Elaine Rabelo Neiva · Cláudio Vaz Torres
Helenides Mendonça *Editors*

Organizational Psychology and Evidence-Based Management

What Science Says About Practice

Springer

Organizational Psychology and Evidence-Based Management

Elaine Rabelo Neiva • Cláudio Vaz Torres
Helenides Mendonça

Editors

Organizational Psychology and Evidence-Based Management

What Science Says About Practice

Springer

Editors
Elaine Rabelo Neiva
Department of Social and Work Psychology
University of Brasília, Institute
    of Psychology
Brasília, Brazil

Cláudio Vaz Torres
Department of Social and Work Psychology
University of Brasília, Institute
    of Psychology
Brasília, Brazil

Helenides Mendonça
Department of Psychology
Pontifical Catholic University of Goiás
Goiânia, Goiás, Brazil

Preface

The workforce in the world is in constant change. This is a universal phenomenon that has been intriguing psychologists, sociologists, anthropologists, scholars, and practitioners. Whatever the field of such social scientists or consultants, one thing is clear: what society needs, right now, are people capable of dealing with an evolving human market. And, in order to do so, such managers need evidence, concrete and realistic evidence, in order to make appropriate decisions and to mentor guidance.

The objective of this book is to present and analyze the academic production that has not been widely explored in Brazil: the evidence-based management (EBM). In order to do so, we present different themes under different perspectives and points of view, many of which are complimentary, aiming to engender knowledge and challenge the reader toward new possibilities yet unexplored.

We understand EBM as an emergent movement, which suggests the explicit use of current scientific evidence in organizations. It is rooted in empiricism and in the movement of evidence-based medicine and has the purpose of using the scientific knowledge in professional practice, hence uniting the academia with the practical assessment. EBM has implications to management decisions, organizational strategies and systems, and several other practices where the best evidences are understood in terms of scientific norms. Like its counterparts in medicine and education, its objective involves considering the circumstances and ethical concerns that management decisions are involved in. In contrast to medicine in particular, however, contemporary managers and educators make limited use of the vast body of evidence available in the behavioral sciences that are relevant to effective management practice.

The book also comes as a response to a particular gap in the literature: that of presenting and discussing reality of organizations and management in Brazil and its scholars interested in the organizational field. To understand the workplace, we need firsthand encounters with experts and people who are actually involved and experienced with the object in matter, with close and routine interactions with whatever is intriguing us. We do so by a series of chapters written by experienced scholars with

the management and the organizational field in Brazil. But they have based their chapters in international literature. We hope you enjoy all of them.

Brasília, Brazil   Elaine Rabelo Neiva
Brasília, Brazil   Claudio Vaz Torres
Goiânia, Brazil   Helenides Mendonça

Acknowledgments

This book is the product of a collective work. All the ideas we share here have been developed in conjunction with a diverse, rich group of colleagues. Close work with people in a wide range of organizations continually pushed us to generate or translate practical applications of work and organizational psychology. We are equally indebted to a very large group of people in many organizations who held our feet to the fire that our ideas and research actually can be translated to business people. These people helped to get us involved with interesting issues inside their organizations and helped us see various applications of work and organization themes. To all of them, we are very grateful.

Contents

Chapter 1
The Gap Between Research and Professional Practice in Work and Organizational Psychology: Tensions, Beliefs, and Options

António Caetano and Susana C. Santos

1.1 Introduction

The integration of scientific knowledge produced in the field of work and organizational psychology (WOP) in the practices of professionals in different types of organizations has always been a core concern of research. The idea of applicability of knowledge to the concrete reality of organizations to improve their work and contribute to the quality of life at work is an assumption shared by scholars at large since this subject was created as a specific branch of psychology. In fact, the development of the WOP is partially due to the effort toward trying to solve concrete problems resulting from the dynamics of the social systems in the labor organizations framework, initially, with emphasis on the issues related to personnel selection, and then expanding to the dynamics associated with communication, motivation, leadership, and decision-making. In the last decades, it incorporated all processes related to the relationship between the individual and work and with others in group and organizational contexts, focusing the different dimensions—cognitive, affective, and behavioral—that boost the social systems and performance at the different levels of the organizational life. The accumulation of knowledge expanded all of these areas, and its quality has been critically evaluated and improved.

However, despite this intimacy with the professional world as typically claimed in the WOP scope (e.g., Briner & Rousseau, 2011), for many decades, we have observed a significant gap between the scientific knowledge produced and the professional practices implemented in the organizations, as if they were two autonomous worlds focused on the same reality but with few connection points with each other.

A. Caetano (✉)
Business Research Unit (BRU-IUL), Instituto Universitário de Lisboa (ISCTE-IUL), Lisbon, Portugal
e-mail: antonio.caetano@iscte-iul.pt

S.C. Santos
Business Research Unit (BRU-IUL), University of Florida (USA), Lisbon, Portugal

In fact a study carried out with members of the Society of Industrial and Organizational Psychology (SIOP, USA) showed that most professionals believed that practice was more advanced than research in 14 areas of activity (Silzer, Cober, Erickson, & Robinson, 2008).

This separation or gap has been largely discussed in recent years (e.g., Anderson, Herriot, & Hodgkinson, 2001; Bartunek, 2014; Rousseau, 2006; Rousseau & Gunia, 2016). This is particularly relevant in times when, on the one hand, the scientific evidence available in WOP has been developed and updated, and, on the other hand, the complex and dynamic realities of the organizations increasingly demand more decisions and interventions based on reliable and robust knowledge. The rudimentary or null use of scientific knowledge in the professionals' practice will be translated at the very least into the suboptimization of their efforts or even inefficacy of their performance while at the same time evidencing the underuse of the research investment.

The concern about effectively articulating research and professional practice is not specific to the WOP. The debate also exists in other fields of psychology and subjects such as health, political science, sociology, education, social service, organizational behavior, management, and entrepreneurship. In the field of management and organizational behavior, the debate gave rise to a movement that attempted to actively promote scientific evidence-based professional practices, inspired by the principles and methods that evidence-based medicine uses to translate scientific knowledge to health professionals (Sackett, Straus, Richardson, Rosenberg, & Haynes, 2011).

This chapter briefly analyzes this problem in its several dimensions, the tensions at stake related to knowledge produced by research and its applicability in professional practices, or at the level of academic community and teaching practices in the university. It also discloses some of the main factors that influence the current situation dynamics. Taking into account the debate and the evolution that have occurred in other disciplines, notably medicine and management, it also presents alternatives to build and solidify bridges to reduce the gap between the two worlds, in order to increase (a) the relevance of research to the professional practice and its actual efficacy and (b) the contribution of professionals to the development and practical relevance of research and the advancement of scientific knowledge in this field.

1.2   The Main Gap in the Articulation Between Scientific Knowledge and Professional Practice

The most elementary and probably most critical tension between the knowledge produced by academics and scientific researchers and the knowledge applied by practitioners in the organizational contexts can be expressed in the allegedly irreconcilable binomial between rigor and relevance.

Briefly, the process of producing scientific knowledge is focused on rigor, demanding a set of procedures duly typified and standardized to ensure robustness to its validity. However, practitioners make little use of this knowledge. As it seems,

rigor is not followed by the relevance of this knowledge for the problems that practitioners have to handle. In a broad definition, we could consider "practitioners" as the professionals "who make recommendations about the management or development of persons in organizational contexts or who advise those who do it" (Cascio & Aguinis, 2008, p. 1062). In other words, practitioners are those who somehow influence the dynamics of the organizations with impacts on efficiency, efficacy, and sustainability and on the performance and quality of life of individuals at work. In this sense, it comprises organizational and labor psychologists but also many other professionals with formal training in similar fields or not so similar such as managers and organizational consultants.

Naturally, the first question is whether or not this rigorous knowledge effectively exists and whether or not it is used in practice and, if not, why does it happen.

More than two decades ago, Murphy and Saal (1990) colloquially put the problem this way: "many times managers believe that half of what psychologists know is common sense, and the other half is wrong" (p. 1). Disregarding their visible exaggeration, this observation points out that organizational decision-makers do not use the knowledge produced by academics when they have to deal with problems that clearly fall into the field of work and organizational psychology such as personnel selection, organization, motivation, and leadership or to manage their performance. There is no formal requirement for consultants, managers, and other decision-makers to have had specific training in this area or acquired scientific knowledge about the topics comprised by work and organizational psychology, although most of their activities directly or indirectly affect the behavior and life of people at work (Rynes, 2012). Many times it is just about being impossible to use what you do not know. However, there are plausible explanations to when one knows but does not use it. We will explain it ahead.

In the last decades, the academics in the organizational area have increasingly defined their research problems following the university dynamic focused on their productivity, measured through the articles (or books) published with the results of their studies, regardless of any relationship with the problems discussed by practitioners in the organizations and, eventually, disregarding its contribution to the effective advance of knowledge and its applicability (e.g., Mohrman & Lawler, 2011; Van de Ven & Johnson, 2006). This strategy somehow contributed to intensify the divide and take out the emphasis from the desirable contribution of the knowledge produced to the society.

Some authors point out the policies promoted by the universities as the main reasons that lead to the negligible amount of knowledge produced that could be used by practitioners and that makes "hundreds of thousands talented researchers to produce few or no long-lasting (knowledge)" and is "a genuine source of contribution to knowledge" (Starbuck, 2006, p. 3). Analyzing the academic research development for more than 25 years, Mohrman and Lawler (2011) emphasized "carrying out research with incidence on theory and practice is not a prevailing guidance in the field of organizational and managerial sciences."

Even when the value of the produced knowledge, which is generally validated, could be very relevant to improve the organizational practices' efficacy, practitioners often neglect the use of such knowledge and decide for options eventually less

suitable. For example, one of the areas in which research has consistently produced robust knowledge with internal and external validity ensure, i.e., which can be generalized to the organizational contexts, is that of personnel selection. Instead of using duly standardized selection devices, including the structured interview, which has proven capacity of predicting the applicants' performance, managers or decision-makers usually prefer the subjective methods rooted in the belief that their intuitions are reliable (e.g., Grove, Zald, Lebow, Snitz, & Nelson, 2000; Highhouse, 2008; Lievens, Highhouse, & De Corte, 2005; Rynes, Colbert, & Brown, 2002). Several studies point out large use of non-structured interviewers, more than 50%, even when professionals are aware about the usual problems resulting from this sort of interviews that, they believe, may "happen with the others" but "not with them" (e.g., Church, 1996; Dipboye, 1997; Rynes, Barber, & Varma, 2000). Apparently, one reason for this behavior is that they believe that this way they have more flexibility in their analysis and decision-making, besides being "naturally very good in conducting selection interviews."

Another example of robust knowledge extremely relevant to the organizations refers to the mental capacity of the applicants. As Schmidt (2009) says, "keeping other things the same, higher intelligence leads to better performance in all roles" (p. 3). According to the author, the scientific research shows that, with three conditions present, personnel selection based on intelligence ensures significant improvements to the performance. These conditions refer to the labor force available in the market (that allows selecting) and measure intelligence with standardized testing, and performance in the role should have a variability higher than zero (e.g., is not mechanically cadenced). Studies show that, for functions demanding trained skills, " top workers can produce 15 times more than those on the performance baseline" (Schmidt, 2009, p. 7), and for more complex duties, the difference is even higher (Hunter, Schmidt, & Judiesch, 1990). However, despite these empirical studies and many others that systematically show that general intelligence is the singular variable with strongest capacity of predicting the individual performance, professionals still tend to disregard it and ground their decisions on other kinds of indicators, like school ranking, experience or personality testing, and, "obviously," the intuitive interview (e.g., Pinker, 2002; Rynes et al., 2002; Schmidt & Hunter, 1998).

We are emphasizing the selection area because this is perhaps the one where the robustness of knowledge produced is more evidenced, and, nonetheless, the gap between research and practice still persists. It is not surprising to find this gap in other areas, such as motivation, objective orientation, fairness, satisfaction, well-being, stress and occupational health, communication, creativeness, decision-making, teamwork, leadership, conflict, change, training, etc. (Rynes, Giluk, & Brown, 2007).

Somehow we could say that 70 years after the foresight of Kurt Lewin (1951) that pointed out the path to optimize the mutual fertilization between scientific and knowledge, these keep on following parallel paths such as the margins of a river with no bridge or, more exactly, with relatively weak bridges that isolate each community on a margin, developing different beliefs, cultures, and interests (e.g., Daft & Lewin, 2008; Vermeulen, 2007). Even when the theoretical knowledge is fully

developed on one of the "riverbanks," it should be tested by the degree to which it contributes to improving the organizational life (Mohrman & Lawler, 2011).

The perspectives that "there is nothing more practical than good theory" and that "we cannot understand reality until we try to change it" express what could be the maximalist design of articulation between research and practice in work and organizational psychology and in other organizational subjects. Living presently on the knowledge society, it is hard to conceive that we are not valuing these major guidelines.

Using Lewin's metaphor about the fields of powers and change, we should identify some of the likely restrictive factors that contribute to sustain these gaps and the driving forces that could contribute to overcome or minimize them.

1.3 From Rigor to Relevance and from Relevance to Rigor

In a simplistic view on the issue, it could be just about carefully translating scientific knowledge into a more accessible language to professionals so that they, after understanding it, apply this knowledge with the likely resulting benefits (Rousseau & Boudreau, 2011). However, and regardless if one knows if the "translated" remains as scientific knowledge (e.g., Kieser & Leiner, 2009), the existing gaps refer to a greater complexity that should be clarified.

1.3.1 Research Practices

Many factors can be identified that, in different ways and extents, seem to contribute to those gaps that refer either to the process of producing scientific knowledge or to the process of disseminating it.

Many of these factors are found in the academic community itself and in practices that for decades have ruled the production of scientific knowledge in organizational psychology and in other social and managerial sciences.

Firstly, there are tensions in the academic community regarding the relevance and value assigned to some research strategies and processes of knowledge validation, e.g., experimental studies *vs.* correlational studies, quantitative *vs.* qualitative studies, and synchronic *vs.* longitudinal studies. Considering the complexity of the phenomena under study, all these approaches can contribute to advance knowledge; however, the existing tensions are far from facilitating the required complementarity and integration.

In this context, we find dozens of theories or alternative—sometimes even discrepant—models about the same phenomena, for example, motivation and leadership. Therefore, we should firstly know to which extent the academic community agrees on the quality of the produced knowledge. A study carried out among senior academics in European countries found that of 24 essential scientific

discoveries in WOP, only four had a high degree of consensus about the existence of high-quality scientific evidence, in the sense of having well-grounded and evidenced knowledge (Guest & Zijlstra, 2012).

Within the framework of dialectic in knowledge production, the existence of competitive theories, which is naturally healthy but at the academic community level, is not worked on enough to produce basic principles that could be generalized and consensually validated to be disseminated and transferred for practitioners to use them in organizational contexts (e.g., Locke, 2002; Locke, 2009). Basic principles considered to be true, even if resulting from lab work, outside of the organizational reality, are naturally susceptible to be applied in some context. We should avoid applying them only when they prove not to be true.

The production of scientific knowledge in organizational psychology, just like in other sciences, can be basically scheduled around three axes: identify and observe the *effects* resulting from the action of some variables on others; analyze intervenient psychological processes or *mediate* mechanisms to explain that relationship; and specify *moderating* factors that clarify how and to which extent the context variability influences the manifestation of those effects (e.g., Fiske & Borgida, 2011).

According to the canon that rules research in psychology and other social sciences, the scientific knowledge rigor mainly results from the evidence of its internal and external validity. Internal validity is ensured by a set of methodological and technical procedures to be observed by the time of production, following standardized protocols. This way the knowledge produced, for example, in experimental or longitudinal surveys, may have a high degree of consistency and internal validity, i.e., rigor. External validity mainly refers to moderating and contextual factors that could specify and qualify the predictable conditions and effects of the knowledge application and its possibility of being generalized to different contexts.

The scientific community members must intervene in the evaluation of the validity of such knowledge. As there are no objective standards to verify the quality of such validity (of science), the commonly accepted criterion is the review by experts (peers) in the scientific area and their consensus. Usually there are higher or lower levels of this knowledge's rigor quality associated to the reputation of the journals in which it is published.

The rigor guarantee stipulated by consensus is likely to be one of the most critical factors to advance knowledge in Popper's perspective (Popper, 1959) and to the plausibility of applying it to the specific work contexts of the practitioners. The general principles do not embrace the specificity of the application context although they could (and should) also predict the effects flow according to some contextual moderators. In fact, beyond the production of knowledge or explicative theories, there is a great shortage of studies and theories about application to guide interventions in this field (Pritchard, Harrell, DiazGranados, & Guzman, 2008).

As many studies have proved, the hundreds of thousands studies in the last decades mostly focus on micro-problems of research, in an attempt to isolate variables that are far from being related to the problems faced by practitioners (e.g., Boehm, 1980; Cascio & Aguinis, 2008; Heath & Sitkin, 2001). Moreover, still

according to the culture that prevails in scientific works, the theory-guided approach of problems is valued above all, i.e., the identification of problems based on existing theories or production of theories that allow to define the research issues, dismissing the study of concrete issues of the organizational reality. This hinders professionals from feeling "empathy" for the problems and models of research that, by definition, are incomplete and fragmented. Rather, they adhere to solutions and cure-all of gurus that are easier to understand, more accessible, and disseminated in more attractive ways. However, knowledge uses to be very fragmented in these narratives, simplistically labeled as trans-contextual, i.e., ensuring to practitioners that it works in any concrete situation to which it is applied, typically with no major efforts (except for financial efforts, certainly). Therefore, the two research approaches—theory-oriented and problem-oriented—should go beyond being alternatives, to being applied in a complementary strategy that mutually improves one another in the production of rigorous, robust, and relevant knowledge. In this sense, the improved collaboration between academics and practitioners could be important in the logic of knowledge co-production. This implies engaging them in the definition of the problems to be surveyed and in the research design and results reading, mainly in relation to the contexts of application (Mohrman & Lawler, 2011; Van de Ven, 2007). This is an additive strategy in the sense of assuming the autonomous exercise of one of these approaches with its advantages and limitations, respectively.

