions based on any selection tool, yet this is often forgotten by researchers who use surveys developed in other countries or by practitioners in comparative studies. In this paper by testing factor invariance with gender and work experience, we addressed this problem and therefore established increased external validity of our assessment instrument. Our results supported the stability of the SQPMBC structure across gender, but factor invariance does not hold for the competencies within the mobilization cluster across group work experience (i.e., the meaning of the competency items varies by work experience). Therefore, we will explore gender and work experience differences in those competencies that fulfilled the necessary requirement of scalar invariance next.

With respect to gender, our results show significant self-rating differences related to gender in only two of the nineteen competencies, empathy and service orientation, in which women rated themselves higher than men. Studies claim that women are better at emotional attention, empathy, appraisal of emotions and social skills, whereas men are better at regulating or utilizing their emotions (e.g. Gouveia, Milfont, Gouveia, Neto & Galvão, 2012). Thus, our results on gender difference are consistent with research showing that females have greater empathic response than males (Mestre, Samper, Frías & Tur, 2009). With respect to work experience, to our knowledge, there are no studies relating work experience to personal and motive-based competencies. We found that people

with different levels of work experience did not have a similar conceptualization of the six competencies in the mobilization cluster.

Unlike gender, the mean differences related to work experience were statistically significant in 12 of the remaining 13 competencies, indicating that the less experienced workers rated themselves higher than the more experienced workers. A possible explanation for this phenomenon is that more experienced and mature people would most likely agree with Aristotle's quote, "the more you know, the more you know you do not know", and less experienced people tend to view their competencies more positively. This finding calls for increased attention in how the development of novice managers can be guided in the initial stages of their careers. Nevertheless, because our sample was not gathered randomly, no inferences can be drawn from the statistical tests. Therefore, we must understand that the statistical significance of our conclusions throughout the paper has a more descriptive, rather than inferential, meaning.

In spite of the satisfactory results obtained, the questionnaire has some limitations. Further evidence of predictive utility (validity) is required, particularly with regard to achievement criteria. In addition, we must recognize that the discriminant validity or independence of existing measures of personality (Costa & McCrae, 1992) have yet to be tested.

Nevertheless, we developed an instrument to fill the existing gap in the field of competency measurement in Spanish speaking countries. The paper also adds clarity and understanding to the process of the development of a competency measurement tool. The potential usefulness and applicability of the SQPMBC is quite broad. Professionals in the area of human resources may benefit from a reliable and valid competency assessment instrument that can guide feedback and talent development. Similarly, the development of competency theory may benefit from this new measure for research in Spanish-speaking countries.

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Chapter 4: "Leadership Behavior Paradoxes during 360º Follow-up Feedback"[4]

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4.1 Abstract

Managers' follow-up feedback is essential to realize the developmental potential of 360º assessment instruments. Yet to date, research regarding the paradoxes faced by managers during follow-up feedback has remained underexplored. Guided by paradox theory and affective events theory we identified three leadership paradoxes associated with specific behaviors and emotional reactions of feedback receivers to these behaviors. Realistic simulations with seventeen managers enrolled in an international master program were conducted and recorded. Based on a case detailing information about a 360º feedback situation, participants gave feedback to a collaborator. Constant comparative analysis revealed that during the process, managers face three paradoxes: focus on the task vs. emotional connection, organization vs. employee interest and declaring vs. inquiring. These paradoxes were manifested through twenty-four behaviors. We observed that those behaviors elicited negative or positive emotional reactions in followers depending on the managers' success in managing the paradoxes.

KEYWORDS:

Follow-up feedback, 360º assessments, Paradox theory, Affective events theory, Leadership behavior paradoxes, Emotions, Simulation, Constant comparative analysis

4.2 Introduction

"Feedback is one of the most critical requirements for sustained high-level performance of any human act. Without frequent feedback and specific feedback, performance varies and often fails."

—Ferdinand Fournies

"How wonderful that we have met with a paradox. Now we have some hope of making progress."

— Niels Bohr

There is no shortcut for individual and organizational development and performance improvement. It is probably the growing awareness of this fact that explains the soaring of financial investment in corporate training. In 2013, following two years of already increasing spending, the US investment in corporate training grew by 15% - over $70 Billion in the US and $130 Billion worldwide (Deloitte Corporate Learning Factbook, 2014). Leadership and management development are at the top of the list as the number 1 areas of investment receiving 35% of the resources. 360º assessment instruments are probably one of the mostly widely used instruments to promote leadership development (Atwater & Waldman, 1998; London & Smither, 1995), fostering self-awareness and performance improvement (Day, 2001). However, the use of 360º instruments alone is not enough to drive change in behavior of feedback receivers (Atwater, Brett & Charles, 2007). In order to assure this change, activities such as follow-up feedback with their leader / supervisor and coaching are key (Atwater, Brett & Charles, 2007; Day, 2001; Tata, 2002).

The success of follow-up feedback is conditioned to variables such as focus on the task versus self, how the feedback is presented and inclusion of information on how to improve or not (Kluger & DeNisi, 1996; 1998; Tata, 2002). For example, when feedback is provided in a non-threatening way and when rewarding of participation in learning and self-development activities is promoted, improvement is more likely to occur (Smither, London & Reilly, 2005; Atwater, Brett & Charles, 2007). In addition, leader behavior during the feedback may elicit emotional reactions on subordinates (Belschak & Den Hartog, 2009; Liden & Mitchell, 1985), which can have a subsequent impact on work behaviors (Belschak & Den Hartog, 2009) and performance improvement (Ilgen & Davis, 2000). While these findings may help to inform how a leader should behave in order to promote performance improvement of a follower, it neglects the paradoxes and contradictions faced by a supervisor during follow-up feedback.

Research on paradoxes point out that most of the literature on leadership is replete with bipolar categories (e.g. autocratic vs. participative, transactional vs. transformational, task- vs. relationship-oriented) that may obscure leaders' need to recognize and react to paradoxes by performing opposing behaviors (Denison, Hooijberg & Quinn, 1995). The aim of the study is to contribute to the research and practice of 360ºs follow-up feedback interventions by addressing the following questions: Which paradoxes do leaders face when giving follow-up feedback? What are the leadership behaviors associated with the extreme ends of those paradoxes? What are the emotional reactions of followers in face of those leadership behaviors?

4.2.1 360-Degree assessments and supervisors' follow-up feedback

The complexity and the rapid change that characterizes today´s nature of work require from professionals to continuously learn in order to assure continued success (Hall & Mirvis, 1995). Specifically in the field of leadership, 360º assessment instruments are widely recognized as one of the main tools used to foster individual development in organizations (Atwater, Brett & Charles, 2007; Atwater & Waldman, 1998). Indeed, the 360º assessments became the "most notable management innovation of the 1990's" (Atwater & Waldman, 1998) commonly used in US organizations and spreading its use to other countries (Atwater, Brett & Charles, 2007). Research shows that the impact of the 360º assessments on individual development depends on follow-up activities such as facilitation, supervisor´s feedback and coaching (Atwater, Brett & Charles, 2007; Day, 2001; Tata, 2002; Walker & Smither, 1999). These activities lead feedback receivers to set more specific goals and solicit ideas for improvement. Moreover, when supported by follow-up activities, 360º´s are positively related to higher subsequent ratings from subordinates and supervisors, improvement in work behavior, individual performance, job attitudes such as satisfaction, commitment and reduced intent to leave (Antonioni, 1996; Atwater, Brett & Charles, 2007; Luthans & Peterson, 2003; Rynes, Gerhart & Parks, 2005; Smither, London, Flautt, Vargas & Kucine, 2003).

In this study we focus on supervisors' feedback as the follow-up activity to 360º assessments. Supervisors' feedback may enhance the positive effects of 360º assessments on feedback receivers´ improvement (Bracken & Rose, 2011; London, Smither & Adsit, 1997). However, it should be acknowledged that not all feedback interventions result in performance improvement (Atwater, Waldman & Brett, 2002; Kluger & DeNisi, 1996). In fact, research shows that feedback may have

negative consequences on performance (see Alvero, Bucklin & Austin, 2001; Kluger & DeNisi, 1996 for meta-analytic reviews). For instance, Koestner, Zuckerman & Koestner (1987) found that when ego involvement and unflattering attribution for success was evoked during positive feedback it negatively affected intrinsic motivation and performance. Gaddis, Connelly & Mumford (2004) showed that when feedback to subordinates is directed personally rather than at their task performance, motivation to change was compromised (Gaddis, Connelly & Mumford, 2004). Moreover, Ilgen & Davis (2000) showed that when feedback is framed as a performance-oriented rather than learning-oriented, it is likely to compromise the desired effect of feedback on performance. Feedback effectiveness depends on the feedback giver focusing on the task performance rather than the feedback receiver´s self-concept, presenting the feedback in a non-threatening way for the ego of the feedback receiver, adding information on how to boost performance, supporting the setting of specific goals and avoiding self-other comparisons (DeNisi & Kluger, 2000).