Besides the issue of defining the problem (i.e., the relevance of the problem in the practitioners' light) the research results are published on scientific journals following quite standardized rules that are not accessible to professionals at large, or, when their contents are accessible, it is hard to decode and extract something that could be applied to their specific issues.

As aforementioned, in the last few decades, the tradition demands academics to publish on those journals, dismissing publications of professional or general nature and translating the constructs and results found into a language easy to understand (e.g., Adler & Harzing, 2009; Shapiro, Kirkman, & Courtney, 2007; Starbuck, 2006). Communication between academics and practitioners is clearly a relevant issue associated to the language and symbols employed, as well as to the different benchmarks (Benson, 2011; Rousseau & Boudreau, 2011).

Thus, the way the produced knowledge is disseminated, or not, is another factor that certainly contributes to the gap between research and professional practice.

Another aspect that has not been properly approached concerns the common standard that all studies must have a section where authors supposedly describe how the findings could give rise or be transferred to applications in the organizational context. This standard bears some equivocality. On one hand, as previously mentioned, most professionals have no access to those articles, and, as such, the applicability section usually has no practical outcome because, in fact, it will recommend or suggest applications to other researchers and not to practitioners. On the other hand, the simple random reading of any of such sections shows that the suggestions of applicability are usually at such a high level of abstraction and generality that they can hardly be read as guidance toward concrete action in the organizational reality. This is partially understandable, since a specific result should not be generalized

and fragmented due to the number of variables involved. In other words, this practice seems to be more a trap of "relevance" than an effective exercise of contributing to improve the professionals' practices.

In order for this section to be more useful as prescription on *what to do* and *how* to work in organizational contexts, the authors should combine the results found and the accumulated knowledge on the topic or issue of their research. Moreover, they should also articulate with the knowledge of practitioners themselves, such as consultants, technicians, or organizational decision-makers.

1.3.2 The Practices of Practitioners

On the professionals' side, many factors play a role in the problem persistence and in the belief that scientific knowledge does not add value to their "empirical" and "intuitive" practices (e.g., Rynes, 2012). Strictly in instrumental terms, a highlight is the short access to scientific journals and short time to update scientific knowledge. This leads them to decide for accessing the general or open media, printed or Internet material, whose reliability may vary a lot, including popular books with accessible and appealing language publicized, for example, by the industry of gurus (e.g., Rynes, 2012). These objective factors should be added with other factors that are so determinant, or more, to the decision to not apply the research results, as described below.

First of all, there is a somewhat paradoxal attitude among the professionals about what they consider to be relevant and useful scientific knowledge to their concrete situation (Highhouse, 2008). On one hand, when they are familiar with some basic principles resulting from research that are general by definition, such as any scientific law, they consider that these are not fully applicable to their working context considering the large number of variables and their complexity (e.g., Boehm, 1980; Highhouse, 2008). On the other hand, they hunger for simple and simplified ideas believing that there is one single solution to different situations and organizations, regardless of how complex and different they are, easily adhering to fads and tendencies that the authors persuasively cease to demonstrate.

Frequently the practitioners tend to follow the common sense, easily accepting ideas, "facts," examples, and intuitions based on their personal experience or on sources they rely on, such as the "ready-to-use ideas" proposed by popular authors that are attractive and relatively easy to use since most of them are simplified or simplistic ideas that one solution could serve to a wide range of situations and contexts. The easy acceptance with no critical scrutiny by the practitioners deserves to be studied.

Secondly, besides the scientific knowledge, there are other forms of knowledge that could be efficaciously mobilized to solve problems in the organizations. Throughout their working experience, the professionals develop empirical knowledge that could be transferred to new situations, with highly efficacious application. Expertise associated to the continued exercise of an activity enables the development of cognitive standards that facilitate diagnosing of problems and seeking for practical solutions. According to some studies, 10 years of work is enough time to

build professional expertise capable of significantly improving the practitioners' performance efficacy (e.g., Ericsson, 2006; Simon, 1996).

Likewise, professional consultants develop empirical knowledge and intervention models whose application could be efficient to solve organizational problems (e.g., Van de Ven, 2007).

So, to address the complexity of concrete problems, many times with singular nuances, the knowledge generated by the three aforementioned sources (research, consultancy, and professional experience) should be mobilized and combined to increase the likely efficacy of the decision or intervention.

Thirdly, the power games in the organization should be considered. While the predictable beneficial effects of applying the scientific knowledge are clear, they decide for not applying it, managing problems according to the interests and commitments of the involved players, not compromising the practices in use in the organization as aforementioned. In other words, we cannot assume that practitioners effectively want to anchor their decisions in a strictly rational analysis of the problems. Frequently, they prefer to think of them according to criteria of usefulness and power strategies (e.g., Latham & Whyte, 1994; Pfeffer & Sutton, 2000). On the other hand, a relatively expanded aspect of the WOP professional exercise is performed by consultancy services that have only indirect influence on the organizations' decision-makers.

In addition, the insufficient learning of scientific knowledge and critical thinking to duly analyze the problems and change usual practices is very frequent and refers to another associated gap: the research-education gap.

1.4   The Research-Education Gap

Typically, the university education practices fail in duly fostering the scientific spirit and critical thinking of students. Since as students they did not learn and train the process of production and validation of scientific knowledge, they cannot acquire competences that are increasingly crucial in the scope of the knowledge society, in order to know how to search for the proper information and rigorously filter data and information available today. Paradoxically, the shortage of these competences makes many professionals unable of untangling, amidst the abounding information, the most useful and applicable one to the problems they cope with everyday in the organizations.

Therefore, one could say that the gaps between research and practice start being cultivated in the university, by using pedagogical practices in which most students had no opportunity of getting acquainted to and training the process of production and validation of scientific knowledge or employing the critical thinking techniques to the theories and results of the surveys. They are more exposed, when exposed, to the updated results of the research than to the permanent development of knowledge, which is the distinctive feature of scientific knowledge and an example of critical thinking.

When this happens to professionals during their university studies, they cannot be expected to further seek for scientific knowledge and use the critical thinking to apply them to the problems they have to solve.

As such, many professionals are not duly trained to keep pace with the general, technological, social, and organizational changes of the last decades or to incorporate to their benchmarks and practices the new knowledge that keeps on being produced. Let's recall some changes since the year 2000 and the new realities that emerged: Facebook and other social networks, iPhone and other smartphones, iPad and other tablets, virtual work, scholarship bubbles, poor work, new generations in work, etc.

In face of the uncertainties associated to fast and tempestuous changes as those we are seeing, any professional should update knowledge to feel confident to solve problems. However, in opposition to the hunger for scientific knowledge, they are seduced by other types of knowledge, those skillfully packaged, easily accessible, generalized by the peers, and easy to memorize. Mastering any scientific literacy is useful to qualify managers and other professionals to systematically try to ensure reliability and usefulness of indicators and metrics on the organization and its activity (Rousseau, 2012a, b). On the other hand, an overwhelming majority of the information available on the web cannot ensure that the proposed interventions or decisions are the most suitable, since the information must be filtered to learn which is more reliable in terms of rigor and quality, which can lead to not using it or using the wrong information. The lack of scientific literacy is an objective obstacle to the proper use of this information and to fill in the research-practice gap.

In many disciplines, students are not socialized enough in the culture, methods, and techniques of scientific knowledge production or critical thinking and the rigorous evaluation of the information and its sources. Maybe one of the main barriers to the use of research results in the professional activity is the fact that students have not developed this sort of scientific literacy skill. Sometimes, they do not even get in touch with the research results during university, and thus, their study is basically based on academic handbooks or popular books that disseminate their topics of study. In other words, not only they do not learn to think critically according to scientific rigor standards but also they do not learn to seek, identify, select, and evaluate the information publicly available.

Specifically in organizational fields, there is a frequent gap between what is taught and what the research says (Charlier, Brown, & Rynes, 2011). Since most of the information provided, mainly on the web, does not have to comply with quality, rigor, and validity standards, and since the vast majority of professionals lack those skills, we find a seemingly paradoxal situation: the greater the volume of information available, the less professionals tend to use scientific results in their decision-making or when they try to implement interventions. This fact suggests that the research-education gap deserves special attention, and the pedagogic practices of several university courses should be adjusted.

The educational approaches based on the theory of cognitive effort combined with the models on expertise development in academic and professional performance suggest a set of guidance on very efficacious pedagogical practices based on scientific evidence. The path between the novice (usually still at the university) and

the expert (usually many years after concluding the formal education) includes many stages of complexification of the cognitive schemes and requires different types of learning and several resources, namely, cognitive, memory, perception, and thinking, among others. Considering the differentiation proposed by Hatano (e.g., Hatano & Inagaki, 1986) further generalized between routine expertise (repetitive work, solving well-defined everyday problems) and adaptive expertise (capacity of solving complex and unexpected problems, transferring competences and knowledge for contexts characterized by high degrees of uncertainty), the pedagogical practices should provide a large number of opportunities to develop the adaptive expertise that will be transferred and incremented in further professional contexts.

This way, if memorizing concepts, creating and organizing cognitive schedules, and training and optimizing their use are necessary, learning to mobilize these cognitive resources to solve predictable and unpredictable problems and make decisions in different contexts is crucial in times when the complexity of actual situations and the speed required to work are consistently increasing. To overcome the research-education gap, the pedagogical processes should ensure that students develop competences to learn to permanently update their knowledge over life, seek reliable information, learn to solve complex and unexpected problems, learn to critically differentiate the validated and robust information from wrong or biased information, and, above all, develop the capacity of learning and adjusting to new situations. The development of these competences demands a learning process capable of maximizing critical thinking and the capacity of properly applying concepts and theoretical models, as well as to solve complex problems. Moreover, it requires the combination of these cognitive factors with affective and motivational aspects that influence the performance. Such a pedagogical process will maximize learning even more if it demands students to train the critical analysis of opinions, beliefs, and facts and to get familiar with the formulation and testing of hypothesis to solve problems (Goodman & O'Brien, 2012) and gradually acquire self-regulation and self-efficacy techniques. Zimmerman (2002) suggests several self-regulation techniques to be developed, notably self-monitoring, self-evaluation, goal setting, and task strategies. The education methods per se do not enable this learning but how they are combined and integrated in a scientific evidence-based education approach. For example, "short exhibition sessions could be alternated with cases or other activities" (Zimmerman, 2002, p. 317). This way, the concern about evidence-based learning is not based on a specific pedagogical method.

1.5 Knowledge Based on Professional Experience

The professional experience of managers, consultants, and other professionals reflects the repeated practice and the resulting specific knowledge and may be a highly specialized tacit knowledge. Excluding repetitive automatisms, learning based on self and the others' experience is not as easy and direct as some simplistic approaches consider and could result in highly biased and wrong knowledge

(Denrell, 2003). The accumulation of professional experience in one single domain could be translated into adaptive expertise if it is effectively part of a signification network developed by the individuals. In many areas, this process can take up to ten years of practice (Chase & Simon, 1973; Ericsson, 2006; Hoffman, Shadbolt, Burton, & Klein, 1995; Sutcliffe, Weick, & Weick, 2009). The development through different stages from newcomer to the professional world or a novice in Hoffman's and collaborators' (1995) terminology and the expert in a given field of activity is not only about accumulating years of practice, since individuals can remain in intermediate stages for long and distinct periods.

The knowledge ensuing from the individuals' experience may overlap their beliefs and opinions and level out eventual biases, mainly if they are used to critically analyze these experiences and establish cognitive standards that enable them to "intuitively" recognize configurations in the existing situation and potential ways of action and to efficaciously analyze complex problems (Simon, 1996). In these cases, the combination of this source of evidence with other sources of information, namely, the scientific one, can be extremely useful.

However, the mere professional experience is not enough to ensure this effort. Rather, it is envisaged as a substitute of other sources of information, since professionals tend to trust their experience, finding no reason to try to seek different information.

Therefore, evidence-based practice demands conscious and focused effort by the professionals as an alternate to automatism, usual practices, and quick decision-making processes. These are common actions in the everyday management, many times based on low-quality information, as can be the personal opinion and experience, the best practices, and the leaders' opinions. Making decisions does not necessarily demand more time but, above all, a permanent critical and proactive attitude base on more than one source, which systematically challenges and checks the reliability and relevance of the information being used. What effectively defines the decisions is not the evidence itself but its analysis and interpretation jointly with the expected goals. In this process, information usually is incomplete, and in most situations, problem-solving and decision-making remain probabilistic but more likely to be responsive. Synthetically and in pragmatic terms, this critical attitude means making systematic considerations before making a decision: "which evidence corroborates it?," "to which extent is this information reliable?," and "is this the best evidence available?" (Rousseau, 2012a, b). These questions are applicable to the different types of information that should be analyzed. Moreover, they assume the capacity of sorting the high-quality level out of the low-quality level of the research available.

The factors outlined above, associated to the gap between research and practice, play as obstacles to bridging the two sides. Therefore, this approach suggests that academics should enhance their efforts to effectively shorten this gap, producing investigation that is simultaneously rigorous and relevant.

1.6   Options to Shorten the Research-Practice Gap

As aforementioned, this problem is not specific to the work and organizational psychology. Many other subjects face the same problem. Among these, the field of organizational management and behavior is where the debate is more persistent. The area actively tries to bridge the two worlds inspired by the solutions applied by medicine for some decades now regarding the production and availability of systematic literature reviews.

1.6.1   Systematic Literature Review

In the 1980s, a critical problem of medical practice was identified. It was found that most physicians that exercised the profession did not incorporate into their practice the advanced scientific knowledge in subjects that contribute to medicine (e.g., Smith, 1991).

It brought about the urgent need to learn how active physicians could remain updated, not only regarding knowledge about baseline sciences such as the most suitable intervention procedures and protocols for the patients. The gap was so large that gave rise to the so-called evidence-based medicine movement that aims, above all, to analyze and improve the medical interventions' efficacy (Sackett et al., 1997).

In brief, the approach started from the need of translating and publicizing the results of scientific research in formats easy to understand and accessible to professionals. The last decade has seen an unprecedented multiplication of journals and a true flood of scientific articles published, sometimes making impossible for an individual to process the whole information produced.

The methodology of systematic literature review was then developed. Despite some common aspects, it differs from the customary narrative reviews and meta-analyses that naturally remain crucial in the scientific work (Denyer & Tranfield, 2009; Petticrew & Roberts, 2006).

The systematic literature review aims to analyze all studies relevant to a given question following clear methodology, explicit in the criteria and procedures used and replicable by other researchers to critically identify what is really known or not about the topic or problem in question (Petticrew & Roberts, 2006). The studies to be comprised depend on the specific objectives and the issue to be analyzed. These could be quantitative, qualitative, experimental, or correlational and may have been published or not.

It is not just about summarizing the existing literature but to try to answer a problem considered to be relevant. This methodology has proven to be very useful to systematize what is known about the efficacy of interventions in the fields of medicine and of public and social and education policies, which already have thousands of reviews available to the public. For example, in the field of medicine in the 1990s, the Cochrane platform (Cochrane Collaboration) was created and became the main repertoire of knowledge available to medicine professionals. Today, it has more than 4000 systematic reviews. In the field of social policies, the Campbell Collaboration

already has hundreds of reviews, and many other movements have emerged in other areas (consult evidencebasedmanagement.com).

This review is different from usual reviews, named narrative reviews, in many facts mainly because it deliberately tries to prevent the researcher's bias, making it very clear and explicit from the beginning what methodology was used to select the works to be analyzed. It also differs from the meta-analytical review as it uses statistical procedures to integrate the results of several empirical studies into the quantitative estimates, such as the explained variance and effect size (Cooper, Hedges, & Valentine, 2009).

Schematically, the systematic literature review methodology comprises five main stages: (1) review planning, (2) inventory and location of studies, (3) evaluation of their contributions, (4) analysis and summary of information, and (5) report on the best evidence (Briner & Denyer, 2012; Petticrew & Roberts, 2006). The proper use of the methodology is a key factor to the quality and eventual usefulness of the systematic review. To that, the essential principles of the scientific knowledge production should be applied to the review. Sometimes, the narrative literature reviews miss these principles, becoming subject to biases associated to the argumentation purposes of the authors (Petticrew & Roberts, 2006).

The results of a systematic literature review are useful to research in that they can not only contribute to test and develop theories, including explanatory ones (Petticrew & Roberts, 2006), but also specify what is known, identify the topics or problems that lack evidence or quality, and demand more or better studies (Briner & Denyer, 2012). As one of its main goals, the results of the systematic literature review also contribute to making the existing scientific information available to professionals. Due to the process of production and dissemination of this information, it is usually dispersed and with contradictory and inconsistent results that are not easily understood or integrated by the professionals. Today, most of the empirical studies published are not even replicated due to publishing and university policies. This makes any isolate study weak and less useful than a systematic review of all studies related to the cause in question.