The effectiveness of supervisor´s feedback can be improved when supervisors are trained and rewarded for coaching and providing useful feedback (Antonioni, 1996; London & Smither, 2002; Yukl & Lepsinger, 1995). According to Antonioni (1996), supervisors with coaching skills are expected to be better equipped to help their subordinates to interpret the results of 360º assessments, set improvement goals and follow-up on action plans (Antonioni, 1996). To do so supervisors should listen actively, do focused interviewing, select targeted improvement areas, deal with feelings and reactions, set specific goals and action plans, follow-up, and support the development of new behavior (Antonioni, 1996). Research has helped to draw a picture of do's and don'ts of effective supervisor´s feedback. However, as pointed out elsewhere, while the literature on leadership still privileges bipolar classifications, organizational phenomena such as feedback processes are embedded in contradictions and tensions (Denison, Hooijberg & Quinn, 1995). To

date, to the best of our knowledge, studies that aim to tap into the paradoxes that a leader may face during a follow-up feedback and the actual behavior associated with those paradoxes are scarce.

4.2.2 Emotions and follow-up feedback

Affective events theory (AET) proposes that people emotionally react to work events (such as feedback) (Weiss & Cropanzano, 1996). Feedback is different from other types of information because it is information about the self. As a consequence it does not only elicit cognitive reactions but also affective reactions (Ashford & Cummings, 1983; Belschak & Den Hartog, 2009). AET aims to explain the causes and consequences of affective experiences, which range from discrete emotions as a response to an event (e.g. feelings of pride as a response to being publicly acknowledged for his/her success with clients), to general positive or negative affective states and moods, which are enduring emotional states without a specific cause (Belschak & Den Hartog, 2009; Weiss & Cropanzano, 1996). Emotional reactions to feedback are discrete emotions. In a series of studies of employees' emotional reactions to performance feedback from their supervisors, Belschak & Den Hartog (2009) showed that feedback from one's supervisor could result in emotional reactions such as disappointment, frustration, shame, guilt, embarrassment, fear and anger (Belschak & Den Hartog, 2009).

Emotions following feedback impact a multiplicity of outcomes: work attitudes, work behaviors, behavioral intentions and employees' goal regulation (Belschak & Den Hartog, 2009; Ilies & Judge, 2005). Research shows that when 360º feedback is not as positive as expected or is negative, feedback receivers may emotionally react with anger and discouragement (Brett & Atwater, 2001). When a negative emotional reaction ensues, behavior is elicited to cope with that reaction and

those coping behaviors are prioritized over other behaviors. This could compromise the desired outcomes of feedback (Belschak & Den Hartog, 2009; Brett & Atwater, 2001). For example, if the feedback giver focuses his/her attention on comparisons between the feedback receiver and others, this often produces strong affective reactions that can compromise task performance (DeNisi & Kluger, 2000; Kanfer & Ackerman, 1989). Conversely, when the feedback focuses on the task (e.g., on what the person needs to improve) feedback receivers tend to focus their efforts on addressing the gap between their current performance and the performance goals (DeNisi & Kluger, 2000; Kanfer & Ackerman, 1989). Emotional reactions to feedback can also influence other components of job performance, rather than only the task, such as counterproductive behavior, turnover intention, organizational citizenship behavior, and affective commitment (Belschak & Den Hartog, 2009).

Effective feedback leads to less resistance and reactions that could compromise its aims (London & Smither, 2002). Thus, a better understanding of why and how recipients react to feedback may enhance the effectiveness of feedback interventions (Atwater & Brett, 2005). Follow-up feedback may signal success or failure, which in turn influences feedback receivers' positive and negative affect, thus activating approach or avoidance behavior, respectively (Ilies & Judge, 2005). In the case of negative feedback, Ilgen & Davis (2000) suggested that its framing may influence the way in which recipients cognitively and affectively respond. According to the authors (Ilgen & Davis, 2000) the challenge of effectively delivering negative feedback lies in balancing two behaviors; Helping employees to accept responsibility for low performance, while at same time avoiding the lowering of his/her self-concept. In the same line, Belschak & Den Hartog (2009) propose that managers should frame their feedback to subordinates in a positive manner whenever possible as this inspires positive affect, which leads to reduced turnover intentions and increased commitment and organizational citizenship

behavior. However, there is little research on the tensions or paradoxes that a feedback giver may face during feedback processes (for an exception see Peiperl, 2001) and how these paradoxes translate into leader behavior and follower´s emotional reactions.

4.2.3 Leadership paradoxes and behavioral complexity

Most of the literature on management and leadership in particular is replete with dichotomous categories (e.g. autocratic vs. participative, transactional vs. transformational, task- vs. relationship-oriented) (Bobko 1985; Denison, Hooijberg & Quinn, 1995). At the core of the mainstream literature lies the assumption that leaders can be classified either in one category or the other and that effectiveness can be achieved by matching certain styles and behaviors with certain situations (Denison, Hooijberg & Quinn, 1995). However, paradoxes are inherent to human beings as well as their social organizations (Cameron & Quinn, 1988). We define paradox "as contradictory yet interrelated elements that exist simultaneously and persist over time" (Smith & Lewis, 2011, p.381). Theories that focus on paradox capture that idea and stress contradiction, complexity, co-existence and co-dependence of multiple opposing categories (Denison, Hooijberg & Quinn, 1995; Smith & Lewis, 2011). While paradox theories do not deny the latent discrete categories, they imply that effective leaders are capable of recognizing and reacting to paradox, contradiction, and complexity (Maruyama, 1976). Indeed, successfully attending to simultaneous and contradictory demands has been related to success in career (O'Mahony & Bechky, 2006) and exceptional leadership capabilities (Denison et al., 1995).

An important implication of the paradox perspective is that more effective leaders display more variety and complexity of behaviors (Denison et al., 1995; Quinn,

1984, 1988). In fact, adaptation and success at the organizational as well as the individual level require the ability "to respond to a host of ambiguous and contradictory forces, including the simultaneous presence of opposites" (i.e. behavioral complexity) (Denison et al, 1995: 526). Behavioral complexity implies not only conceiving (i.e. cognition) (e.g. Smith & Tushman, 2005) but also performing (i.e. action) opposing behavior (Hooijberg and Quinn, 1992; Denison et al., 1995) such as concomitantly focusing on the task and on interpersonal aspects (Bass, 1981). World leaders addressing some of the most complex problems compare opposing elements to examine their discrepancies and points of intersection (Suedfeld, Tetlock, & Streufert, 1992). Luscher and Lewis (2008) showed that managers' sense-making is empowered when they re-frame tensions as paradoxes instead of dilemmas. This shift in perception allowed them to recognize that by choosing one side of the tension they intensified the need for its opposite. As a consequence they started adopting paradoxical lenses that allowed them to consider both possibilities. Similarly, Mintzberg (1975) and Yukl (1994) have described leadership functions and behaviors that encompass contradiction even though they did not explicitly elaborate them as at times competing.

While paradoxes are increasingly recognized as part of the organizational and individual nature, questions on how they are experienced and managed in the organizational context remain unanswered (Smith & Lewis, 2011). The dynamic equilibrium model proposed by Smith & Lewis (2011) suggests that paradoxes can be successfully coped with through "purposeful iterations between alternatives in order to ensure simultaneous attention to them over time." (Smith & Lewis, 2011: p. 392). Similarly, Quinn´s (1984, 1988) model of leadership roles assumes that ably reconciling extremes is characteristic of highly developed leaders. In order for a leader to effectively respond to the complex demands of paradoxes, Denison, Hooijberg & Quinn (1995) propose the definition of behavioral and role portfolios instead of calculating which particular behavior should be applied to each

situation (Denison, Hoouberg & Quinn, 1995). As Peiperl (2001) noted in his analysis about peer feedback during 360º feedback processes, the success of feedback interventions would also profit from the use of paradox lenses. Supervisor´s follow-up feedback would not be different. Thus, rather than listing the behaviors that a supervisor should follow in order to assure the effectiveness of the feedback for promoting performance improvement, it may be more relevant to address the underlying paradoxes that pervade a supervisor's follow-up feedback and the behavioral portfolio associated with these paradoxes.