It is not about giving a specific answer about what is done in a given situation but about categorizing and organizing what is known or unknown and, in this sense, providing valid knowledge that helps in making decisions in the concrete contexts in which professionals work. A systematic literature review usually shows that we know less about a given issue than we believe we know (Petticrew & Roberts, 2006). The difficulties of making a decision in concrete contexts result from the degree of uncertainty involved. While some of these uncertainties may be of structural nature (i.e., are part of the nature of the phenomena in question and of their unpredictability) others ensue from the limited and low-quality information available or from its processing. In these cases, the systematic literature review could definitely contribute to mitigate ignorance and increase the professionals' efficacy (and of researchers, whenever applicable). The greater the uncertainties associated with likely interventions or decisions, the greater the potential usefulness of the systematic reviews related to the issues in question, since these make evident and provide a kind of validated knowledge. However, the systematic reviews have their own limitations ensuing from the scope and assumptions about the issue being approached

and the quality of the information analyzed. Therefore, it is not a "miraculous" solution to all interventions or professional decisions.

1.6.2   The Evidence-Based Practice Movement

As aforementioned, inspired in this approach and methodology tested in medicine, a movement named evidence-based management also came about in the field of management. According to Rousseau (2012a, b), one of its main advocators, evidence-based management is the "management practice systematically based on management, which incorporates scientific knowledge into content and decision-making processes" (p. 3). This movement intends to expand the use of scientific knowledge in management education and in the everyday practice of professionals, improving their knowledge and competences and emphasizing critical thinking, information analysis, and decision-making. For this purpose, different ways of building and strengthening the bridges between scientific research and professional practice have been inventoried and made available. Some of these have proven their usefulness in other areas such as medicine, social policies, and education (e.g., Center for Evidence-Based Management, www.cebma.org).

Basically, this movement tries to promote quality to managerial decisions and assist professionals to critically evaluate the information they have, namely, the beliefs, "pre-made ideas," fashions, and the "quick fix" offered by gurus and other professionals. Decisions should be based on the conscious, explicit, and critical use of the information available from different sources combining, for example, scientific knowledge, existing data or data collected in the organization, the empirical experience of decision-makers or other stakeholders, etc. (Briner, Denyer, & Rousseau, 2009; Rousseau & Gunia, 2016). Therefore, it is not about making decisions exclusively based on scientific information. However, this information should be one of the important sources to be considered, especially when it is of high quality. But this is far from happening today. In fact, as aforementioned, several studies have shown the large gap between scientific research in management and the professional practices. Professionals choose to base their decisions mainly on their personal experience, subject to all widely known biases, or on the experience of other organizations quite different in their cultures and strategies. Even the use of the so-called best practices could be a bad decision if these are not subjected to a critical analysis, mainly in regard to context and the specific conditions of application (Denrell, 2003). Briefly speaking, the basic assumption of evidence-based management is that best-quality decisions bring more positive consequences to organizations, to the individuals working in there, and to the society.

Briner and Rousseau (2011) tried to organize some features of the evidence-based practice and estimate their prevalence in work and organizational psychology including "the term 'evidence-based' is used or well-known"; "the latest discoveries and research abstracts are available"; "primary research articles and traditional literature reviews are accessible to practitioners"; "state-of-the-art practices, panaceas, and

fashionable ideas are handled with healthy skepticism"; "clients request evidence-based practices"; "practitioners' decisions are integrative and based on the four information sources" as aforementioned; and "the initial training and continued professional training adopt evidence-based approaches" (p. 9). The authors also believe that these features are not generalized in the practice of work and organizational psychologists.

In operational terms, the evidence-based practice demands the competence of translating concrete problems into questions, the systematic search for information (evidence) that allows plausible answers, the critical analysis of the reliability and relevance of such information, weighing and adding information, incorporating the information into the decision-making process, and evaluating the consequences of the decision made. According to this approach, at least four sources of evidence should be considered: scientific information, organization data and facts, personal experience of professionals, and values and concerns of the decision stakeholders, ethically answering the impact of decisions (Rousseau, 2012a, b).

As such, the evidence-based (information-based) practice involves a *process* of collecting and analyzing the information and of decision-making, as well as the quality of the *content* of information from different sources (Briner & Rousseau, 2011).

1.6.3   Which Strategy Should Be Implemented in Work and Organizational Psychology?

The advances in other areas, notably the evidence-based movement, allow forecasting the advantages and difficulties of expanding this approach in work and organizational psychology (e.g., Bartunek, 2014; Rousseau & Gunia, 2016).

Basically, the strategy being implemented in the managerial field is fully applicable to the field of work and organizational psychology as well as in other areas of social and organizational sciences.

We could then systematize the main aspects that could contribute toward the general application of this approach in the WOP field, mainly regarding the three pillars that are more directly involved.

At the research level, what matters most is that the nature of knowledge produced, due to its degree of abstraction, generality, and validation process mainly regarding mechanisms that explain the effects of the variables being studied, tends to be far from the concrete problems posed to professionals. In the theory-oriented research, researchers define the problem and methods of study, and the practical implication may be an immediate concern or not (Fiske & Borgida, 2001; Hodgkinson & Starkey, 2011). In some sense, this gap is crucial to the effective advancement of scientific knowledge. However, the theory-oriented research could and should be complemented by strategies based on real problems of the organizational life. This will surely be easier in the analysis of context moderators but could also enhance the study on mediating processes. In other words, it is not about alternatives, as these are sometimes considered, but of complementarity and mutual fer-

tilization, since both the theory-oriented research and problems-oriented research can contribute to enhance the professional practice.

In this sense, researchers and organizational professionals should be more articulated in at least three levels. On one hand, research could benefit greatly if professionals are viewed as stakeholders in the identification and definition of problems to be investigated. This collaboration could give rise to creative insights by crossing the practitioners' experimental knowledge and the theoretical knowledge of researchers. Instead of downgrading the nature of the knowledge of consultants and other organizational professionals, it should extract from this knowledge—with all of its limitations—ideas and concepts on the problems and respective strategies of solutions that could enhance the research benchmark. On the other hand, the analysis of research problems thus identified allows the researcher to better view the likely transfer of knowledge produced to the organizational contexts. This could facilitate "translating" this into a more accessible language and disseminating it among the professionals. Finally, any professional could better recognize its applicability since the problem is somehow rooted into the organizational practice (Hodgkinson & Starkey, 2011).

Today the systematic literature reviews are suitable ways to identify and provide the existing knowledge and persistent failures. This could be extremely useful for researchers and practitioners, regardless if they are consultants or organizational decision-makers. However, not every important problem posed to professionals is eligible for a systematic knowledge review. Moreover, there is no guarantee that the results of the literature systematic reviews can be effectively applied, because many professionals still undervalue or do not recognize them.

At the university level, the WOP should incorporate the techniques suggested and implement them in the scope of evidence-based education, which has been summarized above. This strategy demands relatively deep changes to the teaching/learning methodologies used by many psychology courses. The acquisition and development of critical thinking competences and proper degree of scientific literacy should be explicit goals, subject to evaluation, in any WOP course. Although in this aspect psychology is distinguished for its positive perspective in face of most of the other social sciences, stronger and more focused efforts are required to overcome this problem. The acquisition of competences to perform systematic literature reviews could be a curriculum component both in master's course and doctoral programs in work and organizational psychology, notably those with a component of education for executive officers or formally held in cooperation with corporations and/or other organizations. Likewise, the master's and doctoral courses should comprise training in elaboration and publication in general or professional journals of articles to disseminate the topics or issues being investigated.

The level of professionals requires permanent updating with the results of research in their fields of work. This, in turn, may demand the acquisition or development of cognitive competences to improve their benchmarks and challenge their practices.

The collaboration with academics to identify concrete problems or to disseminate knowledge is an extremely enriching strategy for their professional practices.

As aforementioned, two kinds of professional players deserve special attention: the consultants that serve as knowledge facilitators and produce and disseminate knowledge and the organizational technicians and decision-makers as likely final users of the knowledge that will be incorporated to their practice and professional experience. Regarding dissemination, researchers should be attentive to any eventual differentiation of competences, concerns, and objectives of the potential targets of the knowledge they are trying to disseminate. A specific target of players is the senior management of the organizations, mostly graduated in areas very different from the WOP. As clients, these managers play a core role to change the existing practices but may not be sensitive to the importance of the evidence-based decision. Therefore, the information to be disseminated among these players should be designed specifically in this sense. This is true not only for the *contents* of the evidence-based knowledge but mainly to the decision-making *process* implied by this approach. As well evidenced in the WOP, the emotions, biases, prejudices, intuitions, temporal pressures, and other behavioral drivers are frequently engrained into the decisions made by these organizational players, disregarding the evidence available. The academics should properly translate the knowledge they produce and actively take on the role of publicizing this evidence among those players and the processes that could reduce uncertainty of contingences associated to their decisions and their consequences to individuals and organizations (e.g., Hodgkinson, 2011; Morrell, 2008).

1.7 Findings

As observed in other scientific fields, the work and organizational psychology is also marked by the weak link between knowledge produced in the scientific research and the professionals' practices in organizations.

Literature has unveiled several factors that explain the tensions at stake and that could contribute to maintain and expand the gap between the world of academic knowledge and the professionals' practices.

The researchers' practices and beliefs about the quality of the empirical evidence produced by them and their usefulness, professionals' beliefs and attitudes toward the relevance of that knowledge, and the decision-making practices and processes rooted in their activities, as well as the prevailing pedagogical models in the education on this specialty of psychology at universities that fail to work on the tension between rigor and relevance, have contributed to sustain this gap and hinder the desired articulation between research and professional practice.

Although university education in psychology differs from most of the other social sciences for its concern about scientific approaches and methodologies, the students' education usually comprises few bridges to the margin of application in the professional practice. This leaves the construction or not of these bridges to the contingencies of the organizational socialization process of the graduate, eventually replicating their supervisors' practices and, maybe, even reproducing the gap that should be narrowed.

As this chapter tried to make clear, the professional practice of work and organizational psychologists will be much more efficient and ethically responsible, considering its effects on the individuals' organizational lives, if they can match at least four information sources: the expertise built on their professional experience, the scientific knowledge available and relevant to the situation, the information specific to the intervention context, and the perspectives of those affected by any decision made.

Researchers and the universities, assisted by professionals and other stakeholders, play a core role to narrow the gaps found, ethically taking on their responsibility not only for the rigor of the knowledge they produce but also for the effort of making it available to the society. Considering the significant advances in other professions and the means and processes used, we believe that work and organizational psychology can come to more vigorously lead the prevailing academic and professional practices and cultures in this direction.

References

Adler, N. J., & Harzing, A. W. (2009). When knowledge wins: Transcending the sense and nonsense of academic rankings. *Academy of Management Learning and Education, 8*, 72–95.

Anderson, N., Herriot, P., & Hodgkinson, G. (2001). The practitioner-researcher divide in industrial work and organizational (IWO) psychology: Where are we now and where do we go from here? *Journal of Occupational and Organizational Psychology, 74*, 391–411.

Bartunek, J. M. (2014). Academic–practitioner relationships what NTL started and what management scholarship keeps developing. *Journal of Applied Behavioral Science, 50*(4), 401–422.

Benson, G. S. (2011). Popular and influential management books. In S. A. Mohrman & E. E. Lawler (Eds.), *Useful research: Advancing theory and practice* (pp. 2289–2308). San Francisco: Berrett-Koehler Publishers.

Boehm, V. R. (1980). Research in the "real world"—a conceptual model. Personnel Psychology, 33: 495–503. doi: 10.1111/j.1744-6570.1980.tb00479.x

Briner, R. B., & Denyer, D. (2012). Systematic review and evidence synthesis as a practice and scholarship tool. In D. M. Rousseau (Ed.), *Handbook of evidence-based management: Companies, classrooms and research* (pp. 112–129). New York: Oxford University Press.

Briner, R., & Rousseau, D. (2011). Evidence-based I-O psychology: Not there yet. *Industrial and Organizational Psychology, 4*, 3–22.

Briner, R. B., Denyer, D., & Rousseau, D. M. (2009). Evidence-based management: Concept cleanup time? *Academy of Management Perspectives, 23*, 19–32.

Cascio, W. F., & Aguinis, H. (2008). Research in industrial and organizational psychology from 1963 to 2007: Changes, choices, and trends. *Journal of Applied Psychology, 93*(5), 1062.

Charlier, S. D., Brown, K. G., & Rynes, S. L. (2011). Teaching evidence-based management in MBA programs: What evidence is there? *Academy of Management Learning and Education, 10*(2), 222–236.

Chase, W. G., & Simon, H. A. (1973). Perception in Chess. *Cognitive Psychology, 4*, 55–81.

Church, A. (1996). From both sides now: The employee interview—the Great Pretender. *TIP: The Industrial Psychologist, 34*(1), 108–117.

Cooper, H., Hedges, L. V., & Valentine, J. C. (Eds.). (2009). *The handbook of research synthesis and meta-analysis*. New York: Russel Sage Foundation.

Daft, R. L., & Lewin, A. Y. (2008). Perspective: Rigor and relevance in organization studies: Idea migration and academic journal evolution. *Organization Science, 19*(1), 177–183.

Denrell, J. (2003). Vicarious learning, undersampling of failure, and the myths of management. *Organizational Science, 14*(3), 227–243.

Denyer, D., & Tranfield, D. (2009). Producing a systematic review. In D. A. Buchanan & A. Bryman (Eds.), *The SAGE handbook of organizational research methods* (pp. 671–689). London: Sage.

Dipboye, R. L. (1997). Structured selection interviews: Why do they work? Why are they underutilized? In N. Anderson & P. Herriot (Eds.), *International handbook of selection and assessment* (pp. 455–473). New York: Wiley.

Ericsson, K. A. (2006). An introduction to Cambridge Handbook of Expertise and Expert Performance: Its development, organization, and context. In A. K. Ericsson, N. Charness, P. J. Feltovich, & R. R. Hoffman (Eds.), *Cambridge handbook of expertise and expert performance* (pp. 3–19). Cambridge: Cambridge University Press.

Fiske, S. T., & Borgida, E. (2011). Best practices: How to evaluate psychological science for use by organizations. *Research in Organizational Behavior, 31*, 253–275. DOI: 10.1016/j.riob.2011.10.003

Goodman, J. S., & O'Brien, J. (2012). Teaching and learning using evidence-based principles. In D. M. Rousseau (Ed.), *The Oxford handbook of evidence-based management* (pp. 309–336). New York: Oxford University Press.

Grove, W. M., Zald, D. H., Lebow, B. S., Snitz, B. E., & Nelson, C. (2000). Clinical versus mechanical prediction. *Psychological Assessment, 12*, 19–30.

Guest, D. E. & Zijlstra, F. R. H. (2012). 'Academic perceptions of the research evidence base in work and organizational psychology: A European perspective', *Journal of Occupational and Organizational Psychology, vol 85*, No. 4, 542–555.

Hatano, G., & Inagaki, K. (1986). Two courses of expertise. In H. A. H. Stevenson & K. Hakuta (Eds.), *Child development and education in Japan* (pp. 262–272). New York: Freeman.

Heath, C., & Sitkin, S. (2001). Big-B versus Big O: What is organizational about organizational behavior? *Journal of Organizational Behavior, 22*, 43–58.

Highhouse, S. A. (2008). Stubborn reliance on intuition and subjectivity in employee selection. *Industrial and Organizational Psychology: Perspectives on Science and Practice, 1*, 333–342.

Hodgkinson, G. P. (2011). Why evidence-based practice in I-O psychology is not there yet: Going beyond systematic reviews. *Industrial and Organizational Psychology, 4*, 49–53.

Hodgkinson, G. P., & Starkey, K. (2011). Not simply returning to the same answer over and over again: Reframing relevance. *British Journal of Management, 22*, 355–369.

Hoffman, R. R., Shadbolt, N., Burton, A. M., & Klein, G. A. (1995). Eliciting knowledge from experts: A methodological analysis. *Organizational Behavior and Human Decision Processes, 62*, 129–158.

Hunter, J. E., Schmidt, F. L., & Judiesch, M. K. (1990). Individual differences in output variability as a function of job complexity. *Journal of Applied Psychology, 75*, 28–42.

Kieser, A., & Leiner, L. (2009). Why the rigour–relevance gap in management research is unbridgeable. *Journal of Management Studies, 46*(3), 516–533.

Latham, G. P., & Whyte, G. (1994). The futility of utility analysis. *Personnel Psychology, 47*, 31–46.

Lewin, K. (1951). *Field theory in social science: Selected theoretical papers*. Westport, CT: Greenwood Press.

Lievens, F., Highhouse, S., & De Corte, W. (2005). The importance of traits and abilities in supervisors' hirability decisions as a function of method of assessment. *Journal of Occupational and Organizational Psychology, 78*, 453–470.

Locke, E. A. (2002). The epistemological side of teaching management: Teaching through principles. *Academy of Management Learning and Education, 1*, 195–205.

Locke, E. A. (2009). *Handbook of principles of organizational behavior: Indispensable knowledge for evidence-based management*. New York: Wiley.

Mohrman, S. A., & Lawler, E. E. (2011). Research for theory and practice: Framing the challenge. In S. A. Mohrman & E. E. Lawler (Eds.), *Useful research – Advancing theory and practice* (pp. 9–33). San Francisco: Berrett-Koehler Publishers.

Morrell, K. (2008). The narrative of 'evidence-based' management: A polemic. *Journal of Management Studies, 45*, 613–635.

Murphy, K. R., & Saal, F. A. (1990). *Psychology in organizations – Integrating science and practice*. Hillsdale, NJ: LEA.

Petticrew, M., & Roberts, H. (2006). *Systematic reviews in the social sciences: A practical guide*. Oxford: Blackwell Publishing.

Pfeffer, J., & Sutton, R. I. (2000). *The knowing-doing gap: How smart companies turn knowledge into action*. Boston: Harvard Business School Press.

Pinker, S. (2002). *The blank slate: The modern denial of how the mind works*. New York: Viking.

Popper, K. (1959). *The logic of scientific discovery*. London: Hutchinson.

Pritchard, R. D., Harrell, M. M., DiazGranados, D., & Guzman, M. J. (2008). The productivity measurement and enhancement system: A meta-analysis. *Journal of Applied Psychology, 93*, 540–567.

Rousseau, D. M. (2006). Is there such a thing as evidence-based management? *Academy of Management Review, 31*, 256–269.

Rousseau, D. M. (2012a). Envisioning evidence-based management. In D. M. Rousseau (Ed.), *Handbook of evidence-based management* (pp. 3–24). New York: Oxford University Press.

Rousseau, D. M. (2012b). Organizational behavior's contributions to evidence-based management. In D. M. Rousseau (Ed.), *Handbook of evidence-based management* (pp. 61–78). New York: Oxford University Press.

Rousseau, D. M., & Boudreau, J. W. (2011). Sticky findings: Research evidence practitioners find useful. In S. A. Mohrman & E. E. Lawler (Eds.), *Useful research: Advancing theory and practice* (pp. 269–287). San Francisco: Berrett-Koehler Publishers.

Rousseau, D. M., & Gunia, B. C. (2016). Evidence-based practice: The psychology of EBP implementation. *Annual Review of Psychology, 67*, 667–692.

Rynes, S. L. (2012). The research-practice gap in industrial-organizational psychology and related fields: Challenges and potential solutions. In S. W. J. Kozlowski (Ed.), *Oxford handbook of organizational psychology* (Vol. 1, pp. 409–452). New York: Oxford University Press.

Rynes, S. L., Barber, A. E., & Varma, G. H. (2000). Research on the employment interview: Usefulness for practice and recommendations for future research. In C. L. Cooper & E. A. Locke (Eds.), *Industrial and organizational psychology: Linking theory with practice* (pp. 250–277). Oxford: Blackwell.

Rynes, S. L., Colbert, A. E., & Brown, K. G. (2002). HR professionals' beliefs about effective human resource practices: Correspondence between research and practice. *Human Resources Management, 41*, 149–174.

Rynes, S. L., Giluk, T. L., & Brown, K. C. (2007). The very separate worlds of academic and practitioner periodicals in human resource management: Implications for evidence-based management. *Academy of Management Journal, 50*, 987–1008.

SSackett,D. L., Richardson,W. S., Rosenberg,W., Haynes,R. B. (1997).Evidence-based medicine: How to practice and teach EBM. Edinburgh: Churchill Livingstone.

Sackett, D. L., Straus, S., Richardson, W., Rosenberg, W., & Haynes, R. (2011). *Evidence-based medicine: How to practice and teach EBM*. New York: Churchill Livingstone.

Schmidt, F. L. (2009). Select on intelligence. In E. A. Locke (Ed.), *The Blackwell handbook of principles of organizational behavior* (2nd ed., pp. 3–17). Oxford: Blackwell.

Schmidt, F. L., & Hunter, J. E. (1998). The validity and utility of selection methods in personnel psychology: Practical and theoretical implications of 85 years of research findings. *Psychological Bulletin, 124*, 262–274.

Shapiro, D. L., Kirkman, B. L., & Courtney, H. G. (2007). Perceived causes and solutions of the translation gap in management. *Academy of Management Journal, 50*, 249–266.

Silzer, R., Cober, R., Erickson, A., & Robinson, G. (2008). *Practitioner needs survey: Final survey report*. SIOP Professional Practice Committee.

Simon, H. A. (1996). *The sciences of the artificial* (3rd ed.). Cambridge: MIT Press.

Smith, R. (1991). Where is the wisdom? The quality of medical evidence. *BMJ, 303*, 798–799.

Starbuck, W. H. (2006). *The production of knowledge: The challenge of social science research*. Oxford: Oxford University Press.

Sutcliffe, K. M., & Weick, K. E. (2009). Information overload revisited. In K. E. Weick (Ed.), *Making sense of the organization (Volume 2) – The impermanent organization* (pp. 65–84). Chichester: Wiley.

Van de Ven, A. H. (2007). *Engaged scholarship: A guide for organizational and social research*. New York: Oxford University Press.

Van de Ven, A. H., & Johnson, P. E. (2006). Knowledge for theory and practice. *Academy of Management Review, 31*, 802–821.

Vermeulen, F. (2007). 'I shall not remain insignificant': Adding a second loop to matter more. *Academy of Management Journal, 50*, 754–761.

Zimmerman, B. J. (2002). Achieving academic excellence: A self-regulatory perspective. In M. Ferrari (Ed.), *The pursuit of excellence through education* (pp. 85–110). Mahwah, NJ: Lawrence Erlbaum Associates.

Chapter 2
Creativity at Work: Trends and Perspectives

Helenides Mendonça, Heila Magali da Silva Veiga, and Magno Macambira

2.1 Introduction

In this turbulent business world, organizations increasingly seek to have creative, thought-provoking employees in their workforce. Creativity favors the innovation process and puts organizations in a prominent position with their competitors. To answer the questions that involve creativity at work, there has been a profusion of studies developed in the last decades (Runco et al., 2016). Although creativity is not a recent theme in psychology, the field of organization and work studies was developed on this area and was enhanced with the famous work of Amabile (1996), who conceives creativity as a multidetermined phenomenon and inserts the role of context in the proposed theoretical model. In this way, several researches are developed with the purpose of understanding the concept of creativity and its antecedents and consequents.

The focus of this chapter is creativity in the organizational and work context. The definition of creativity most used in this field of knowledge specifies this to be a phenomenon related to the generation of new and useful ideas about the products, procedures, and work processes (Amabile, 1983; Oldham & Cummings, 1996; Shalley, Zhou, & Oldham, 2004). The main focus of this line of thinking is based on the notion that the work context can affect the creative performance of workers. The fundamental assumptions of the social psychology of creativity include (1) creativity exists in everyday life, as well as in the fields of science, literature, and the arts. Therefore, individuals with normal cognitive abilities can, in some way, produce

H. Mendonça (✉)
Pontifícia Universidade Católica de Goiás, Goiânia, Goiás, Brazil
e-mail: helenides@gmail.com

H.M. da Silva Veiga
Universidade Federal de Uberlândia, Uberlandia, Minas Gerais, Brazil

M. Macambira
Universidade Metodista de São Paulo, São Bernardo do Campo, São Paulo, Brazil

creative work; (2) there are levels of creativity within a given individual work; and (3) it is possible to increase creativity.

The international literature has widely investigated the organizational and individual factors that promote or create obstacles to the creative performance of employees, with studies that mainly investigate the stimuli to the detriment of those who analyze the barriers. In addition, there is a range of papers that are prescriptive (Bruno-Faria, Veiga, & Macêdo, 2008). In general, the research is not conclusive and cannot cover the complexity of the phenomenon.

Considering the lack of consensus on the antecedents and consequences of creativity and the fact that this is a priority area for the economic development of a country, this chapter aims to present a literature review on this topic. It will be emphasizing the relevance of researches on the development of creativity and will be discussing the strategies and techniques that foster the creative process at work. In addition, in the search to encompass the complexity of the construct, different investigative models were analyzed. These models evolve from a perspective focused on the individual as a creative genius for the socio-organizational perspective, in which the context emerges as a source of stimulus for creativity. The models, in general, present integrative structures at different levels of analysis.

2.2   Definition of Creativity

The theme of creativity has been approached in different areas of knowledge where it is a multidetermined phenomenon and has wide influence in the different domains of life. Although people usually think of the arts when it comes to creative functions, it is known that creative ideas are important in the business world. Creativity is essential in the production of new ideas, products, and services. In this sense, managers are eager to have a contingent of employees whose creative ideas flourish in abundance to solve problems and face new challenges.

The ampleness of this phenomenon in the field of work and organizational psychology (WOP) requires deepening the understanding of what creativity is, how and where it occurs and manifests itself, as well as what are its multiple determinants. Thus, studies focusing not only on the individual aspects of creativity but those of a contextual approach have gained prominence. In this field of knowledge, the definition of the phenomenon has not yet acquired a state of maturity and calls for studies that can cover the complexity of the phenomenon.

The notion of creativity stems from the Latin *creare*, which means to raise and to produce, related to *crescere*, which has the sense to increase and to grow. The word also originates in the Indo-European "Ker," which also means to grow. Therefore, the very origin of the word refers to the emergence of something that uplifts, grows, and develops. In the vernacular, creativity is defined as "quality or state of being creative" and "ability to create." The origin of the word leads us to the conception of movement, of creation, and of growth and development.

Specialized studies on creativity show that this construct evolved from an individual perspective, from biological roots, to an ecological approach, also focused on the context (Gomes, Rodrigues, & Veloso, 2016). The perspective of creativity as an individual aspect made the creative individual as a rare species among humans and made these "rare" humans linked to restricted groups who were always in search of great achievements and inspirations, such as artists and poets. The approach focused on the creative person that seeks to identify the general and specific skills, motives, and traits that lead a person to develop a creative product.

For researchers from a humanistic approach, creativity must be understood in a perspective of individual motivation (Batey & Furnham, 2006). The understanding of creativity centered on the "solitary genius" with the studies of Guilford (1956) and Stein (1953) being precursors. Further studies focus not only on the individual achievements of the creative genius but begin to take in consideration people's daily lives (Gomes et al., 2016). This does not mean that studies on the individual aspects of creativity have ceased but that a new paradigm emerges.

Researches on social psychology and personality define creativity in terms of innovation, which refers to ideas not yet presented; flow, which refers to the number of ideas conceived; flexibility, understood as the wideness and flexibility of reach of these ideas; and originality, which refers to ideas not previously known (Zhou & Hoever, 2014). In the field of organizational behavior, the concept that reaches greater consensus among scholars establishes creativity as defined by result. This result is generally comprehended by actions that bring something new and useful to work or to the company as products, services, business and management models, as well as work methods (Amabile, 1996; Zhou & Hoever, 2014). While creativity has as its characteristic the production of ideas, innovation includes production as also the implementation of ideas. In this sense, creativity crucially precedes innovation.

The concept of creativity has undergone revisions. This is how Glaveanu (2013) rewrites it from the four pillars established by Rhodes (1961, cited by Glaveanu, 2013), namely, the individual, the processes, the outcomes, and the environmental pressure.

From this perspective, the concept of creativity evolves to a structure called by it as the five As of creativity. In this model, the author includes the actors, the actions, the artifact, the audience, and affordance (Glaveanu, 2013). The author states that the theory of the four Ps focuses on individual's internal disorders, in their cognitive mechanisms, in future goods, and on the social context that condition the creativity. The theory of Glaveanu (2013) advances to a perspective that considers personal attributes in relation to the social context. Taking into account coordinated actions between psychological and behavioral manifestations, it considers the cultural context of the production of artifacts, as well as their evaluation, and, finally, considers the interdependence between creators and the material and social world. In synthesis, in the interrelationship between these variables is where creativity finds space to thrive.

International and national recent studies show that the focus is on the integrated perspective on creativity concept (Alencar & Fleith, 2003; Amabile, 1996; Gomes et al., 2016; Zhou, Hirst, & Shipton, 2012; Zhou & Shalley, 2003). In general, creativity has been defined by its results, such as creative ideas (e.g., Gomes et al., 2016; Zhou et al., 2012).

The standard definitions of creativity have been classified in a bipartite perspective. For Runco and Jaeger (2012), there are two criteria to be considered in the definition of creativity, which are originality and effectiveness. Therefore, for an action to be considered as creative, it is necessary that there be originality, once those that occur in the field of common sense, conventional and mundane, cannot be considered creative. The creativity is in the field of the new, original, unique, and exclusive. Although originality is important in the creative process, it is not enough. It is necessary that the action also be effective to be considered creative. The value of an idea, a product, or an action is in its effectiveness and not exclusively in originality (Zhou & George, 2001).

In other words, by definition, ideas will be considered creative when they fulfill the conditions of originality or uniqueness and effectiveness or usefulness. In the field of workplace, it is desired that creative ideas can also be applied to solve organizational problems. Nevertheless, these ideas need to be useful so managers can apply them effectively to develop new products, improve work processes, and solve labor problems. Willing to minimize the complaints about definition of creativity, Batey (2012) proposes a taxonomy that considers the following dimensions: (a) analysis level (individual, group, organizational, and cultural); (b) facet which refers to the aspect to be considered, more specifically, the four "Ps" (person, process, product, and place); and (c) measure level, which must be checked with the definition within the way the construct is measured, being possible to have objective measures, self-reporting, and others, such as expert assessment. Thus, the author proposes a matrix of $4 \times 4 \times 3$ to investigate creativity, which sums at least 48 different ways of measuring this variable.

Taken jointly, the different studies that seek to conceptualize this phenomenon allow us to assume that organizational creativity is a construct of greater complexity, since it integrates from the personal characteristics of employees (e.g., personality, intrinsic motivation, skills, technical knowledge, self-effectiveness) to relevant aspects of the organizational structure, social environment, job specifications, and interpersonal relationships established in the work environment, which encompass the dyad between managements and employees as well as peer relations.

2.3   Creativity: Approaches Focused on the Individual and Context

Early proposals on creativity suggest that this is a phenomenon of biological nature, focusing the creative potential on the individual (Piirto, 2004). In the field of individual dimensions, studies on the influence of personality, motivation, and affections on human creativity are highlighted.

Specifically regarding the relationship between creativity and personality, there is a long tradition of research (Barron & Harrington, 1981). Although the results are not conclusive, they show that some personality traits contribute more than others to

the expression of creativity, such as risk taking, tolerance to ambiguity, perseverance when facing of obstacles (Alencar & Fleith, 2003), and openness to change (Ma, 2009). The existence of robust and tested measures in different cultures makes easier the comparison of the investigations that include Big Five in their designs, although the measures of creativity are scarce (Batey & Furnham, 2006).

In part, divergences regarding the relationships between personality and creativity can be attributed to the way in which such variable is conceived. In general terms, assignments adopt one of two approaches: in the first, divergent thinking test is used as verbal fluency, for example. Another possibility is to ask a specialist to evaluate a given product. In this case, the findings present a positive relation of creativity with extroversion. As an explanatory hypothesis, this result can occur because the extroverts are risk takers and seek more stimulation allowing creativity to emerge. In the second approach, there is a positive relationship with openness to change; however, the findings are less robust and inconclusive (Batey & Furnham, 2006).

In spite of the findings, it is important to emphasize that the relationship between personality and creativity is complex. For example, extroversion presents itself as a predictor of performance in tests of creativity; however, on the other hand, introversion is a precursor of creativity among artists, and this probably occurs because artists spend much of their time with themselves (Batey & Furnham, 2006). The studies allow to state that personality can explain "one-fourth to one-third of the variation in creativity in the work environment" (Batey & Furnham, 2006, p. 400). However, for a person to reach his creative potential, other cognitive and situational requirements must be present.

Another important variable in the study of creativity is motivation, which has been considered as a strong predictor of creative performance. Although there is no consensus among authors about the relationship between intrinsic motivation and creativity, some consider motivation to be one of the main antecedents of creativity (Amabile, 1985; Kreitler & Casaki, 2009), while others state that relationships are less consistent from what have been hypothesized in the literature (Grant & Berry, 2011). Intrinsic motivation occurs when the person engages in some activity because it has an interest, satisfaction, or pleasure, taking the activity itself as a reward (Amabile, 1983).

Nevertheless, what seems to be consensual in the studies on the relations between personality and creativity is the existence of moderators and mediators in this relationship (Zhou & Hoever, 2014). In this way, intrinsic motivation has been configured as a mediator of the relationship between openness to change and creativity (Prabhu, Sutton, & Sauser, 2008). In later studies, intrinsic motivation was associated with high levels of creativity when workers were pro-socially motivated, that is, when employees were also motivated to consider their peers' perspectives (Grant & Berry, 2011). In addition, intrinsic motivation has had an indirect effect on creative performance, being moderated by the search for help (e.g., Mueller & Kamdar, 2011). The authors found this to be a complex relationship, since the search for help can either increase creativity or, depending on the help received, suppress the creative process.

Still in terms of individual aspects and their relation to creativity, the studies point to a confluence of positive associations between affection and creativity (Baas,

De Dreu, & Nijstad, 2008; De Dreu, Baas, & Nijstad, 2008). Experimental research shows that tenderness induces positively creativity, intrinsic motivation, and the capacity of problem solving, especially complex matters (Hennessey & Amabile, 2010). A longitudinal research that adopted different strategies of data collection (daily activity diaries, self-report, peer evaluation, and specialists) showed positive relationships between positive affection and creativity and none with negative affections (Amabile, Barsade, Mueller, & Staw, 2005).

In turn, in inspecting the associations between creativity and negative affects, the results are not consensual. Researchers found that negative affect was a predictor of creativity (assessed by the supervisor) when they noticed that they would be recognized and rewarded for their performance (George & Zhou, 2002). However, if the other variables are kept constant, positive affect is more beneficial to creativity than negative affect (Hennessey & Amabile, 2010). Negative affects, on the other hand, can increase creativity when they are triggers (*negative activating moods*, e.g., anger and guilt) and do not relate to creativity when they are the opposite (*deactivating moods*, e.g., depression and discouragement) (De Dreu et al., 2008). Negative activating affects lead to creative performance as it increases perseverance and persistence. Because of this, both positive and negative affects can foster creativity.