4.3 Method

4.3.1 Participants

Data were gathered through realistic experimental simulations run in an assessment center. The realistic simulations were an integral part of the pedagogical program of an international master in leadership and organizational coaching held in a business school in Barcelona, Spain. The participants in this program are experienced professionals, mainly line managers, half of them active as human resource managers. The final sample used for this study was based on 17 recordings from 17 course participants of the 2013-2014 year of graduation. The participants, 12 women and 5 men, were mainly Spanish with a few participants from Colombia (2) and Peru (2). Their average age was 43,5 years (SD = 3,5 years) with an average job tenure of 10,8 years. They worked in organizations from a variety of sectors (Food & beverages, real estate, publishing, NGO, pharmaceutical, education, etc …). Each of the 17 course participants was

assigned the same scenario, which consisted in giving a 360º follow-up feedback to a direct report, a sales manager (role played by a professional actress).

4.3.2 *Design and procedures*

The current study used a realistic simulation-based assessment center design and the data was analyzed through the constant comparative method. Experimental simulation is a situation devised by the researcher with the aim to reproduce realism of context through the use of simulated scenarios (McGrath, 1982). Simulation mirrors the environment and allows free behavior within it and, therefore, "represents a viable compromise between unhurried, naturalistic observation and more tightly controlled research methods" (McCall & Lombardo, 1982:533). It is one way to enhance our understanding of leadership "by breaking out of the survey-methodology rut" (McCall & Lombardo, 1982). Moreover, as Yukl (1999) pointed out, realistic simulations are promising for the study of particular aspects of leadership, "especially when the simulations are conducted over repeated sessions with actual managers (not undergraduates) (Yukl, 1999: 45)." In this study, we created realistic simulations with actual managers with the aim to investigate leaders' behavior throughout 360º follow-up feedback sessions and the emotional impact of those behaviors on the follower.

In the simulation, named ABC Pharma, each participant would assume the role of a supervisor who needs to give a 360º follow-up feedback to a manager. To prepare for the feedback session each of the 17 participants received a profile of the employee, the company competency profile, and the results of her 360º assessment, including qualitative comments. The employee profile consisted of the MBTI profile, Belbin team role preferences and Kolb learning style. While the manager receiving the follow-up feedback (a professional actress representing this

role) had outstanding sales revenue indicators, her 360º assessment showed poor performance with respect to relational indicators from direct reports, who complain about a lack of communication and recognition, high pressure and dominant and aggressive behavior. In addition the case recounts several events that exemplify this behavior as described by colleagues. The course participants had 30 minutes to give feedback as part of their leadership training. The official language of the course was Spanish, so the 360º follow-up feedback simulations were in that language. The professional actress performing the role of employee was thoroughly prepared and trained in order to behave in a consistent manner, congruent with a specific personality (MBTI, ESTJ), and a specific situation, in which she is genuinely unaware of the negative impact she is having on her environment. Her un-adapted behavior is a consequence of a lack of training as a manager and stress caused by highly demanding sales objectives. During the feedback intervention a myriad of data was collected (audio, video, neurophysiologic data) in a room especially equipped with one-way mirrors and discretely placed recording devices in order to make observation as discrete as possible. For this specific research, we focused on analyzing verbal (audio) and non-verbal (video) behavior.

4.3.3 Constant comparative analysis

The data was analyzed through the constant comparative method, in which the researcher codes while at the same time analyses the data in order to develop concepts (Glaser & Strauss, 1967). This is done by a process of continuous comparison of specific incidents in the data that allow the researcher to refine concepts, identify their properties and explore their relationships with one

another while integrating them into a coherent explanatory model (Taylor & Bogdan, 1984). The analysis proceeded in four steps: First, an open-coding of 9 out of 17 videos was done. The open-coding is a process of "treating the first example as a category and then comparing the second example to the first, when it matched, it was added to the first category, but if it did not match, then a new category was created" (Kramer & Crespy, 2011: 1027). The constant comparative analysis proceeded until new categories could not be located and the existing categories remained stable (Glaser & Strauss, 1967). Second, we maintained the process of constant comparison of examples and categories with the remaining data until we reached a point of saturation (i.e. new examples and categories would remain classified as previously emerged examples and categories) around recording number 12 (Charmaz, 2006). Third, we used the remaining 5 follow-up feedback sessions to identify if the categories that emerged on the previous stages would comprehensively elucidate the remaining. Since the 5 remaining sessions analyzed did not present any different examples and categories than the ones that emerged during the previous steps we confirmed the conceptual saturation (Chamaz, 2006). Last, through the evaluation of data as a coherent whole in relation to formed categories (Charmaz, 2006; Strauss & Corbin, 1998), the interrelationships among leaders' paradoxes, behavior and followers' emotional reactions during the follow-up feedbacks were determined for each recording and compiled to catalog interrelationships among the elements of the feedback intervention.

4.3.4 Validation efforts

An interpretivist epistemology implies that while the "real world" of social interactions may not be accessed, the knowledge of the perceived world(s) is by

itself meaningful and can be understood through the conscientious use of interpretivist procedures (Carson et al., 1998). As an outcome, interpretivist methodologies seek to generate reliable knowledge that would allow understanding of and more successful coping with social reality. In order to reinforce the credibility of the findings, qualitative research should also undergo validation strategies (Creswell, 2007). We followed Creswell's recommendation to further promote the validation of this research by applying the strategies of a) prolonged engagement and persistent observation in the field, b) peer review during the analysis process and c) in member checking with the actress playing the role of follower.

4.4 Results and interpretations

Analysis of all recordings showed that leaders confronted three main paradoxes through the display of twenty-four behaviors. Leaders giving 360º follow up feedback face the need to cope with contradictory demands, or paradoxes (i.e., RQ1) and the extremes poles of these paradoxes are expressed through the display of certain leader behavior (i.e.. RQ2); furthermore, the valence (i.e. negative or positive) of the emotional reaction of feedback receivers to the feedback given by the supervisor is conditioned to his/her (in)effectiveness in balancing the behaviors associated to the paradox poles (i.e. RQ3). In this section we will first describe the three leadership paradoxes and associated behaviors. Next we will focus on emotional reactions to the capacity of the participants in this study to successfully manage these paradoxes.

4.4.1 Leadership paradoxes during follow-up feedback

Leaders giving 360º follow-up feedback dealt with three paradoxes: (1) focus on the task vs. emotional connection, (2) focus on organizational vs. employee interests, and (3) declaring vs. inquiring. Each of the paradoxes' poles was expressed through four recurring behaviors, for which we provide examples below.

4.4.2 Paradox 1: Task-orientation versus Emotional connection

All participants giving feedback were concerned with assuring that the 360º follow-up feedback would result in an action plan to support the development of the employee to whom they were giving the feedback. As the exercise is set in an organizational context, it is expected from a leader – during a 360º follow-up feedback – that the employee can leave the feedback session with a set of planned actions to work towards addressing his/her development goals. This aspect of 360º follow-up feedback is identified as *focus on the task* because certain managers would insist on action plans at the detriment of the relationship. This is one of the poles of the task vs. emotional connection paradox.

The feedback givers would express a focus on the task mainly through four leadership behaviors: (1a.1) positioning, e.g. "Today we will leave this meeting with a few objectives defined for next year (…) on improving the internal levels of satisfaction" (3, number represents participant); (1a.2) proposing a hypothetical scenario for practice, e.g. "Imagine that you would not be in the office for four months, what would you do to help your team so they can cope with the work in your absence?" (1); (1a.3) goal setting, e.g. "Do a small analysis of each member of the team, decide what it will be your attitude toward them and … introduce from

time to time teamwork activities" (5); and (1a.4) organizing, e.g. "We can develop a series of protocols, or action plans in each we both would need to collaborate" (7). The leadership behaviors associated with a task-focus are an effort to assure that the employee will leave the follow-up feedback session with clarity around the objective of the session and what needs to be done for the accomplishment of development goals.

Contrary to the aim to assure task accomplishment is the focus on *emotional connection*. Leaders would alternate between focusing on the task and centering on the person by trying to create some emotional connection. When focusing on creating an emotional connection the supervisors would rather digress from what seemed to be the main aim of accomplishing the task to connect with the employee. Emotional connection is the other pole of the task vs. emotional connection paradox. The leadership behaviors that expressed an attempt to create emotional connection were: (1b.1) adaptability, e.g. "If you want to get back to this subject let me know, we can talk tomorrow, total freedom to talk, let´s talk again" (12); (1b.2) showing interest on a personal level, e.g. "I would like you to explain to me how you have been feeling during this time, if there is something you would like to share with me" (7); (1b.3) creating rapport, e.g. "If we find a solution to re-balance your personal and professional life, which I believe it is important, it is also important to me" (1); and (1b.4) empathizing, e.g. "It looks like what I said bothered you. What do you think?" (13).

4.4.3 Paradox 2: Organizational versus Employee interests

The organizational versus employee interest paradox represents the tension between attempts to direct the employee's compliance to organizational expectations and attending the employee's personal expectations. There was a

general tendency of the participants of the study to focus on assuring the employee's compliance with the organizational expectations. Contrary to the focus on organizational expectations, some leaders also showed a concern to address the employee's expectations.

The leadership behavior that represented a focus on organizational interest were: (2a.1) communicating organization expectations, e.g. "For us it is important that you comply with the financial objectives but you also keep your people motivated" (11); (2a.2) defining improvement areas, e.g. "Let´s focus, I need that we define together a communication project with your team" (8); (2a.3) ignoring an employee request based on an organizational rule or expectation, for instance, after the employee shares her expectation to assume new responsibilities in the company, her manager (4) responds: "Today we are here to talk about my concern that I told you about"; and (2a.4) reminding an employee of his/her responsibilities. Attempts to drive the employee to focus on the organizational priorities were sometimes expressed by reminding the participant of her responsibilities associated with her role: "As the manager that you are, as boss of the commercial area… you need to lead and motivate the people" (5).

Contrary to the focus on organizational interest the *focus on employee interests* is composed of behaviors in which the leader giving feedback shows concern for the employee's expectations. These are the leadership behaviors associated with this pole of the paradox (i.e. employee's interest): (2b.1) asking about worker's expectations or ambitions, e.g. "You said you don't feel motivated. What do you miss? What do you need?" (7); (2b.2) offering professional/instrumental support, e.g. "Let´s define objectives. I want to help you. My intention is that we get the best from you and you get the best from your team" (10); (2b.3) coaching the employee, e.g. "Do what we are doing now, share how the person has been feeling, what are his/her challenges, what is s/he proud of, do a review of the

objectives" (1); and (2b.4) showing availability. Showing availability also sent a signal to the employee that she was not alone, that she could count on her supervisor's support: "I can spend more time with you than I have been spending so I can help you with this matter" (1).

4.4.4 Paradox: Declaring versus Inquiring

The declaring versus inquiring paradox represents the tension between the leader sharing his/her own perspective about a problem, how to solve it, the interpretation of events versus the leader's inquiry of the feedback receivers' perspective on those matters. Declaring is probably based on the supervisor's assumption that he/she knows how to interpret, frame and solve situation and challenges. On the contrary, the other pole of the paradox is inquiring, which is based on the assumption that the feedback receiver's own perspective is a better or at least equally valid source to interpret, frame and solve situations and challenges associated to the work.

The leadership behaviors that represented a focus on declaring are: (3a.1) acknowledging, e.g. "The clients are very happy with your capacity to give them support and, more than that, great results" (9); (3a.2) sharing one's own perspective, e.g. "It is maybe about assuming that we are different in our behavior and what motivation means to one is not (the same) for the other…so we need to accept as leaders that not all people of the team behave like you" (5); (3a.3) providing guidelines, e.g. "When a junior enters the organization the priority is the daily work while someone who is more senior should be working with other people"; and (3a.4) assertiveness, e.g. "Yes, I am asking you this: that you talk to each of your team members. Second, spend at least two hours with each of your collaborators in the next three months without making any new demands" (3).

Contrary to the focus on declaring, the *focus on inquiring* is composed of behavior in which the leader shows interest in the feedback receiver's own point of view and ideas. The leadership behaviors associated with this end (i.e. inquiring) of the paradox 3, were: (3b.1) checking agreement, e.g. "Today we can talk for thirty minutes, is that ok with you?" (6); (3b.2) asking for input, e.g. "What to do to make people feel more motivated? What do you think we could do to address this?" (13); (3b.3) clarifying, e.g. "From your words I understand that you felt I have been absent to you. Is that what you are telling me?" (16); and (3b.4) checking one's gut feeling, e.g. "I hear you saying a lot you don't have time…you are very proud with the level of the results…but, on the other hand, there is something I don't completely understand, like a lack of motivation from your side regarding team management. Is that correct?" (1).

4.4.5 Emotional reactions to leadership paradox (im)balanced behaviors

The analysis of data revealed that supervisor behaviors elicited very different emotional reactions in followers depending on the supervisor's focus on one or the other pole, and depending on his / her success in balancing the paradoxical / behaviors representing the opposite poles of the paradox. Below we give indications of these emotional reactions in function of focus and paradox (im)balances.

4.4.6 Paradox 1: Task-orientation versus Emotional connection

Participant 11 showed predominant behavior towards assuring task accomplishment throughout the entire feedback session. As a consequence, the

feedback receiver would give deep sighs, apologize to the leader for interrupting her to ask for clarification, tense her shoulders and share that "I have enough by meeting with my direct reports every 15 days, I do not need more" (FR, i.e. feedback receiver to participant nr. 11). On the other hand, the excessive focus of participant 3 on creating an emotional connection with the feedback receiver led to the later showing high levels of excitement, which escalated to the point of frustration as the employee felt that the main aim of the conversation was not being addressed. The FR would express that by relaxing her body and sitting back while laughing. However, as the conversation remained centered on emotional connection the FR (to 3) started showing signs of frustration (e.g. speaking faster) and expressing, at the end of the feedback session, her defiance by questioning: "Which kind of training could we do?" or "Ok, but this is – the results of the 360º - what we were supposed to talk about today, no?!". Participant 10 successfully balanced the task vs. emotional connection paradox and the FR expressed appreciation throughout the follow-up feedback session which led to an episode in which she listened silently, relaxed her body and dried her tears saying: "I am sorry, yes, I just don't know how to do it, seriously."

To conclude, emotional reactions associated with the task vs. emotional connection paradox were quite different: anguish in case the focus was disproportionate towards the task and frustration if the leaders' behavior were predominant towards establishing an emotional connection. In cases in which the feedback giver was successful in balancing both ends of the paradox, addressing both the task and the emotional connection, the feedback receiver would show appreciation.

4.4.7 Paradox 2: Organizational versus Employee interests

Participant 6 showed predominant behavior towards assuring employee's compliance with organizational interest throughout the entire follow-up feedback session. As a consequence, the feedback receiver would raise her voice, interrupt her manager and gesticulate by moving her hands impatiently while at some point she (FR) said "You are telling that there is a problem with my team that they don't feel heard by me, but I also don't feel heard by you. So, what?" (FR to 6). On the other hand, the focus of participant 10 on the employee's interest led to the employee expressing surprise and disbelief. The FR would express that by giving a deep breath and slowly moving her thorax back and forth and saying "I did not imagine you would be so open to the conversation and with so many possibilities" (FR to 10). Leader 1 successfully balanced the organizational vs. employee's interest paradox to which the employee expressed gratitude at some point by moving her head in sign of affirmation, saying ok, smiling with contained excitement and adding "Very well, I would like to thank you" (FR to 1).

To summarize, emotional reactions associated with the organizational vs. employee's interest paradox were once again quite different. Anger in case the focus was disproportionate towards the organizational expectations and surprise / disbelief if the leaders' behavior were predominant towards worker's expectations. In cases in which the feedback giver was successful in balancing both ends of the paradox by juggling its behavioral efforts to address both the organizational and the employee's interests, the feedback receiver would show gratitude.