Following the same line, studies show that the benefits of individual creativity of the team members to the group creativity were contingent to the engagement of members in the so-called relevant process of creative team (Taggar, 2002). Moreover, team diversity and the team members' perspective interact to affect the team creativity, so that different perspectives among the team members promoted creativity in fact of the members' high perspective (Hoever, Van Knippenberg, Van Ginkel, & Barkema, 2012). Altogether, these studies evidence that at individual, dyad, or team levels, positive affects impact creativity.

Studies focusing on the influence of emotions on creativity have investigated characteristics of the dyads or teams as creative actors. The center of attention of these studies is on the composition and behavior of team members, collective affective states, as well as task performance experiences. In this line of analysis, studies have shown that the benefits of gathering together the individual creativity of team members into group creativity were contingent upon the engagement of members in the so-called relevant process of the creative team (Taggar, 2002). In addition, the diversity of the team and the perspective of team members' interaction affect the team's creativity in a way that plural perspectives among team members could foster creativity up the high perspective of the members (Hoever et al., 2012). These studies combined demonstrate that at the individual, dyad, or team level, positive affects impact creativity.

It was possible to realize, with the development of the area, that the context has an important role in the development of creativity, expanding the scope of studies and decentralizing the influence of the individual in the creative expression taking in consideration the context (Shalley et al., 2004).

The realignment from individual to the organizational perspective did not mean abandoning one perspective over another, as can be seen in Chávez-Eakle, Eakle, and Cruz-Fuentes's (2012) studies. Nevertheless, it has altered the field of study to inves-

tigate the influences of context for the phenomenon to flourish so that creativity may be the result of individual action and social interaction (Aggarwal & Bhatia, 2011).

Csikszentmihalyi (1997) suggests that the relationship between these two levels of analysis is due to the interaction of three elements: (1) culture, based on its shared rules and values; (2) the individual, who contributes with a new idea in the context; and (3) peers that validate the process. However, the environment can also be a source of obstacles for creativity (Amabile, 2012).

To make clear what we are presenting as context, we reread Rodrigues and Veloso (2013) that problematize the multi-perspectives that define what the context is and the variables that represent it. The result of this effort suggests an important role of human resource sector, as the creator of environments that stimulate the emergence of creativity.

The management of human resources presents itself as a key piece to stimulate creativity. The phenomenon has been presented as a result of the interaction of numerous factors that moderate the relationship between the individual and organizational level. In this way, worker-oriented practices fail to produce creative results if they are not aligned with personnel management policies, such as the presence of supportive communications channels, performance evaluation, and encouragement of teamwork (Rodrigues & Veloso, 2013).

When investigating the history of creativity, Shalley, Gilson, and Blum (2000) confirmed that higher levels of creativity are associated with greater autonomy and higher level of complexity and challenge in the tasks taken, causing an effect on the worker's own satisfaction. This may lead us to think that only positive environments allow the expression of creativity. However, the study by Zhou and George (2002) reveals that even if dissatisfied, if there is a scenario of committed and assertive workers, they can develop expressions of creativity to solve problems arising from the very situation of discomfort.

The studies developed by Hammond, Neff, Farr, Schwall, and Zhao (2011) synthesize the tradition of studies on creativity from the individual perspective, through the focus on teams and dyads to the analysis of organizational context. For the authors, early traditional studies from the subject seek to know the predictors of the creative process and its impacts on the worker (individual level). These predictors are categorized into three directions, the first of which focuses on the aspects of the individual and has three main focuses: (1) personal sources, which we recognize as personality traits, values, and cognitive styles, among others; (2) characteristic of the task and its goals, level of complexity, and routinization; and (3) predictors from context, such as leadership, perception of justice, social networks, and the relationships with clients. The second tradition seeks to characterize the creative teams and the relationship between the dyads. In this set of efforts, the structure and composition of the team, the climate, and the leadership styles that impact on the creative capacity of the teams are highlighted. The third, finally, focuses on the level of the organization, which analyzes human resource practices, organizational structures, forces and pressures on worker behavior, and influences from the external environment. Figure 2.1, developed from Hammond et al. (2011), aims to facilitate the under-

standing of the types of studies produced in recent years based on the levels of individual, group (team), and organizational analysis.

2.4   Model of Analysis and Reference Theories

In addition to the levels of analysis, creativity studies have been developed based on different methodological approaches, ranging from laboratory research to field studies. The research in the organizational context mainly uses self-report measures (e.g., Pretz & McCollum, 2014; Silvia, Wigert, Reiter-Palmon, & Kaufman, 2012) because this is a methodological strategy that, despite its limitations, has been effective in evaluating both the talent to create as also the creative performance (Hocevar & Bachelor, 1989). Further to self-report, creative performance measures operated by peers and supervisors have been used (Zhou & Hoever, 2014). Although new and complex, studies regarding to creativity have emerged in the quest of integrating different domains and levels of analysis. Among the measures, there are still those that evaluate the degree of creativity in a given domain, that is, the perception of the individual about his capacity of creativity in a specific domain (Silvia et al., 2012).

In order to cover the complexity of the creativity phenomenon, different models of analysis were developed. The literature points to a diversity of models and theories used in the evaluation of creativity, which hinders the consensus about the construct (Batey, 2012; Batey & Furnham, 2006). The lack of a consensual definition of creativity has repercussions on how this construct has been operationalized and on the research models used to encompass the phenomenon, which include field research and laboratory studies.

By defining creativity as "the production of ideas or results that are new and appropriate for some purpose," Amabile (2012, p. 2) targets the analysis of the creative process in the field of the individual. At this level of analysis, creativity can be explained as the ability to solve problems in a satisfactory way. In this same line, Sternberg (2014) describes the steps that make up the cycle for solving problems and presents them as a model that includes problem identification, problem representation, implementation of a resolution strategy, organization of information, resource allocation, monitoring, and evaluation.

Each of these steps represents a set of efforts to solve a problem. However, Sternberg (2014) suggests that this is not a linear process, because we can go back or skip some of the steps and still be efficient in solving a problem.

In a corporate context, a creative worker is seminal for the survival of the organization and the implementation of innovation processes (see Chap. 9). Given the importance of creativity in the contemporary world, theoretical models have emerged in the literature that struggle to explain how creativity is processed at the levels of the individual and in the context of work.

This chapter presents the models and theories used in studies on creativity in the field of organizations and work. Among these models, we highlight the model of individual creative action, the componential model, and the interactionist model.
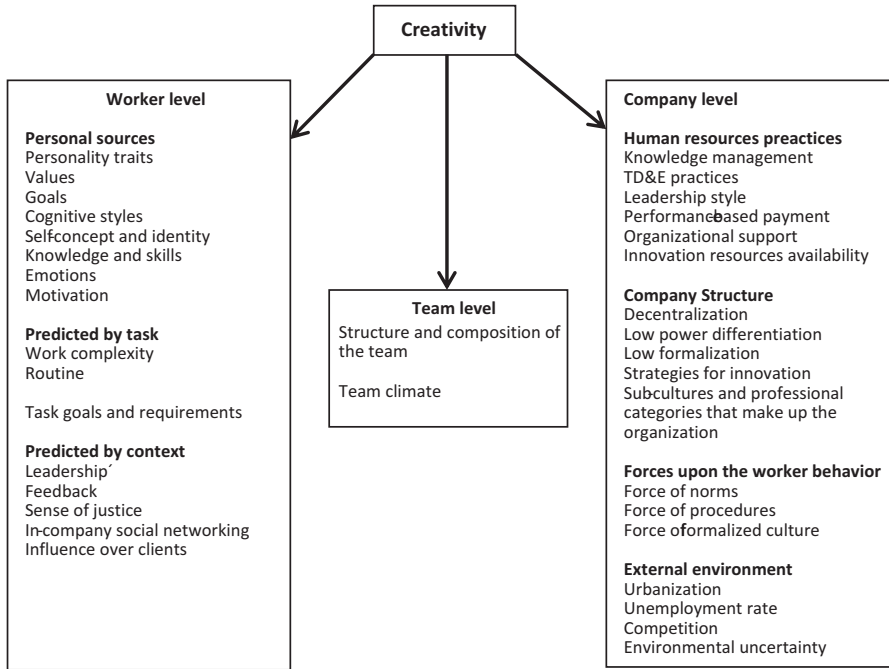
Fig. 2.1 Distribution of creativity studies based on Hammond et al. (2011)

The Individual Creative Action Model (MACI) (Ford, 1996) presents three factors that can stimulate the emergence of creativity. These are (1) the processes of sense construction, (2) motivation, and (3) knowledge and skills. The author takes, as a description of the motivation factor, a set of processes and emotional states (perception that the result will be rewarded, beliefs of receptivity and in their own capacity, anger, anxiety, etc.). Figure 2.2 graphically represents the model of individual creative action.

On the other hand, the *Creative Component Model* (MCC) (Amabile, 1983, 1996, 2012) suggests a structure of three individual components, namely, (1) competence related to the domain of the problem to be solved, (2) processes relevant to creativity (personality traits, cognitive characteristics, among others), and (3) intrinsic motivation for the task. In this model, individual creativity is, to a large extent, subject to the influences of social environment factors, where cognitive, motivational, social, and personality aspects influence the creative process, with a great emphasis given to the role of motivation and social factors. In other words, the componential model highlights three internal elements—intrinsic motivation, expertise, and creativity. As shown in Fig. 2.3, Amabile and Mueller (2008) point out that componential theory can be strongly affected by the work environment. In this model, the external and internal components interact and give way to the creative process, allowing creativity to thrive in the work environment.
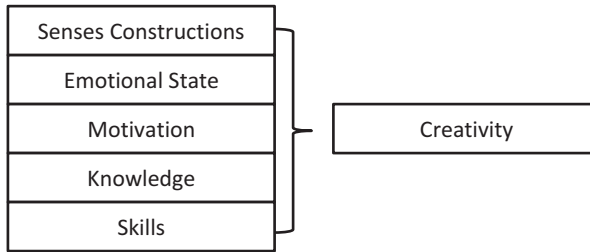
Fig. 2.2 Graphic representation of the Individual Creative Action Model

In order to understand creativity in complex work environments, the *Interactionist Model of Creativity (IMC)* (Oldham & Cummings, 1996), which describes creativity as a phenomenon that cannot be clearly understood outside the social system, chooses aspects of each analysis level as predictors to creativity. In this sense, the combination of personal characteristics (personality and cognitive style), social influences, team characteristics (composition, norms, size, and established culture), and organizational characteristics (organizational culture and human resource policies) may facilitate or not the creative process (Woodman, Sawyer, & Griffin, 1993; Zhou & Shalley, 2003). To illustrate this premise, Oldham and Cummings (1996) have identified that complex and challenging work, when related to the perception of support and noncontrolling supervision, can stimulate creativity.

When we examine the contextual variables, we show that most of them are direct or indirect expressions of the organizational culture, which in turn dialogues with the local culture (Alencar & Bruno-Faria, 1997; Cunha, Clegg, & Kamoche, 2006; Ferreira, Fischer, Porto, Pilati, & Milfont, 2012). Figure 2.4 graphically depicts the interrelationships between personal characteristics, groups, and organization to explain creativity.

In order to respond to the diversity of gaps in the comprehension of creativity in the context of work, Zhou and Hoever (2014) have proposed the Interactionist Model of Creativity (IMC) (Oldham & Cummings, 1996) that addresses a perspective in which different factors can help or interfere, as well as promote or not creativity, depending on their settings when interacting with other factors. The IMC was developed with the perspective of filling a gap in the studies on creativity when proposing that different patterns of interaction may occur in the process of development of creativity. In this sense, a new direction of the future research is pointed on the subject. The authors of the new analysis signalize that the organizational and cultural context in which creativity takes place deserves special attention. The IMC presents a promising route of investigation by highlighting the importance of the interaction effects of the actors with the context in different cultures that may vary according to the pressures of the culture. This model has the same structure as the demand and control model developed by Karasek (1979). In Karasek's model (1979), the demands of work and control of the worker interact in a two-dimensional structure to explain behaviors and attitudes at work. Figure 2.5 graphically represents the new typology proposed by Zhou and Hoever (2014).
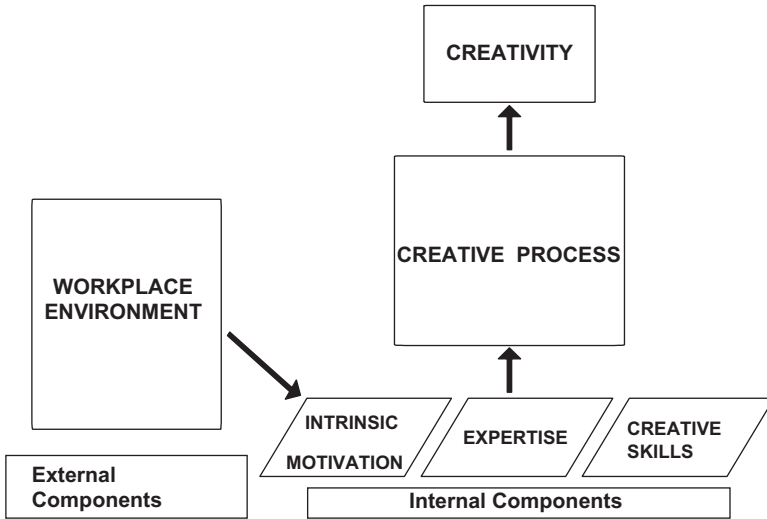
Fig. 2.3 Amabile's componential model of creativity, adapted by Amabile and Mueller (2008, p. 36)

For the authors, the interactionist model may allow the integration of several neutral variables, such as time, which may not have a direct effect on creativity in a given situation but may induce a moderating effect on the relationship between other variables, in a more or less positive way. As an example, the authors mention a study in which the task conflict over team creativity was contingent on the project phase in which the team was operating together. This model brings a new perspective of analysis and certainly will allow an advance in the studies on creativity in the work context.

The model proposed by Zhou and Hoever (2014), despite presenting a breakthrough, is structured in a two-dimensional perspective, which prevents extrapolating the analysis in a wide and diversified manner.

In addition to the complex analytical models used in research on creativity, theories of strong tradition in social psychology have been used to identify the antecedents and consequences of creativity as well as the indirect relationships between social organizational phenomena and creative performance. In this perspective the following theories stand out: theory of value expectation (Vroom, 1964), normative theory of reference group (Kelley, 1952; Merton, 1957), self-regulation theory (Bandura, 1991), and activation theory (Gardner, 1990).

The *theory of value expectation* (Vroom, 1964) suggests that the motivation of employees to perform a given behavior depends on the product of two motivational elements: (a) believe that they can effectively perform this behavior, in this case being creative, and (b) the perceived value/importance associated with creativity.

The *normative theory of the reference group* (Kelley, 1952; Merton, 1957) suggests that individuals use their reference context (i.e., organization, leader, or team) to understand the type of behavior that is expected and, consequently, must be wide-
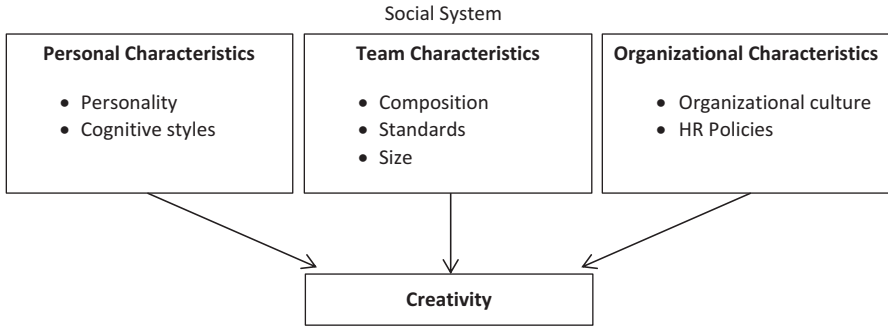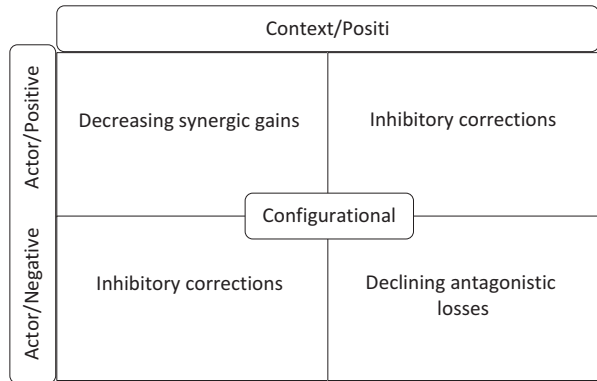
Social System

Personal Characteristics	**Team Characteristics**	**Organizational Characteristics**
• Personality • Cognitive styles	• Composition • Standards • Size	• Organizational culture • HR Policies

Creativity

Fig. 2.4 Graphic representation of the Interactionist Model of Creativity

Fig. 2.5 Interactionist Model of Creativity that describes the effects of actor-context interaction on creativity (Zhou & Hoever, 2014, p. 353)

	Context/Positi	
Actor/Positive	Decreasing synergic gains	Inhibitory corrections
	Configurational	
Actor/Negative	Inhibitory corrections	Declining antagonistic losses

spread at work (i.e., creative performance). According to this theory, employees with high creative self-efficacy may be more likely to present creative behaviors when they realize that their work environment expects them to be effectively creative at work. Context variables that reflect expectations related to creativity can play an important role in the delivery of creative behavior. These relationships can be direct or indirect.