4.4.8 Paradox 3: Declaring versus Inquiring

Participant 14 showed predominant behavior towards declaring. In other words this leader would, throughout the entire follow-up feedback session, focus on making assertions about the way he interpreted the events and how to address them without taking the employee's perspective into consideration. As a consequence, the feedback receiver would lean back on the chair, sustain silence, hold her hands below the table and then, when asked what was going on by the leader, she replied: "What is the plan? Do you want to fire me?" (FR to 14). Conversely, when the supervisor giving feedback predominantly inquired, the feedback receiver reacted quite differently. For example, with supervisor 4, the employee would move her hands impatiently saying, "If you are seeing things with more clarity than me I ask you to please tell me" (4). Leader 1 who successfully balanced the declaring versus inquiring paradox would provoke different behavior: The employee would move her head in compliance, put her hands on the table and smile while looking into the supervisor's eyes and saying: "It is related to what we talked before? To dedicate more time with my team and for that we will look for other strategies on how to function" (FR to 1).

To conclude, the emotional reactions associated with the declaring vs. inquiring paradox were: irritability in case the focus was disproportionate towards declaring and anxiety if supervisor's behavior was predominant towards inquiring. In cases in which the feedback giver was successful in balancing both ends of the paradox by juggling its behavioral efforts to address both declaring and inquiring, the employee receiving the feedback would show enthusiasm.

Overall, we see a clear pattern of positive versus negative emotional reactions in function of focusing on one or the other side of the leadership paradox dimensions, or balancing both ends. In paradox 1, when the leader predominantly displayed behavior associated with a one-sided focus on the task the feedback

receiver would react with anguish and when the behavior focused solely on creating emotional connection the emotional reaction of the feedback receiver was frustration. When the leader balanced behaviors associated with both ends of the paradox 1 (task vs. emotional connection) the feedback receiver showed appreciation. In paradox 2, the followers' emotional reaction to an imbalance towards organizational interests was anger. Only one leader giving feedback focused mainly on the employee's interest and it elicited surprise and disbelief. When the feedback giver showed a balance of behavior representing both poles of the paradox 2 (organizational vs. employee's interest), the feedback receiver showed gratitude. Last, irritability and anxiety were the emotional reactions of feedback receivers when the supervisor privileged behavior associated to declaring versus inquiring (paradox 3), respectively. When the leaders' behavior associated to paradox 3 were balanced the feedback receiver showed enthusiasm. The leadership behaviors associated to each end of the three paradoxes as well as the workers' emotion associated to the supervisor's balance or imbalance of those behavior are represented in the following table 4.1:

Table 4.1: Leadership paradoxes during 360º follow-up feedback and workers`emotional reactions

<table>
<tr><th>Emotional Reactions of Worker</th><th>Leader Behavior</th><th>Leadership Paradoxes during 360º Follow-up Feedback</th><th>Leader Behavior</th><th>Emotional Reactions of Worker</th></tr>
<tr><td>Anguish</td><td>- Positioning
- Proposes hypothetical scenario for practice
- Set goals (e.g. define expected outcome)
- Organizes (e.g. determines next steps)</td><td>Task at Hand vs. Emotional Connection</td><td>- Adaptability
- Shows interest on a personal level
- Creates rapport
- Empathizes</td><td>Frustration</td></tr>
<tr><td>Appreciation</td><td colspan="4">Emotional reaction of worker to leader's balance of task at hand vs. emotional connection paradox</td></tr>
</table>

Anger	- Communicates manager/ organization expectations - Define improvement areas (e.g. change of behavior) - Ignores an employee request based on an organizational rule or expectation - Reminds an employee of his/her responsibilities	Organization vs. Worker Expectation	- Asks about worker´s expectations or ambitions - Offers professional / instrumental support - Coaches the employee - Shows availability	Surprise
Gratitude	Emotional reaction of worker to leader's balance of organization vs. worker's expectations paradox			
Irritability	- Acknowledges - Communicate own perspective (e.g. solution for a problem, interpretation of a situation) - Provides guidelines - Assertiveness	Declaring vs. Inquiring	- Checks agreement - Asks for input (e.g. solution for a problem, interpretation of a situation) - Clarifies - Inquires about one´s gut feeling	Anxiety
Enthusiasm	Emotional reaction of worker to leader's balance of declaring vs. inquiring paradox			

4.5 Discussion

The aim of this study was to investigate leadership behaviors during the 360º feedback follow-up process to develop a better insight into the underlying paradoxes that motivate those leadership behaviors, and assess the emotional reactions of feedback receivers to those behaviors. Using a realistic simulation-based assessment center design and the constant comparative method of data analysis, several interesting findings emerged that lend support to both paradox and affective events theory. As such, this study contributes to the management literature in different ways: Provide a more detailed insight into the interaction process between leaders and collaborators following 360º feedback, so vital for

translating feedback into actual behavioral change at work; Explore the myriad of emotional reactions of employees at the receiving end of 360º feedback; Mine the rich data produced by simulations providing quasi realistic, dynamic interactions between actual managers and employees, interpreted by actors; Provide some answers to a number of research questions associated with the paradox theory of leadership and affective events theory.

Our results support the idea that exploring paradoxes opens opportunities for insights that are more in consonance with apparent inconsistencies and contradictions that permeate social interactions such as the ones that take place during follow-up feedback (Eisenhardt, 2000). Specifically, we found that behaviors displayed by leaders during follow-up feedback can be organized around paradoxes such as task- versus relationship-orientation, organizational versus individual interest and declaring versus inquiring. While literature on management and leadership in particular still favors bipolar categories (e.g. autocratic versus participative, transactional versus transformational, task versus relationship-oriented) our findings support the need to shift the focus to the co-existence of opposing and concomitant leadership demands (Denison, Hooijberg & Quinn, 1995) in order to deal with complexity that characterizes contemporary organizations. These results also coincide with Smith & Lewis' (2011) findings on the pervasiveness of conflicting yet interrelated elements across a range of organizational phenomena and different levels of analysis (e.g. individual, dyad, group, project, and organization) and across each of these levels (e.g. tensions between learning and performance at the individual, group, top management team and firm levels). With the increasing complexity of the business environment, where managers need to balance simultaneous demands from top management and employees, internal and external clients, and stakeholders inside and outside the organization, we can only expect that these conflicts and

tensions will intensify and therefore the demand for theories that can explain and clarify successful leadership in feedback processes will increase.

Second, we found that leader ability, or inability, to balance both ends of the leadership paradoxes during the 360º follow-up feedback determines the valence of the emotional reactions of the feedback receiver. Leaders who displayed behavior that privileged either one side or the other of the three paradoxical ends incited negative emotional reactions in feedback receivers. Conversely, leaders who were able to display behaviors that balanced the paradoxical ends elicited positive emotional reactions in followers. For instance, when the supervisor giving feedback consistently privileged behaviors reflecting declaring at the detriment of inquiring or vice versa (ends of paradox 3), the feedback receiver tended to show growing irritability or anxiety, respectively. When considered in the light of research showing the impact of emotions elicited during feedback on subsequent work behavior and attitudes (Belschak & Hartog, 2009) and goal regulation (Ilies & Judge, 2005), this finding suggests that balancing paradoxes may be key to assure that leaders provoke positive emotional reactions during feedback processes, necessary to create favorable organizational outcomes like productivity and wellbeing.

The bipolar categories governing the leadership literature are consistent with the idea of dilemma that calls for tradeoffs or either/or solutions (Cameron & Quinn, 1988). However, paradoxes permeating 360º follow-up feedback seem to persist and resist attempts to solve problems based on either/or choices. In fact, our findings suggest that the display of behaviors reflecting the privilege of one pole of a paradox over another tends to elicit a stronger need to address its opposite pole. This finding is consistent with Luscher and Lewis' (2008) research showing that when managers are pushed to explore dilemmas, its paradoxical nature is often

surfaced and the more managers stress the positive of one side, the more this intensified the need to attend to the opposite pole.

Further research is needed to examine the validity of the paradox theory that requires leaders to constantly entertain seemingly opposing behaviors in order to successfully deal with complex reality. However, if this theory holds, researchers will have to focus further on the ability of leaders to shift their attention to different realities and in the process, resolve conflicts between opposite expectations. From a neuroscience point of view this implies studying leaders' cognitive flexibility and dual task processing (multi-tasking) capacity, because it is virtually impossible to direct the blood flow to different parts of the brain simultaneously. For instance analytical problem-solving involved in task-orientation recruits different circuits in the brain than emotional regulation and social behavior required for building relationships.

In terms of methods used to study leadership and 360º feedback processes we found that the use of assessment center based simulations confronting research participants with real human beings (professional actors) instead of questionnaires, vignettes, cases or videos to be of great value to get a better insight in the phenomenon of leadership and feedback. We opened the "black box" of complex social interactions requiring not just "cool" logical problem-solving but also "hot" emotional regulation in the presence of raw emotions like anxiety, surprise, or anger. We used qualitative methods to capture the rich information that can be found in dynamic interactions, going beyond research participants' responses to standardized stimuli, studying their responses to human responses. This allowed us to go beyond frequency ratings and study contingencies in the responses of participants. As Yukl (1999) already pointed out:

"Frequency ratings of individual behaviors are poorly suited for studying leadership as a dynamic process embedded in complex social systems. How often

a particular category of behavior is used is less important than whether it is used in a skilful manner at an appropriate time in the sequence of events".

Leadership and feedback are in essence processes and require adapted methods to capture this essence.

4.6 Implications for practice

This study is not the first to fundamentally challenge the way educators develop leadership and feedback skills in management students and managers. Paradox theory requires researchers, teachers and managers to re-think how we understand and cope with the contradictions that permeate social interactions in organizations. As Smith and Lewis (2011) put it:

"It could entail developing pedagogical material that includes conceptual and theoretical understandings of paradox. Further, it means helping students experience and learn to accept tensions and apply paradoxical strategies through varied structures, processes, and leadership approaches" (Smith & Lewis, 2011:397).

We propose the use of controlled simulations as part of the curriculum of leadership development programs curriculum as a way to test and develop leadership skills in dealing with complex social interactions and a way to familiarize and train managers to deal with the inherent paradoxes of organizational life.

The prevalent theory pervading management education still is based on "situational leadership" which operates on the assumption that each "specific" situation calls for a "right" solution or a "particular" leadership style. Paradox

theory adds an extra layer of sophistication to this approach suggesting that the acceptance of tensions and contradictions is a necessary first step to be able to continuously switch between different styles in order to be come up with effective strategies and solutions that take into account the co-existence of paradoxical demands. Moreover, a paradox approach can help practitioners to normalize the tensions and contradictions they face and free up cognitive resources for developing more creative solutions that leverage the rich potential of paradoxes. In the specific case of feedback, our research shows that contradictions are inevitable in the feedback process. Embracing paradox and applying strategies that accommodate contradicting demands rather than ignoring them, can help managers to foster more positive emotions in their collaborators and, therefore, boost the chances of behavioral changes that promote performance improvement.

4.7 Limitations

A strength of this study, the use of live interaction with a "real" human being (professional actor) which allows studying leadership behavior in a quasi realistic setting, is at the same time a weakness. The responses provided by actors involved in the simulations are far from "standardized" as we expect in a controlled experimental setting. The actors are trained to respond spontaneously and genuinely with real, raw emotion, which gives rise to sometimes unexpected situations. However by working with the same actor in the whole study, and restricting the number exercises per day, we observe that the actor's responses are similar in similar conditions, as well as genuine. The actors are specifically casted, selected and trained for their improvisation skills (in order to respond

adequately in function of participants' inputs), familiarity with the business context and jargon, as well as their capacity to stay "within character" based on a briefing of a particular personality type. Also, as a standard procedure, the first question we always ask participants right after the simulation is whether the setting is some way limited or created an obstacle for performing in a genuine way. With very few exceptions participants confirm that once they start interacting with what they perceive as real human beings with real emotions, they forget about the fact they are "acting in a simulation".

Another limitation of this study stems from the fact that it is based on a dyadic process. We agree with Yukl (1999) when he points out the relevance of this type of research for generating important insights about leadership while also stressing that as it is based on the relationship between a leader and one individual follower it underestimates the influence of the context in which these relationships take place. In this context it is fundamental to take into account the existence of a "feedback culture", defined by London and Smither as organizational support for feedback, including non-threatening, behaviorally focused feedback, coaching to help interpret and use feedback, and a strong link between performance improvement and valued outcomes (London & Smither, 2002:3). Future research could actually study the priming effect of different organizational cultures on subsequent leadership feedback behaviors.

A third limitation refers to the fact that we did not examine the effect of the relationship between the feedback giver and feedback receiver and their respective emotions and mutual feelings previous to the exercise. Our focus was entirely based on what we observed during the feedback process. Future studies should take into account the influence of emotions and feelings experienced by leaders and followers previous to the interaction. In some cases participants in the study, during the debriefing and feedback process after the exercise pointed out

that they would probably act differently if they would know the person they need to provide feedback to, as is mostly the case in organizations. This calls for studies that actually bring in and observe feedback processes between "real" supervisor-collaborator dyads in the laboratory. Given the sensibility of these situations however, researchers will be confronted with a different set of challenges associated with creating a "safe" environment.

4.8 Future research

A variety of avenues for future research unfold. First, we recommend studies that focus on how the organizational culture influences the 360º feedback follow-up process. For instance, we can expect very different behavior in hierarchical versus non-hierarchical organizations and organizations with a pre-existing "feedback culture" in terms of dealing with paradoxes. Second, research is needed that investigates the impact of the quality of the leader-follower relationship previous to the feedback intervention on managers' tendency to focus on one or the other pole of the paradox. Third, researchers need to further explore the impact of personality and associated "emotionality" in both managers and followers on the feedback process, as well as managers' perceptions of followers (e.g. Bernichon, Cook & Brown, 2003) on the way leaders manage paradoxes. Another, very much needed strand of research consists in quasi-experimental designs studying the impact of interventions targeted at sensitizing participants to the existence of paradoxes during feedback processes, on emotional reactions of followers. Acceptance, as a way to deal with paradoxes, may in itself set off a virtuous cycle that influences leadership behavior fundamentally. As pointed out by Peng & Nisbett (1999), once people understand and accept that tensions can and should

coexist, they tend to mindfully explore the dynamic relationship between contradictions.

4.9 Conclusion

Companies spend considerable amounts of money every year in designing, implementing and exploiting 360º feedback processes with the aim to boost performance and develop talent in organizations. This study provided some evidence that leaders providing feedback based of 360º assessments, as well a leadership scholars and educators could profit a lot from a paradox perspective, as balancing opposite ends of these paradoxes elicit positive emotions. Faithful to the paradox paradigm we suggest that this perspective can co-exist with, and further sophisticate, rather that substitute other leadership theories. The rich data generated by our quasi-realistic simulations has shed a more subtle light on leadership behavior. We are quite confident that as we further refine our research methods to allow studying feedback process between leaders and collaborators in organizations, more paradoxes will be revealed, as well as, paradoxically, more universal laws that govern feedback process cross-culturally.

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Chapter 5: Overall Discussion, Limitations, Future Research, Implications and Conclusion

5.1 Overall Discussion

This thesis aimed to answer the overarching question: How can people achieve effective social behavior and emotions at work?

The three chapters that compose this thesis address the above question by presenting the developmental process and validity testing of a questionnaire for social behavior assessment (Chapter 3), tapping into the behavioral paradoxes faced by leaders when giving the follow-up feedback after a social behavior assessment (Chapter 4) and proposing a three-phase model of emotion regulation (Chapter 2). Together, the three chapters contribute to theory and practice of social behavioral development at work by addressing its assessment, follow-up feedback to the assessment and how to regulate emotions at work (e.g. emotions of feedback receivers after the follow-up feedback of his/her leader).

The overarching research question presented above is sub-divided into three big blocks of sub-questions per chapter:

> *Chapter 2*: What does the integration of the literatures on management, psychology and neuroscience say about how social behaviors are formed? What are the main social behavioral types a person can display? What can be a comprehensive model of emotion regulation to enhance social behaviour at work?
>
> *Chapter 3:* How to develop and evaluate the construct validity of a Spanish questionnaire for social behavior assessment in the workplace?
>
> *Chapter 4:* What are the social behaviours that leaders display when attempting to develop team members' social behavior through follow-up feedback? How those leaders' behaviour impact employee´s emotions?