The *theory of self-regulation* must also be considered in the studies on creativity, since the belief that it is capable of obtaining a creative performance in the work is important for the accomplishment of the creative actions and the processes of innovation. For Bandura (1991), people's beliefs in their own effectiveness influence the choices they make and their aspirations, causing them to mobilize efforts beyond what they are normally accustomed to. In addition, people are more willing to persevere in the face of difficulties and setbacks.

Another theory that has been used in studies on creativity is the *theory of activation* (Gardner, 1990). This theory postulates that behavior is highly influenced by changes in activation or stimulus levels. The author postulates that the level of activation is monotonic and occurs as a function of the total stimulation that affects a person at any time, including the stimulation that arises from the execution of a task.

Stimuli can arise from different sources, namely, external (e.g., reward and promotion) and cerebral (e.g., thoughts and motivation). Studies on creativity using the stimulus-activation approach are concerned with stressors (e.g., assessment) and with psychological conditions that require an adaptive response (Lepine, Podsakoff, & Lepine, 2005). Lepine et al. (2005) found that stressors acting as challenges can have an effect on performance through pressures (negative effect) and motivation (positive effect). This is how creative performance can be stimulated by positive forces such as intrinsic and extrinsic motivation.

Based on the assumption that "all people are creative" (Beneditti, 2015, p. 345), different methodologies and techniques can be used in an organizational environment to encourage creative thinking, leading to new ideas and actions that involve the creation process. The next topic briefly presents some training models that can be applied focusing on the development of creativity by managers, external consultants, and specialized professionals.

2.5 Creativity Training

Creativity training programs are based on the belief that creativity can be learned or developed through education and practice. It is worth noting that although such training may be applicable to different contexts, school, organizational, and social, studies in the educational field prevail (Nakano, 2011).

Creativity is a complex process involving at least eight aspects: (a) problem identification, (b) gathering of information, (c) definition and selection of concept, (d) conceptual combination, (e) generation of ideas, (f) evaluation of ideas, (g) planning and implementation, and (h) monitoring the actions. As can be seen, these are processes that are interrelated and do not necessarily occur in a linear way. In this way, it would be difficult to develop a training that encompassed all of them. For this reason, the focus has been on choosing one process(es) over others (Scott, Leritz, & Mumford, 2004).

Studies carried out over half a century indicate that trainings that deal with aspects related to divergent thinking (ability to propose different solutions to a given problem), scores (number of responses), flexibility (different categories of responses), originality (low statistical frequency), and elaboration (response sophistication) contribute to problem solving and creative performance. Training for creativity contributes to divergent thinking, problem solving, attitudes, and behaviors (Scott et al., 2004; Tsai, 2014). Although most of these studies have been developed in the educational field, it must be considered that organizational learning uses the same tools of formal educational process and that training for creativity can be used in an effective way to stimulate the creative process and also innovative actions.

In order to evaluate the effects of training actions on formal instruction events—classroom—Tsai (2014) performed a meta-analysis in several databases, considering the period from 1980 to 2012. Eleven papers were found, and in all of them, the idea that trainings are effective for the development of adult creativity was ratified,

especially for the generation and flow of ideas and divergent thoughts. Although the results obtained with this survey are promising, the reduced number of papers confirms Hennessey and Amabile's (2010) view that there are scarce works on training for creativity in comparison with those who investigate the relationships between creativity and affections, the humor, and the cognition.

The literature has demonstrated the effectiveness of creativity trainings in the organizational field, for employees in general (Beneditti, 2015) and in managers (Ribeiro, 2015). In order for thinking and creative action to be developed, facilitators and managers can use different strategies, attitude training, brainstorming, and incubation, among others (Ma, 2006), as shown in Table 2.1.

Pursuing to collaborate for the development of programs that increase creativity, O'Keefe and Souder (1979) present 14 techniques that can be used in work context to stimulate creativity. The techniques are:

(1) Free association. First the problem is presented to the person or group, and then the ideas are written down; it can be a word, a sketch, a drawing, or any contribution to the subject under analysis. Then, each one presents his solution, and the new propositions are incorporated, which will be analyzed at another time—follow-up session.
(2) Forced choice. It is similar to the previous one; however, here the person should seek to establish forced relations between an idea and forms (possible solutions to the problem).
(3) Relation of items compared. First presented is a relation with the questions to be analyzed, and then each of the points is analyzed closely until a solution is reached.
(4) List of attributes, which aim to investigate the components and utilities of a given product at first and after that analyze the idea to propose a new product that considers the limitations of the original.
(5) Factors of production. This technique developed by General Electric consists of raising a problem (product to be developed and improved) and its inputs, production requirements, and restrictive requirements.
(6) Sequence-product modification matrix, which is indicated for making improvements in production processes; each step of the process is analyzed in detail and changes and/or phase extinctions are proposed.
(7) Morphological analysis. The following techniques are termed non-analytical.
(8) Brainstorming.
(9) Mental storm, in reverse, is to identify faults and defects in a given object, process, product, or issue being analyzed.
(10) Gordon method.
(11) Written mental storm.
(12) Method of collecting data on the agenda.
(13) Kinetics.
(14) Edisonian.

Although the presented techniques can be applied in a working context, there is a lack of clarity in the procedures of each one, and some superimpose; moreover, few

Table 2.1 Classification of training programs for creativity according to Ma's classification (2006, p. 438)

Technique	Description
Simple techniques	
1. Generating ideas	The participant generates as many ideas as he/she can without using other techniques
2. Brainstorming	This technique was developed by Osborn (1963) and includes the proposition of group ideas without previous evaluation. This ability includes warming up, searching for new information and postponing judgment, making use of all the senses, aiming for problems, incorporating into the daily routine, and sharing products created with other people
3. Incubation	This technique consists of not devoting yourself to a given problem after having worked on that without success. The underlying assumption is that the brain may in a relaxed and unconscious way organize the information previously studied and this will produce an unexpected solution
4. Forced relationships	Ideas are developed based on objects in the immediate environment
5. Catalogue	This technique consists of browse through a categorized list of objects to expand the range of ideas
6. Proposing improvements to part of a product	The participant lists important attributes or parts of a product and then considers whether each attribute or part can be changed or improved
7. Morphological synthesis	The participant identifies different dimensions of a problem, lists all possible values for each dimension, and then uses a value from each dimension to produce possible new combinations (e.g., five color possibilities, five shapes, and five sizes would produce 125 possible products)
8. Attitude training	Promote a positive attitude or affect toward creativity such as reducing anxiety, keeping an open and receptive mind to new ideas, and knowing the importance of creativity to society and personal interests and self-development
9. Synectics	It is a term of Greek origin meaning "the joining together of apparently irrelevant and different elements." The idea is to make familiar by looking at the problem from a different point of view, especially from the opposite side
10. Checklist	A list of items are used to form a new perspective by replacing an idea or item previously generated by a new one. It also refers to combining two or more ideas previously created; in short, it is the proposition of something new based on modifications/enlargement/eliminations/adjustments
Composed techniques	
11. Computer-based trainings	This program includes computer graphic technology (allowing a person to manipulate text and graphic images to produce a graphic design) and logo and programming which involves deciding on the nature of a problem and choosing, combining, and selecting information, knowledge, and solutions
12. Creative thinking program	Program composed of 28 assignments to improve fluency, flexibility, originality, and elaboration followed by illustrations and practice (Purdue Creative Thinking Program, Feldhusen et al., 1970)

Table 2.1 (continued)

Technique	Description
13. Renzulli program (1973)	A program developed by Renzulli (1973) from Guilford's (Guilford, 1967) intellect structure model, consisting of five operations: (a) cognition (i.e., discovery or recognition), (b) memory (i.e., retention of what is recognized), (c) divergent thinking (i.e., looking for a variety of answers), (d) evaluation, and (e) convergent thinking (i.e., looking for a right answer to a question)
14. Khatena method (1970)	This program consists of getting out of the usual and looking for something new through restructuring and synthesis
15. Osborn–Parnes CPS Program	Program consisting of four broad stages of a creative process: (a) identifying specific problems, (b) generating solutions (i.e., generating or combining solutions without evaluation in a phase that needs mostly divergent thinking skills), (c) evaluation of solutions, and (d) elaboration of a solution

studies investigate the effective contributions of each one of them (Tsai, 2014). Another point that shall be emphasized is the distinction between training situations and the "real world." It is necessary to develop research models that allow the influence of training to be evaluated in real situations, as superior performance in a pencil and paper test does not assure creativity in the actual work environment.

In order to consolidate training of creativity in the daily routine of organizations, it is fundamental to develop an organizational culture that encourages creativity, and if it does not occur spontaneously, it is up to the leaders to create the contextual conditions for the emergence of creativity, with actions such as clear communication, effective support to employees, freedom of action and availability of resources, and peer support (Coveney, 2008).

2.6   Conclusion

Creativity occurs by an individual action in a given context; therefore, individual and contextual variables affect its emergence. People tend to be more creative when motivated primarily by their interests, pleasures, satisfaction, and challenges at work, in other words, when there is an intrinsic motivation. However, it is worth emphasizing that although creativity is a phenomenon that emerges from the individual, it is fundamental to consider the influence of the context (Hennessey & Amabile, 2010). It is necessary that interaction between individual and contextual aspects that stimulate creativity in the work environment be observed (Zhou & Hoever, 2014).

For creative thinking to take place in a corporate environment, it is necessary to have a place that encourages the freedom of expression, where workers experience well-being and positive emotions and where they are involved and are stimulated through trainings to exert their ideas. Customer needs must be considered, and
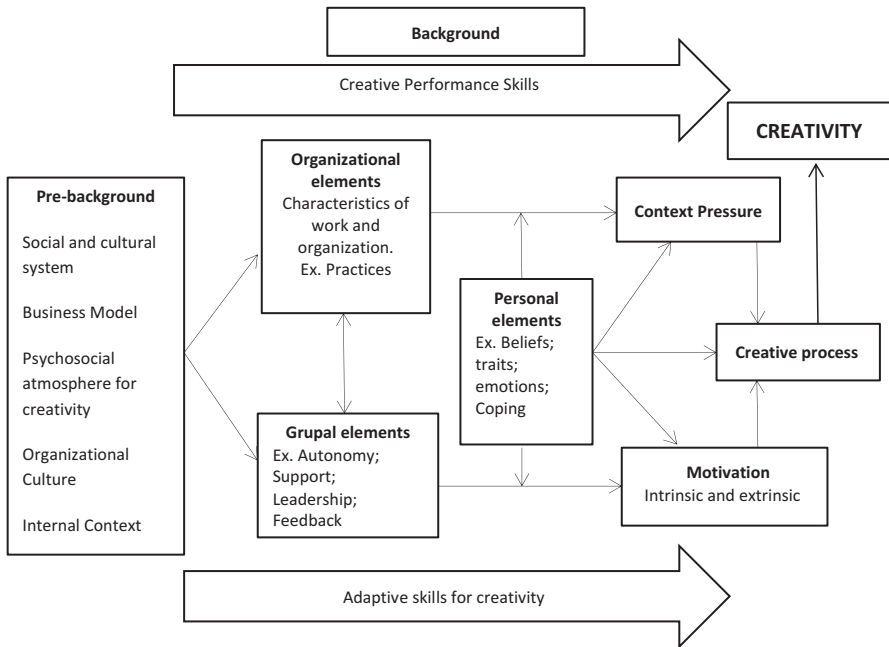
Fig. 2.6 Integrator Model and Potentializer of Work Creativity (MIPC)

networks with suppliers outside the organization must be built. Creative organizations are those that focus on bold goals that are open to their employees and are connected to the outside world.

Empirical evidence supports the interactionist perspective of stimulating organizational creativity (Zhou & Hoever, 2014). In this sense, managers must undertake effective actions that involve reflection, practice, and consolidation of organizational creativity, providing an environment that favors creativity, stimulates the emergence of new ideas, provides healthy environments, instigates brainstorms, and prioritizes values that support a freedom of expression environment and where employees are valued and able to upstand for themselves. In this perspective, we present a model that integrates and enhances creativity at work (MIPC) (see Fig. 2.6) by graphically articulating variables related to the social context, the organizational environment, and the individual characteristics of the workers.

As a whole, MIPC presents the integration of cultural elements (e.g., psychosocial environment, culture, business model), organizational (e.g., organizational goals and task characteristics), group elements (e.g., leadership styles and relationships with the team), and individuals (e.g., beliefs, personality traits, and personal strategies to problem solving). The main purpose of this model is to provide managers with useful information on how the relationships between the social context, organizational environment, and individual characteristics should be articulated to enhance the creativity of its employees.

Taken together, the studies presented in this chapter provide evidence of the impacts of the creative process on the work environment. Understanding the antecedents and consequences of creativity at work has practical implications for the management by bringing direct benefits to the organization and its employees. In organizational terms, the benefits include increased effectiveness and innovative capacity. As far as employees are concerned, the benefits encompass their own creative performance and their personal consequences, such as their well-being.

Therefore, creativity should receive special attention from managers given its positive association with engagement and health at work, as well as its impact on organizational performance. Creative performance can generate competitive advantages because it stimulates innovation and facilitates the process of adapting to change. To this end, managers should create intervention and training programs that support and stimulate the creative actions of workers. The training for creativity mentioned herein illustrates real actions that can be taken to foster creativity.

The present review of the literature has brought fundamental contributions to managers by presenting empirical evidences that demonstrate the benefits of stimulating the creative process, discussing training programs and the development of creativity, and proposing an integrative model that points to the need to consider the whole structure of individual, contextual, and environmental factors that employees can create in their work.

References

Aggarwal, Y., & Bhatia, N. (2011). Creativity and innovation in management: A fuel for growth. *International Journal of Multidisciplinary Research, 1*(5), 288–296.

Alencar, E. M. L. S., & Bruno-Faria, M. F. (1997). Characteristics of an organizational environment which stimulate and inhibit creativity. *Journal of Creative Behavior, 31*(4), 271–281.

Alencar, E. M. L., & Fleith, D. d. S. (2003). Contribuições teóricas recentes ao estudo da criatividade. *Psicologia: Teoria e Pesquisa, 19*(1), 1–8.

Amabile, T. M. (1983). The social psychology of creativity: A componential conceptualization. *Journal of Personality and Social Psychology, 45*, 357–376.

Amabile, T. M. (1985). Motivation and creativity: Effects of motivational orientation on creative writers. *Journal of Personality and Social Psychology, 48*, 393–399.

Amabile, T. M. (1996). *Creativity in context*. Boulder, CO: Westview.

Amabile, T. M. (2012). Componential theory of creativity. *Working Paper* 12–096, Harvard Business School.

Amabile, T. M., & Mueller, J. S. (2008). Studying creativity, its processes, and its antecedents: An exploration of the componential theory of creativity. Em J. Zhou & C. E. Shalley (Orgs.). *Handbook of organizational creativity* (pp. 33–55). New York: Lawrence Erlbaum Associates.

Amabile, T. M., Barsade, S. G., Mueller, J. S., & Staw, B. M. (2005). Affect and creativity at work. *Administrative Science Quarterly, 50*, 367–403.

Baas, M., De Dreu, C. K. W., & Nijstad, B. A. (2008). A meta-analysis of 25 years of mood–creativity research: Hedonic tone, activation, or regulatory focus? *Psychological Bulletin, 134*, 779–806.

Bandura, A. (1991). Social cognitive theory of self-regulation. *Organizational Behavior and Human Decision Processes, 50*, 248–287.

Barron, F., & Harrington, D. M. (1981). Creativity, intelligence, and personality. *Annual Review of Psychology, 32*, 439–476.

Batey, M. (2012). The measurement of creativity: From definitional consensus to the introduction of a new heuristic framework. *Creativity Research Journal, 24*(1), 55–65.

Batey, M., & Furnham, A. (2006). Creativity, intelligence and personality: A critical review of the scattered literature. *Genetic, Social and General Psychology Monographs, 132*(4), 355–429.

Beneditti, P. C. A. (2015). Estratégias e programas de desenvolvimento da criatividade. In M. F. Morais, L. C. Miranda, & S. M. Wechsler (Orgs.), Criatividade: Aplicações práticas em contextos internacionais (pp. 325–346). São Paulo, Brazil: Vetor.

Bruno-Faria, M. D. F., Veiga, H. M. D. S., & Macêdo, L. F. (2008). Criatividade nas organizações: análise da produção científica nacional em periódicos e livros de Administração e Psicologia. *Revista Psicologia Organizações e Trabalho, 8*(1), 142–163.

Chávez-Eakle, R. A., Eakle, A. J., & Cruz-Fuentes, C. (2012). The multiple relations between creativity and personality. *Creativity Research Journal, 24*(1), 76–82.

Coveney, B. (2008). Assessing the organizational climate for creativity in a UK Public Library Service: A case study. *Library and Information Research, 32*(102), 38–56.

Csikszentmihalyi, M. (1997). *Creativity: Flow and the psychology of discovery and invention* (2nd ed.). New York: Harper Perennial.

Cunha, M. P., Clegg, S. R., & Kamoche, K. (2006). Surprises in management and organization: Concept, sources and a typology. *British Journal of Management, 17*, 317–329.

De Dreu, C. K. W., Baas, M., & Nijstad, B. (2008). Hedonic tone and activation level in the mood-creativity link: Toward a dual pathway to creativity model. *Journal of Personality and Social Psychology, 94*(5), 739–756. doi:10.1080/10400419.2012.650092.

ElMeleggy, A. R., Mohiuddin, Q., Boronico, J., & Maasher, A. A. (2016). Fostering creativity in creative environments: An empirical study of Saudi Architectural Firms. *Contemporary Management Research, 12*(1), 89–110.

Feldhusen, J. F., Treffinger, D. J., & Bahlke, S. J. (1970). Developing creative thinking: The Purdue creativity program. *The Journal of Creative Behavior, 4*(2), 85–90.

Ferreira, M. C., Fischer, R., Porto, J. B., Pilati, R., & Milfont, T. L. (2012). Unravelling the mystery of Brazilian Jeitinho: A cultural exploration of social norms. *Personality & Social Psychology Bulletin, 38*(3), 331–344.

Ford, C. M. (1996). A theory of individual creative action in multiple social domains. *Academy of Management Review, 21*(4), 1112–1142.

Gardner, D. G. (1990). Task complexity effects on non-task-related movements: A test of activation theory. *Organizational Behavior and Human Decision Processes, 45*, 209–231.

George, J. M., & Zhou, J. (2002). Understanding when bad moods foster creativity and good ones don't: The role of context and clarity of feelings. *Journal of Applied Psychology, 87*, 687–697.

Glaveanu, V. P. (2013). Rewriting the language of creativity: The five A's framework. *Review of General Psychology, 17*(01), 69–81.

Gomes, J., Rodrigues, F., & Veloso, A. (2016). Creativity at work: The role of context. In H. Shipton, P. Budhwar, P. Sparrow, & A. Brown (Eds.), *Human resource management, innovation and performance* (pp. 282–297). London: Palgrave Macmillan.

Grant, A. M., & Berry, J. W. (2011). The necessity of others is the mother of invention: Intrinsic and prosocial motivations, perspective taking, and creativity. *Academy of Management Journal, 54*, 73–96.

Guilford, J. P. (1956). The structure of intellect. *Psychological Bulletin, 53*(4), 267–293.

Guilford, J. P. (1967). Creativity: Yesterday, today and tomorrow. *The Journal of Creative Behavior, 1*(1), 3–14.

Hammond, M. M., Neff, N. L., Farr, J. L., Schwall, A. R., & Zhao, X. (2011). Predictors of individual-level innovation at work: A meta-analysis. *Psychology of Aesthetics, 5*(1), 90–105.

Hennessey, B. A., & Amabile, T. M. (2010). Creativity. *Annual Review of Psychology, 61*, 569–598.

Hocevar, D., & Bachelor, P. (1989). A taxonomy and critique of measurements used in the study of creativity. In J. A. Glover, R. R. Ronning, & C. R. Reynolds (Orgs.), *Handbook of creativity*. New York: Plenum.

Hoever, I. L., Van Knippenberg, D., Van Ginkel, W. P., & Barkema, H. G. (2012). Fostering team creativity: Perspective taking as key to unlocking diversity's potential. *Journal of Applied Psychology, 97*, 982–996.

Karasek, R. A. (1979). Job Demand, job decision latitude, and mental strain: Implications for job redesign. *Administrative Science Quarterly, 24*, 285–308.

Kelley, H. H. (1952). Two functions of reference groups. In G. Swanson, T. Newcomb, & E. Hartley (Eds.), *Society for the psychological study of social issues, readings in social psychology* (pp. 410–414). New York: Holt.

Kreitler, S., & Casaki, H. (2009). Motivation for creativity in design students. *Creativity Research Journal, 21*(2–3), 282–293.

Lepine, J. A., Podsakoff, N. P., & Lepine, N. A. (2005). A meta-analytic test of the challenge stressor–hindrance stressor framework: An explanation for inconsistent relationships among stressors and performance. *Academy of Management Journal, 48*(5), 764–775. doi:10.5465/AMJ.2005.18803921.

Loiola, E., Bastos, A. V. B., & Macambira, M. O. (2013). Redes sociais em contextos organizacionais: ferramenta de análise e intervenção. In: O trabalho e as organizações: atuações a partir da Psicologia. 1ed. Artmed, p. 150–180.

Ma, H.-H. (2006). A synthetic analysis of the effectiveness of single components and packages in creativity training programs. *Creativity Research Journal, 18*(4), 435–446.

Ma, H.-H. (2009). The effect size of variables associated with creativity: A meta-analysis. *Creativity Research Journal, 21*(1), 30–42.

Merton, R. K. (1957). Continuities in the theory of reference groups and social structure. In R. K. Merton (Ed.), *Social theory and social structure* (pp. 281–386). Glencoe, IL: Free Press.

Mueller, J. S., & Kamdar, D. (2011). Why seeking help from teammates is a blessing and a curse: A theory of help seeking and individual creativity in team contexts. *Journal of Applied Psychology, 96*(2), 263.

Nakano, T. (2011). Programas de treinamento em criatividade: conhecendo as práticas e resultados. *Revista Semestral da Associação Brasileira de Psicologia Escolar e Educacional*, SP, *15*(2), 311–322.

O'Keefe, W. M., & Souder, W. E. (1979). Quatorze ténicas úteis para a solução de problemas técnicos e para estímulo à criatividade. *Revista de Administração USP, 14*(4), 39–64.

Oldham, G. R., & Cummings, A. (1996). Employee creativity: Personal and contextual factors at work. *The Academy of Management Journal, 39*, 607–634.

Osborn, M. J. (1963). Studies on the gram-negative cell wall, I. Evidence for the role of 2-keto-3-deoxyoctonate in the lipopolysaccharide of Salmonella typhimurium. *Proceedings of the National Academy of Sciences, 50*(3), 499–506.

Piirto, J. (2004). *Understanding creativity*. Scottsdale: Great Potential Press.

Prabhu, V., Sutton, C., & Sauser, W. (2008). Creativity and certain personality traits: Understanding the mediating effect of intrinsic motivation. *Creativity Research Journal, 20*, 53–66.

Pretz, J. E., & McCollum, V. A. (2014). Self-perceptions of creativity do not always reflect actual creative performance. *Psychology of Aesthetics, Creativity, and the Arts, 8*, 227–236.

Renzulli, J. S. (1973). Talent potential in minority group students. *Exceptional Children, 39*(6), 437–444.

Ribeiro, V. M. R. F. (2015). Quatro estratégias de intervenção para o desenvolvimento do pensamento criativo em programas de desenvolvimento da criatividade para a liderança. In M. F. Morais, L. C. Miranda, & S. M. Wechsler (Orgs.), *Criatividade: Aplicações práticas em contextos internacionais* (pp. 347–370). São Paulo: Vetor.

Rodrigues, F. C., & Veloso, A. (2013). A Relevância Da Gestão de Recursos Humanos Para a Inovação Organizacional. Special issue on innovation, creativity and entrepreneurship. *Revista Psicologia: Organizações e Trabalho, 13*(3), 41–56.

Runco, M. A., & Jaeger, G. J. (2012). The standard definition of creativity. *Creativity Research Journal, 24*(1), 92–96.

Runco, M. A., Acar, S., Campbell, W. K., Jaeger, G., McCain, J., & Gentile, B. (2016). Comparisons of the creative class and regional creativity with perceptions of community support and community barriers. *Business Creativity and the Creative Economy, 2*(1), 83–92.

Scott, G., Leritz, L. E., & Mumford, M. D. (2004). The effectiveness of creativity training: A quantitative review. *Creativity Research Journal, 16*(4), 361–388.

Shalley, C. E., Gilson, L. L., & Blum, T. C. (2000). Matching creativity requirements and the work environment: Effects on satisfaction and intentions to leave. *The Academy of Management Journal, 43*(2), 215–223.

Shalley, C. E., Zhou, J., & Oldham, G. R. (2004). The effects of personal and contextual characteristics on creativity: Where should we go from here? *Journal of Management, 30*(6), 933–958.

Shalley, C. E., Gilson, L. L., Blum, C., & T. C. (2009). Interactive effects of growth need strength, work context, and job complexity on self-reported creative performance. *The Academy of Management Journal, 52*(3), 489–505.

Silvia, P. J., Wigert, B., Reiter-Palmon, R., & Kaufman, J. C. (2012). Assessing creativity with self-report scales: A review and empirical evaluation. *Psychology of Aesthetics, Creativity, and the Arts, 6*(1), 19–34.

Stein, M. I. (1953). Creativity and culture. *The Journal of Psychology: Interdisciplinary and Applied, 36*(2), 311–322.

Sternberg, R. J. (2014). *Psicologia Cognitiva*. Cengage Learning: São Paulo.

Taggar, S. (2002). Individual creativity and group ability to utilize individual creative resources: A multilevel model. *Academy of Management Journal, 45*, 315–330.

Tsai, K. C. (2014). A review of the effectiveness of creative training on adult learners. *Journal of Social Science Studies, 1*(1), 17–30.

Vroom, V. H. (1964). *Work and motivation*. New York: Wiley.

West, M. A. (2002). Ideas are ten a penny: It's team implementation not idea generation that counts. *Applied Psychology: An International Review, 51*(3), 411–424.

Woodman, R. W., Sawyer, J. E., & Griffin, R. W. (1993). Toward a theory of organizational creativity. *Academy of Management Review, 18*, 293–321.

Zhou, J., & George, J. M. (2001). When job dissatisfaction leads to creativity: Encouraging the expression of voice. *Academy of Management Journal, 44*(4), 682–696.

Zhou, J., & Hoever, I. J. (2014). Research on workplace creativity: A review and redirection. *Annual Review in Organizational Psychology and Organizational Behavior, 1*, 333–359.

Zhou, J., & Shalley, C. E. (2003). Research on employee creativity: A critical review and directions for future research. In J. J. Martocchio & G. R. Ferris (Eds.), *Research in personnel and human resources management* (Vol. 22, pp. 165–217). Oxford: Elsevier.

Zhou, Q., Hirst, G., & Shipton, H. (2012). Promoting creativity at work: The role of problem-solving demand. *Applied Psychology: An International Review, 61*(1), 56–80. doi:10.1111/j.1464-0597.2011.00455.x.

Chapter 3
Optimism and Hope in Work Organizations

**Sinésio Gomide Jr., Amanda Londero dos Santos,
and Áurea de Fátima Oliveira**

3.1 Introduction

Organizational management has been historically described as an immaterial activity. Or, as some may say, it would be the art of the imponderable. Challenges found in current corporate environments regard increasing competitiveness and how the impersonality of large businesses could be conciliated with the individual perspective of the employee. Psychology has basically managed these challenges in a diagnostic and, many times, in a retrospective way.

The conception and vision on the corporative world has changed and is still changing, moving away from a retrospective and remediating vision toward proactive vision and postures. It is in this context that the notions of emotional intelligence, transformative leadership, and positive psychology arise.

Despite the controversies in literature about the exact moment when the term positive psychology arose in the context of psychology, many authors locate it in the year of 2000, when Seligman and Csikszentmihalyi published the article "Positive Psychology: An Introduction" on the *American Psychologist*. The main purpose then was that the historical focus of psychology on remedial aspects provided it with an incomplete view on human beings and communities. The paper then proposed the focus on positive aspects of human, group, and society development.

Historically and conceptually, positive psychology is supported on three pillars. The first one would be the study of positive emotions; the second would be studies of positive traits such as powers and virtues, intelligence, and even the athletic abilities; and the third would be the study of positive institutions such as family, work, democracy, and the "moral circle" that could promote positive thinking. The authors

S. Gomide Jr. (✉) • A.L. dos Santos • Á. de Fátima Oliveira
University of Uberlândia, Uberlândia, MG, Brazil
e-mail: sinesiogomide@uol.com.br; amandalondero@me.com; aurea.oliveira@ufu.br

list topics of interest to the psychology's vision such as happiness, faith, enthusiasm, calm, pleasure, and everything that would sustain the individual's and communities' functional aspects.

In the run of the positive psychology propositions, investigations started targeting the work relationships in an attempt to understand the characteristics of harmonious relationships between workers and organizations. The investigation in the area of positive psychology has consistently evidenced that preservation of emotions and positive cognitions at work can be an important determinant of pleasure, happiness, and well-being and also provide more efficient and long-lasting performance. Challenges inherent to the promotion of these feelings in complex organizations remain a niche little explored by literature but with instigating future.

Luthans and Crurch (2002) have proposed the use of positive psychology in the study of organizations. The authors used the term positive organizational behavior to refer to the "[…] study and application of the positively oriented power resources, and of the psychological abilities that start being measured, developed and effectively used to improve performance" (p. 59). Besides a component oriented to scientific investigations, the positive organizational behavior incorporates a component oriented to people's management to expand the employees' positive psychological capacities and its outcomes on the performance in and of organizations (Palma, Cunha, & Lopes, 2007; Siqueira, Martins, & Souza, 2014).

Besides managing financial and material capitals, Luthans and collaborators state that organizations should be capable of developing, maximizing, and managing the workers' psychological capital to improve performance and build competitive advantage. The psychological capital core construct is a positive psychological state characterized by optimism, high perception of self-efficacy, hope, and resilience. These constructs are measurable and have theoretical and empirical grounds and strong impact on the organizational performance (Luthans, Avey, Avolio, & Peterson, 2010; Luthans, Avolio, Avey, & Norman, 2007a; Luthans, Luthans, & Luthans, 2004). According to Palma et al. (2007), these psychological states are characterized by being developable, subject to maturation and improvement, and, this way, contribute to more efficient performance management.

This chapter will approach two components of psychological capital: optimism and hope. The first one is approached next.

3.2 Optimism

The rise of positive psychology increased the number of surveys about optimism, evidencing its positive effect on the psychological and physical well-being of individuals or on organizational outcomes.

This increase in the number of studies about optimism brought different conceptualizations to this construct, including the explanatory style of optimism (Abramson, Seligman, & Teasdale, 1978), dispositional optimism (Scheier & Carver, 1985), realistic optimism (Schneider, 2001), positive illusions (Taylor & Brown, 1988), and optimistic cognitive strategies (Norem & Cantor, 1986a, 1986b). Despite the

different approaches to it, the consensual idea is that the construct refers to positive thinking that generates positive expectations to the future. People that perceive the possibility of achieving the likely results keep on fighting even when their progress is slow-paced or difficult, and, as such, it is closely related to motivation (Scheier & Carver, 1993).

The first authors to study optimism in psychology were Martin Seligman and collaborators, framing it in an explanatory model of learned helplessness (Abramson et al., 1978). In the 1970s, Seligman and collaborators theorized learned helplessness: individuals or animals subjected to uncontrollable negative events perceive the inefficacy of their own behavior and settle for it, i.e., do not act to inhibit the negative event, becoming passive. The authors, however, have observed that one third of the human beings and animals in the same situation did not settle for it. To explain this phenomenon, Seligman theorized that the explanatory style of the events differentiated the individuals, i.e., the way people typically explain and construe the causes of the events happening to them (Seligman, 1990).

The individuals' future expectations derive from a model used to explain positive or negative past events, using three parameters: permanent/temporary, internal/external causality, and global/specific. In the face of situations perceived as negative, the optimists provide explanations delimited in time (temporary), originated by factors external to them (external causality), and limited to that situation (specific), and in the face of positive events, the explanations are related to internal, stable, and global causes. The pessimists, in turn, provide an explanation opposite to that of the optimists (Peterson, 1992, 2000; Peterson & Steen, 2002; Seligman, 1990).

Optimists do not feel powerless because they keep on acting and overcoming the obstacles they find, even in hard situations (Seligman, 1990). Moreover, they expect to have more control on the future and, therefore, are more resilient (Reivich & Gillham, 2003). Although considered a cognitive trait, the explanatory style can be changed (Peterson & Steen, 2002; Seligman, 1990). Literature points out measuring instruments aimed to measure the explanatory style of optimism, such as the self-report questionnaire Attributional Style Questionnaire (ASQ) (Peterson et al., 1982), the Content Analysis of Verbatim Explanations (CAVE), the Optimism-Pessimism Scale (PSM) (Colligan, Offord, Malinchoc, Schulman, & Seligman, 1994), and the Revised Optimism-Pessimism Scale (Malinchoc, Offord, & Colligan, 1995). The last two ones were constructed to be used in the clinic scope.

Scheier and Carver (1985) made a second theorization on optimism. According to the authors, the dispositional optimism refers to a relatively stable personality trait characterized by individuals who hope that life events happen as they wish and, in general, believe that more good things will happen to them than bad things. The main idea of this model is that human behavior is goal-oriented, either by avoiding what is undesirable or pursuing what is desirable. When individuals perceive that their current state is detaching from the goal, they behave in such a way as to reduce this discrepancy. In this process, if the individual perceives she/he cannot reduce this discrepancy, then she/he will reduce the efforts and interrupt the action. On the other hand, if expectations are favorable she/he will increase efforts. Personal inclinations can influence expectations. Optimism and pessimisms are then general

expectations on the occurrence of positive and negative results about the own future. Optimistic individuals are highly likely to feel safe after assessing their own expectations and will be more persistent and confident when faced with difficulties. On the other hand, pessimists will be doubtful and hesitant. Optimism and pessimism are considered one-dimension constructs with a bipolar structure of two opposite poles (Carver & Scheier, 1998, 2003; Scheier & Carver, 1985).

Optimists can accept life difficulties more easily and use active coping more frequently when efforts seem to entail positive results. Moreover, they are less prone to give up and interrupt the pursuit for their goals (Carver & Scheier, 2003). Finally, optimists tend to have more confidence and persistent posture, perceiving problems as challenges, while pessimists are more insecure and less confident in their own success (Carver & Scheier, 2002).