The questions of the first study “What are the main social behavioral types a person can display? What can be a comprehensive model of emotion regulation to enhance social behavioral at work?” are related to conceptual issues of the emotional and cognitive interplay that lead to social behavior and the regulation strategies that can be used to foster effective social behavior. The conceptual study (Chapter 2) explores the multiple interactions between cognition and emotion that represent different pathways through which four social behavior types are generated. The insights generated from the integration of psychology and neuroscience literatures led to the proposition of four behavioral types: automatic (A), deliberate (D), emotion-directs-cognition-based (Ecb) and cognition-directs-emotion-based (Ceb). While the effectiveness of the social behavior types is determined by the context, the probability that a positive feedback from the context unfolds, rather than a negative one, may depend on the success in regulating emotions. Therefore, the study proposes a three-phase process model of emotional regulation composed of a preventive phase, a situational phase and a post-hoc phase. The model works as follows: first, the strategies from the preventive stage, if pursued routinely, are expected to help people to generate resources that will support a better management of the multiple processes leading to behavior, including emotional and cognitive processes. In case there is no tension between emotional and cognitive processes (either because they are congruent or because one is much stronger than the other, as in the case of automatic and deliberate behavior) social behavior may unfold without further intervention, which can be either effective or ineffective as a function of the feedback of the context. Second, in case there are tensions between emotional and cognitive processes, in the situational phase individuals can apply regulation strategies to address the tension and adapt behavior to the contextual demands. The third phase of emotion regulation develops post-hoc and is essentially a learning phase during which individuals reflect on (in)effective

emotion regulation processes to inform preventive strategies and help generate more resources for improving future social behavior.

The second study of this thesis is related to methodological issues of the assessment of social behavior at work. The usual application of Anglo-Saxon language questionnaires to different cultural contexts has been shown to result in less accurate comparable data (Batista-Foguet, Boyatzis, Guillén & Serlavós, 2008; Extremera, Fernández-Berrocal & Salovey, 2006). Moreover, there is a growing call for the development of valid Human Resources assessment instruments for cultures other than Anglo-Saxon (e.g.,; Extremera et al., 2006; Vandenberg & Lance, 2000). In answering the research question "How to develop and evaluate the construct validity of a Spanish questionnaire for social behavior assessment in the workplace?" the Chapter 3 of this thesis presents the development of a Spanish Questionnaire of Personal and Motive-based Competencies (SQPMBC) and its validation process. The results of the validation process indicate that the Confirmatory Factor Analysis were consistent with the hypothesized 19-factor model with four clusters. The fit indexes of the measuring model were satisfactory, as were the factor loadings. The results of the discriminant validity analysis also showed that all the competencies are adequately discriminated. Furthermore, the results provided evidence that the Spanish Questionnaire of Personal and Motive-based Competencies (SQPMBC) was relatively free of the social desirability threat. This study also tested factor invariance with gender and work experience, which allowed the establishment of increased external validity of the instrument. The results supported the stability of the SQPMBC structure across gender, but factor invariance does not hold for the competencies within the mobilization cluster across group work experience (i.e., the meaning of the competency items varies by work experience). Therefore, gender and work experience differences were explored in those competencies that fulfilled the necessary requirement of scalar invariance next. With respect to gender, the

results show significant self-rating differences related to gender in only two of the nineteen competencies, empathy and service orientation, in which women rated themselves higher than men. The gender difference with respect to empathy is consistent with research showing that females have greater empathic response than males of the same age, and differences grow with age (Mestre, Samper, Frías & Tur, 2009). With respect to work experience, it was found that people with different levels of work experience did not have a similar conceptualization of the six competencies in the mobilization cluster. Unlike gender, the mean differences related to work experience were statistically significant in 12 of the remaining 13 competencies, indicating that the less experienced workers rated themselves higher than the more experienced workers. A possible explanation for this phenomenon is that more experienced and mature people would most likely agree with Aristotle's quote, "the more you know, the more you know you do not know", and less experienced people tend to view their competencies more positively. This finding calls for increased attention in how the development of novice managers can be guided in the initial stages of their careers.

The study in Chapter 4, addresses the following questions - "What are the social behaviors that leaders display when attempting to develop team members' social behavior through follow-up feedback? How those leaders' behavior impact employee's emotions? - through a qualitative approach. Using a realistic simulation-based assessment center design and the constant comparative method of data analysis, several interesting findings emerged. Specifically, the behaviors displayed by leaders during follow-up feedback showed to be organized around the following paradoxes: 1) focus on the task vs. focus on the relationship, 2) organizational vs. individual interest and 3) declaring vs. inquiring. While literature on management and leadership in particular still favors bipolar categories (e.g. autocratic vs. participative, transactional vs. transformational, task vs. relationship oriented) the findings support the need to shift the focus to the co-existence of

opposing and concomitant leadership demands (Denison, Hooijberg & Quinn, 1995). These results also coincide with Smith & Lewis (2011) review findings on the pervasiveness of conflicting yet interrelated elements across a range of organizational phenomena and different levels of analysis (e.g. individual, dyad, group, project, and organization) and across each of these levels (e.g. tensions between learning and performance at the individual, group, top management team and firm levels). Perhaps even more interesting was the finding that the leader ability, or inability, to balance both ends of the leadership paradoxes during the 360º follow-up feedback would determine the valence of the emotional reactions of the feedback receiver. Leaders who displayed behavior that privileged either one side or the other of the three paradoxical ends incited negative emotional reactions on feedback receivers. Conversely, leaders who were able to display behaviors that balanced the paradoxical ends elicited positive emotional reactions on followers. For instance, when the supervisor giving feedback consistently privileged behaviors reflecting declaring at the detriment of inquiring or vice versa (ends of paradox 3), thus expressing a lack of flexibility towards the opposing end of the paradox, the feedback receiver tended to show growing irritability or anxiety respectively. When considered in light of research showing the impact of emotions elicited during feedback on subsequent work behavior and attitudes (Belschak & Hartog, 2009) and goal regulation (Ilies & Judge, 2005), this finding suggests that balancing the paradoxes by juggling between the leadership behaviors that represent the opposing ends of the paradoxes may be key to assure the emotional reactions that will foster the desired outcomes. The bipolar categories governing the leadership literature are consistent with the idea of dilemma that calls for tradeoffs or either/or solutions (Cameron & Quinn, 1988). However, paradoxes permeating 360º follow-up feedback seem to persist and resist solution attempts based on either/or choices. In fact, the results of this

study suggest that the display of behaviors reflecting the privilege of one paradox end over the other tended to elicit a stronger need for its opposite.

5.2 Limitations and Future Research

Each of the three studies of this thesis presents a few limitations. The first study (Chapter 2) main limitation is that it is a theoretical model that still needs to be tested. While the model is based on research insights drawn from two mostly independent research disciplines this is, at the same time, its weakness. Much more inter-disciplinary research to test the model in the laboratory and the real world that look at the neurophysiologic substrates of interactions and main effects of the psychological processes of emotion and cognition in social behavior in the workplace is needed. A second limitation of this study is related to recent findings in neuroscience showing that emotional and cognitive neuronal networks closely interact with each other and may be indeed integrated in the human brain (Pessoa, 2008). A third limitation concerns the argument that most of the emotion regulation strategies currently focus on cognition controlling emotions and the consequent proposal to give more attention to alternative strategies where emotions guide cognition. While this proposal is still valid and has important implications for research and practice, the use of all strategies, whether conventional or alternative, may require some level of meta-cognition (Kornell, 2009).

The main limitations of the second study (Chapter 3) lies on the fact that the sample was not gathered randomly and, as a consequence, no inferences can be drawn from the statistical tests. Therefore, the statistical significance of the conclusions throughout the paper has a more descriptive, rather than inferential,

meaning. Moreover, in despite of the satisfactory results obtained, the questionnaire has some limitations. Further evidence of predictive utility (validity) is required, particularly with regard to achievement criteria. In addition, the discriminant validity or independence of existing measures of personality (Costa & McCrae, 1992) still needs to be tested.

One limitation of the third study (Chapter 4) stems from the fact that it is based on dyadic processes. While this type of research is important to generating insights about leadership it is based on the relationship between a leader and one individual follower and thus underestimates the influence of the context in which these relationships take place. Another limitation refers to the fact that the emotions of the feedback giver and the feedback receiver previous to the feedback were not taken into consideration. The focus of this study was entirely based on what it was observed during the follow-up feedback process. However, emotions and feelings experienced by individuals (both leader and follower) before a punctual interaction could also influence the way they behave and feel during and after the feedback process.

5.3 Implications

One of the core concerns of the field of organizational behavior is social behavior at work. People relate and depend on others in the working environment probably more than any generation before (Steers, Mowday & Shapiro, 2004). Thus, social behavior has become a factor that has a major impact on productivity and profitability in the service and knowledge based economy. The studies presented in this thesis advance research and contribute to the overall objective related to the research and development of social behavior at work on several levels:

1. Reviewing of the multiple ways through which emotion-cognition interplay generate social behaviour

The understanding of the emotional and cognitive antecedents that influence social behavior at work are key to determine the most effective regulation efforts aimed at displaying social behavior that fits the context´s demands. In order to improve that understanding, the study presented on Chapter 2 dissected the possible interactions between cognitive and emotional processes underlying social behavior. The review of the literature and the cross-fertilization of the fields of psychology and neuroscience led to the proposition of four different social behavior types classified along the dimensions of consciousness and affect: automatic (A), deliberate (D), emotion-directs-cognition-based (Ecb) and cognition-directs-emotion-based (Ceb). The review of the interaction between cognitive and emotional processes underlying social behavior allowed the information of an expanded range of cognitive and emotional regulation strategies. Moreover, such understanding also has implications for research. From a research standpoint this model offers a framework with which to look at the multiple types of social behavior. The fact that the model derives from the integration of psychology and neuroscience findings helps to advance understanding of the social behavior antecedents. Probably the most interesting conceptual research findings resulted on the proposal that, while emotions are historically seen as disturbances and most research on regulation focus on avoiding the negative effects of emotion over cognition, emotions can also have a positive effect by allowing cognition to make the “right” choice (e.g. Damasio’s somatic marker hypothesis).

2. Proposing non-conventional emotion regulation model and strategies

The use of one´s full potential depends not only on a better understanding of the integration between cognition and emotion at the neuronal level but also on the behavioral level, in understanding, accepting and reconciling, sometimes contradictory, emotional and cognitive processes. Studies have typically focused on only one facet of this reconciliation, in which cognition overrules or channels emotion. To address this promising line of research the study presented on Chapter 2 have provided examples of non-conventional emotion regulation strategies that profit from emotions' potential to override and energize cognitive processes in favor of our social interactions. Moreover, the study proposes a three-phase process model of emotion regulation that has implications for research in organizational behavior. It provides an understanding of the whole process of emotion regulation, from the time proceeding the generation of emotion, during the interaction with cognitive processes, and after social behavior has been displayed. The model allows a fresh look at the process of emotion regulation as a process that not only avoids the generation of a counterproductive emotion (e.g. through attention deployment, situation selection or situation modification), or changes the emotional experience (e.g. through reappraisal) but also generates positive emotions and resources that could in fact help a person to respond to emotionally charged situations and social encounters. The model also acknowledges a learning phase in emotion regulation. The study also has practical implications for professionals and managers, organizational consultants and human resource and management development professionals. Knowledge of a broad range of emotional regulation strategies can equip workers with resources and techniques that can be used to better navigate complex social situations. Another practical contribution of the study consists in expanding on the conventional emotion regulation strategies and suggest some powerful

alternatives like resource generation (in the preventive phase); being in the present / accepting, taking ownership and listening to one´s emotions (situational phase); and learning from previous failures (post-hoc phase) as a way to change future behavior.

3. Providing reliable and culturally sensitive social behaviour assessment

The use of Anglo-Saxon questionnaires in other cultures is a common procedure. While researchers usually back-translate questionnaires in an effort to assure its validity this procedure does not guarantee construct equivalence and a series of methodological problems (i.e invalid substantive inferences and perpetuation of unreliable measures) may derive from that. Besides the clear relevance of valid assessment instruments for research purposes it is also key for human resource (HR) management departments across organizations that face the challenge of assessing and developing social behavior at work. Therefore, the presented research in Chapter 3 supports research and organizational efforts on social behavior assessment through: 1) the presentation of best practices for a questionnaire development such as face validation, identification of reflective and formative items, 2) the step by step explanation on how to test a questionnaire psychometric properties and the need to test factorial invariance as a condition for generalizability across subgroups (e.g. gender) and 3) a critical reflection on the common use of those techniques such as that Exploratory or Confirmatory Factor Analysis that alone cannot guarantee construct validity. Probably more relevant, this an instrument that fills the existing gap in the field of competency

measurement in Spanish speaking countries. The potential usefulness and applicability of the SQPMBC is quite broad. Professionals in the area of human resources may benefit from a reliable and valid competency assessment instrument that can guide feedback and talent development. Similarly, the development of competency theory may benefit from this new measure for research in Spanish-speaking countries.

4. Offering best practices on follow-up feedback for social behaviour development

Frequently researchers in social sciences in general and on management and leadership in particular use dichotomous categories (e.g. autocratic vs. participative, transactional vs. transformational, task vs. relationship oriented) to explain positive versus negative social behavior at work. The study presented on Chapter 4 challenge researchers, teachers and practitioners to re-think how to see and cope with the contradictions that permeate social interactions in the context of an organization. In the specific case of follow-up feedback, the research shows that the contradictions are inevitable to the feedback process. By understanding this and using strategies that are more accommodative of the tensions, managers can foster more positive emotions on their followers and, therefore, boost the chances of behavioral changes that promote social behavior improvement. The study also promotes the use of paradoxical lenses which could be translated into pedagogical material that would teach and help practitioners to normalize the tensions and contradictions they face and rather than using either/or solutions that solves a problem while creating another it could foster the use of more creative solutions suited to effectively cope with the paradoxes that permeate social behavior at work.

5.4 Concluding Thoughts

The main motivation underlying the studies that compose this thesis has been to understand "How can people achieve effective social behavior and emotions at work?" and, through the studies devised to address this overarching questions, provide knowledge and practical tools that could foster people development.

First, study one (Chapter 2) advances understanding by providing a "dictionary" of the different types of social behavior that a person may display as a consequence of emotion-cognition interaction. Probably more important it uses this classification as a basis to provide a tool that can foster social behavior improvement, which is the three-phase model of emotion regulation. The model calls attention to the need to an on-going regulation of emotions through preventive, situational and post-hoc phases. Research in emotion regulation mainly focus on preventive and situational strategies to cope with emotions while this thesis pin point the importance of looking at a post-hoc / learning phase that can assure learning from the mistakes and successes from the past. Moreover, the study also provides a list of strategies that can be used throughout each of the regulation phases.

Second, study two of this thesis (Chapter 3) provides a valid and reliable Spanish questionnaire for the assessment of personal and social / motive-based behavior at work. One of the main challenges in organizations is to assess and develop effective social behavior at work. A valid Spanish questionnaire provides Spanish speaking based organizations with a reliable tool for social behavior assessment. A reliable questionnaire is the first necessary step to map what are workers doing well so they can be rewarded and what needs to be improved so they can go through more effective developmental initiatives. Thus, on the one hand this study provides understanding on how to develop and test a questionnaire. And, on the

other hand, by providing organizations with a reliable assessment instrument, it provides a tool for raising awareness of workers competencies strengths and weaknesses, which is a fundamental step for any developmental initiative.

Third, study 3 (Chapter 4) advances research on the growing field of paradox by applying the Paradox Theory framework to social behavior, more specifically leadership behavior, and also supports previous claims to shift management education towards paradox recognition rather than "right solutions" approaches. The findings provided by this research have important implications. Fist, it calls for further research on the ability of leaders to shift their attention to different realities and in the process, resolve conflicts between opposite expectations as a condition to assure that leaders provoke positive emotional reactions during feedback processes, necessary to create favorable organizational outcomes. Second, this research adds an extra layer of sophistication to the "situational leadership" approach, which pervades management education and operates on the assumption that each "specific" situation calls for a "right" solution or a "particular" leadership style. Paradox theory adds an extra layer of sophistication to this approach by suggesting that the acceptance of tensions and contradictions is a necessary first step to be able to continuously switch between different styles in order to be come up with effective strategies and solutions that take into account the co-existence of paradoxical demands.

Last but not least, this research fostered my own development. The studies that compose this thesis satisfied to a great extent my everlasting hunger for learning about social behavior, emotions and the paradoxes that permeate all. It also brought me deeper self-awareness that allowed me to develop as a better person and professional. I am grateful to this journey beyond words, with its ups and downs, successes and failures. It is what led me to a new journey in which I now

have the privilege of helping other people to better know themselves and develop to their highest potential.

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