First Scheier and Carver (1985) proposed the *Life Orientation Test (LOT) as instrument to mediate the dispositional optimist. After some criticism about its validity, they proposed the Revised Life Orientation Test (LOT-R) (Scheier, Carver, & Bridges,* 1994*). In Brazil, the LOT-R was adapted and validated by Bastianello, Pacico, and Hutz (*2014*).*

In 2000, Peterson tried to integrate the two definitions of optimism, differentiating the little and the big optimism. This last would be a more comprehensive and dispositional optimism that involves positive expectations to the future. The little optimism, in turn, consists of specific expectations, i.e., situational optimism linked to positive results and related to specific situations. Peterson, Scheier, and Carver's (1982) definition refers to big optimism, while that by Seligman (1990) refers to little optimism as it is focused on concrete and specific events.

A similar idea proposed by Peterson (2000) is that optimism brings components of traits and states. The optimistic traits are stable individual differences, while the state optimists change according to the situations and context (Burke, Joyner, Czech, & Wilson, 2000). Kluemper, Little, and DeGroot (2009) state that Peterson's (2000) differentiation between big and little optimism would be the component of optimistic trait and state, respectively. The optimist trait refers to positive experiences and contributes to individual's health, while the optimistic state refers to positive episodes in specific contexts such as favorable outcomes at work.

Considering what has been said up to now, literature indicates that people with high level of optimism are more prone to reach their goals in comparison to those with high level of pessimism. In fact, many studies showed the positive relation between optimism and physical and psychological well-being of individuals (Peterson & Bossio, 2000; Scheier & Carver, 1992; Scheier, Carver, & Bridges, 2000) and the relation between optimism and job satisfaction, performance, productivity, and absenteeism (e.g., Kluemper et al., 2009; Luthans et al., 2007a; Mäkikangas & Kinnunen, 2003; Seligman & Schulman, 1986).

However, Norem (2000) affirms that optimists and pessimists can be high performers. Norem and Cantor (1986a, 1986b) proposed two cognitive strategies labeled defensive pessimism and strategic optimism [these cognitive strategies could be measured by the *Optimism-Pessimism Prescreening Questionnaire* (OPPQ)

(Norem & Cantor, 1986a) and by the *Revised Defensive Pessimism Questionnaire* (DPQ) (Norem, 2000)]. Individuals that employ the defensive pessimism strategy to safeguard their self-esteem in the event of failure develop low expectations about future events. Those using the strategic optimism, in turn, keep high expectations and, if required, reframe the undesired event if it occurs.

The individuals that use the defensive pessimist cognitive strategy have low expectations about situations, even if they have succeeded in similar circumstances. It happens because of their high level of anxiety before important situations and/or goals and because they give deep thought to the likely negative events. This helps them to enhance their feeling of control over the situation and reduce anxiety. Thinking of all likely negative results of a given event makes them struggle to improve their own performance (Norem, 2000).

The strategic optimism, in turn, refers to a cognitive strategy employed by individuals that do not get anxious when dealing with important situations that define the achievement of significant or risky goals. These people feel capable of controlling the situation and have high expectations in relation of the outcomes. They are prepared to achieve high performance and avoid thinking in advance about the potential results and thus do not get anxious (Norem, 2000). Although strategic optimism and defensive pessimism have different expectations and/or behaviors prior to the effective performance, the two cognitive strategies can generate good performance (Norem, 2000). Despite the affirmation that optimists are not more competent than non-optimists, the good performance of optimists could be attributed to their stronger perseverance to reach and prioritize the most important goals (Carver & Scheier, 2014).

Despite the evidence about the benefits of optimism, Weinstein (1980) warns about its disadvantages, defining unrealistic optimism as a distortion, a misperception characteristic to those individuals who believe that, in comparison to others, the probability of negative events happening to them is low, while the probability of positive events is high. Therefore, they do not anticipate negative events. In fact, a study with a sample of smokers showed that unrealistic optimists underestimate the risk of having lung cancer (Weinstein, Marcus, & Moser, 2005).

Taylor and Brown (1988) reviewed research works about positive illusions. The individuals that miss these positive illusions are more prone to depression, distress, and low self-esteem. Thus, according to the authors, positive illusions about the self seem to be useful in adverse conditions, because they help individuals to cope with difficult events that could threaten their self-esteem and vision of future.

Although Weinstein affirms that optimism leads to a distorted vision of reality, Schneider (2001) says that one can be optimistic and realistic at the same time, defining realistic optimism as a tendency to sustain a positive vision before the evidence of the real world. According to the author, being an optimist means to be lenient with one's own past, appreciate the present, and seek for opportunities in the future, including the analysis of reality and active effort to discover and change malleable aspects of the environment, as well as endeavor to fulfill their own goals.

3.3 Hope

Future always seems favorable since people assign to it the possibilities of promising changes, achievements, and better life. Human beings, in their private thinking, have wonderful visions of tomorrow, since the past is full of events about which nothing can be done (Snyder & Lopez, 2009). The present, in turn, is so quick that it seems to offer few opportunities of effectively performing any change. Therefore, future would be the place where all wishes would come true and full life would be achieved. Human beings are always waiting for something (Sartori & Grossi, 2008). This state related to positive perspectives of future was labeled "hope." Sartori and Grossi (2008) have listed a wide range of concepts to the term. These range from "originated from faith in God" to "give meaning and happiness to life," passing by "coping strategy" and "expectation to reach a goal." The authors state that lack of hope makes the individual opaque, with no perspectives and waiting for death.

In a retrospective on the hopeful thinking, Snyder and Lopez (2009) say it has been presented all over the recorded human history. The authors also affirm that even when hidden, hope is revealed in everyday words that express the belief in a positive future. Planning and believing would reflect an assumption of more generous future and that actions performed could lead to it. In the Greek mythology, for example, the authors (Snyder & Lopez, 2009) mention the myth of Pandora's box that, when opened, releases to the world all the evil stored in it. To the authors, the two possible versions to the myth represent, on one hand, the success of hope and, on the other hand, the antidote to the evil that hope represents. In the religious light, hope, according to the authors, produced great works (physical or philosophic) although in the Middle Ages it could have given rise to an intellectual paralysis that would only be broken in the Renaissance when, in a mercantile society, the so-called worldly goals overrode the preparation for death or postdeath salvation. The idea of more concrete possibility of a better future is consolidated in the Industrial Revolution, when an increasing number of individuals start enjoying better quality of life.

Simply defined, hope would be the belief that life could be better. This is not a passive belief; rather, it is followed up and leveraged by motivations and efforts that lead individuals to this direction. Hope is not translated only in a wish; it is a way of thinking that leads to actions to fulfill its content. Therefore, these are meaningful actions.

There is a consensus among authors that early systematizations about the concept of hope are in the work by Snyder et al. (1991) who proposed that hope is the desire to reach a goal and the capacity of conceiving means or strategies to do so. This concept joins affective and cognitive processes since the desire (or willingness) is a feeling, while plan to achieve a goal is a cognitive process (Siqueira et al., 2014). Snyder and Lopez (2009), in a work where they discuss and expand the discussion about the concept, define hope as the thinking directed to goals, in which the individual uses the perceived capacity of finding ways that lead to the intended goals (pathway-based thinking) and the required motivations to use these pathways

(agency-based thinking). The authors consider the possibility of three types of goals. The first would be the goals that differ for their estimated time to be achieved. These could be achieved in the short time (minutes or hours) or in long term, which would take longer to be reached. The second type regards goals aimed at approximation—goals one wants to achieve—or preventive which relates to events one wants to interrupt. The last type of goal listed by the authors refers to the difficulty of achievement (easy or difficult).

According to the authors, people with high indexes of hope have positive emotional configurations and a feeling of pleasure resulting from their history of successes, while those with low indexes of hope experience negative emotions and a feeling of emptiness reinforced by the history of failed attempts to reach their goals. They also affirm that people with high indexes of hope have the capability of elaborating alternative pathways to reach their goals.

The theory proposed by Snyder and Lopez says that hope feeds the pursuit of results and is fed by the experience of successes that brings about positive emotions, in a virtuous circle that can even interrupt the outbreak of negative feelings. According to the proposed theory, hope has no inherited antecedents. Rather, it would be grounded on a cause-and-effect learning transmitted by caregivers to the children who would then mature the belief that hope is the causal power of the consequences of their behaviors. Therefore, hope is a configuration totally learned in relation to the goal-oriented thought with no inherited contributions (Snyder & Lopez, 2009).

In the authors' perspective, hope could predict high academic and sports performance, as well as the observed relationships with high indexes of optimism, happiness, positive emotions, satisfaction (with life), and good relationship with individuals.

The investigations about hope have another new perspective that is still little explored: the collective hope (Snyder & Feldman, 2000). According to the authors that proposed the concept, collective hope refers to goal-oriented thinking of a large number of persons that, otherwise, could not be achieved individually. According to the authors, some topics to investigate the collective hope would be policies on political parties and environmental preservation. However, despite being promising topics, no empirical work was found.

The possibility of measuring hope, which is one of the conditions to consolidate the construct, was one of the initial concerns of the authors (Siqueira et al., 2014; Snyder & Lopez, 2009; Snyder et al., 1991). At international level, Snyder and Lopez (2009) report two measurements of the construct developed by Snyder et al. (1991) and Snyder, Hoza, and collaborators (1997) that had good psychometric indexes used Likert-type scales and were oriented to the adult and infantile audiences. The first one, composed by 12 items that identified two factors (agency and pathways), was translated into Portuguese by Lopes and Cunha in 2005, keeping the original characteristics. At national level, Pacico, Batianello, Zanon, and Hutz (2013) adapted to the Portuguese language two measurements of hope with good-quality psychometric indexes. More recently, Pacico and Bastianello (2014) developed two scales of hope. The first one (dispositional hope), inspired by the original

scale of Snyder, Harris, and collaborators (1991), has 12 items and is unifactor and mainly oriented to adults. The second one, called cognitive hope, inspired by Staats' scale (originally published in 1989), has two columns on which respondents mark, in 6-point scales, to which extent they expected that some facts (that make up the item) would come to happen and when they expected these. The two scales have good accuracy psychometric indexes. More recently, Siqueira et al. (2014) built and validated a measurement instrument to the psychological capital in the workplace with good psychometric indexes, where one of the factors refers to hope. The 6-item factor related to hope measures two sub-factors: agency, related to the workers' belief about the resources available to them to be successful at work, and pathways that concern the means that workers believe they will use to succeed at work.

3.4   Optimism, Hope, Individual, and Organizations

In studies on positive organizational behavior, optimism is a psychological state associated to expectations of positive outcomes or duties of current and future events, including positive emotions and motivation, characterized for being realistic (Luthans, Youssef, & Avolio, 2007b).

Individuals with optimistic explanatory style think, behave, and relate with other persons in a way to pursue larger number of positive events in their own lives. In opposition, subjects presenting pessimistic explanatory style insist on thinking negatively, are careless in relation to the others, and behave in a way to be more frequently exposed to problems (Luthans et al., 2007b).

Different surveys show the positive effect of optimism on the physical and psychological well-being (Peterson & Bossio, 2000; Scheier & Carver, 1992, 1993; Scheier et al., 2000) and on social relationships (Carver & Scheier, 2014). For example, Sonnetang (2015) states that well-being is affected by personal resources such as self-efficacy, optimism, and self-esteem.

Dispositional optimism has been positively related to job satisfaction (Luthans et al., 2007b; Mäkikangas & Kinnunen, 2003), performance (Carlomagno, Natividade, de Oliveira, & Hutz, 2014; Kluemper et al., 2009; Luthans et al., 2007a, 2007b; Youssef & Luthans, 2007), happiness in the workplace (Youssef & Luthans, 2007), creativity (Carlomagno et al., 2014), emotional and social support in the workplace, perception of organizational support (Barbosa, 2010), affective organizational commitment (Barbosa, 2010; Kluemper et al., 2009), and productivity (Seligman & Schulman, 1986) and negatively related to emotional exhaustion (Mäkikangas & Kinnunen, 2003; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007), mental distress, physical symptoms (Mäkikangas & Kinnunen, 2003), burnout (Alarcon, Eschleman, & Bowling, 2009; Kluemper et al., 2009), and absenteeism (Avey, Patera, & West, 2006; Seligman & Schulman, 1986).

Optimism has direct and positive effect on the perception of job resources (Barkhuizen, Rothmann, & Vijver, 2014), proactive coping (Chang & Chan, 2015; Scheier et al., 1994), engagement at work, particularly the components of vigor and

dedication (Salminen, Mäkikangas, & Feldt, 2014), affective commitment, job satisfaction, and task performance (Kluemper et al., 2009) and has direct and negative effect on the burnout (Chang & Chan, 2015; Kluemper et al., 2009) and stress perception (Yew, Lim, Haw, & Gan, 2015). Moreover, the optimistic explanatory style is associated to high motivational levels (Reivich & Gillham, 2003), as well as to perseverance; success in the academic, athletic, military, occupational, and political scope; and popularity (Peterson, 2000).

In addition to the direct effect, optimism has an indirect effect (in moderation relationship) on burnout, engagement at work, health conditions, and organizational commitment (Barkhuizen et al., 2014). It also mediates the relationship of control at work and dedication, i.e., even in situations of low control, optimist individuals maintain high dedication (Salminen et al., 2014). In addition, it moderates the effect of the relation of organizational variables (organizational climate, insecurity at work, and temporal pressure at work) with mental distress in women (Mäkikangas & Kinnunen, 2003). There is also evidence of a negative relationship between optimistic entrepreneurs and performance in new businesses (Hmieleski & Baron, 2009).

Taking this evidence in consideration, optimist collaborators can bring advantages to the organizations. Optimism as state has stronger predictive power for organizational outcomes than the dispositional optimism (Kluemper et al., 2009). Therefore, organizations should consider optimism as an important result and develop it in their collaborators since, as it is a psychological state rather than a stable trait, it is more flexible and likely to be promoted by the organizations (Luthans, 2002).

Several cognitive techniques have been proposed and applied to change pessimism into optimism and to promote optimism (Luthans, Avey, Avolio, Norman, & Combs, 2006; Luthans, Avey, & Patera, 2008; Riskind, Sarampote, & Mercier, 1996; Seligman, 1990). The strategies of cognitive change proposed by Schneider (2001) involve being indulgent in relation to the past, appraise the present, and pursue opportunities to the future, besides the development of an affective social network to help breaking the pessimism cycle. Techniques like mentoring, coaching, role modeling, and teamwork, for example, can also promote optimism. The constructive feedback, social recognition, and attention foster positive behaviors and enable changing the beliefs and attitudes of pessimist individuals toward the optimism (Luthans et al., 2007b).

Luthans et al. (2008) have presented empirical evidence that psychological capital can be developed. The authors analyzed the psychological capital developed through Internet-based 2-h training with the participation of 187 workers randomly appointed to the group that was given training to develop psychological capital, while 177 workers were appointed to the control group. Two training sessions were held, and in both groups, the psychological capital was measured in the beginning and at the end. The research gathered evidence that psychological capital can be developed through training, considering the development of the psychological capital among workers that had been trained.

In addition to individual interventions, the organizational interventions are crucial to promote optimism. In fact, to Xanthopoulou, Bakker, Demerouti, and Schaufeli (2009), the psychological processes are dynamic, and resources and well-being cyclically interact. In other words, the organizational and personal resources predict the organizational commitment that, in turn, predicts the organizational and personal resources.

Hope, in turn, although being a relatively recent topic, has already generated significant production in the international and national literature in the organizational and work areas (Reppold, Gurge, & Schiavon, 2015). Carlomagno et al. (2014), reviewing the literature, report to find studies that confirmed the positive and significant correlations between hope and professional performance, hope and positive performance evaluations made by supervisors, besides predicting positive performance self-evaluations, and increase motivation and confidence in the workplace. Hopeful individuals also proved to be more capable of selecting more efficacious strategies to overcome challenges. In 2013, Pacico showed that hope is significantly correlated with better education, lower absenteeism, self-efficacy, optimism, satisfaction with life, and positive affects. Still in 2007, Martinez, Ferreira, Sousa, and Cunha, in a study carried out in Portugal, say that hope would be positively and strongly related to presenteeism and negatively with depression and anxiety. Although present in literature, there are fewer works on organizational actions (Palma et al., 2007). The authors mention the significant contributions of hope (and the psychological capital as a whole) in environments considered entrepreneurial. Marujo, Miguel Neto, Caetano, and Rivero (2007) also report the contributions of positive thinking to organizations and societies. The authors affirm that the institutionalization of virtuous and "noble" actions, in organizations and in the society, would generate positive results in the light of performance and could also suppress negative effects. They also affirm that, although the negative is not insignificant, joining the individual's and organization's positive motivational powers could change organizations and communities through the analysis of positive actions in the past and of the virtues and powers that have proved to be efficacious.

Snyder and Lopez (2009) report that hopeful individuals in the workplace were those conscious about their jobs, presented positive attitudes toward their peers and local communities, were kind with fellows and clients, did not blame the colleagues management or clients when complications arose at work, found good strategies to achieve the proposed goals, and, above all, could get motivated in normal circumstances and were dynamic in hardships. Corporations identified as hopeful, in turn, were those whose managers were not feared, that provided chances of success for all, whose environment was respectful to all, that use feedback as a tool of improvement rather than a punishment, whose decisions considered the position of all actors, that delegated the responsibility of implementing new ideas to their authors, and that sought long-lasting relationships with clients, in detriment to goals (Carlsen, Hagen, & Mortensen, 2012; Snyder & Lopez, 2009).

In a meta-analysis that investigated the psychological capital impact on attitudes (job satisfaction, organizational commitment, and well-being), behaviors (organizational citizenship), and employees' performance (self-evaluation and evaluation by

Table 3.1 Effects of optimism and hope in the organizational context

Optimism		Hope	
Variables/results	Authors	Variables/results	Authors
Perception of resources at work	Barkhuizen et al. (2014)	Professional performance, positive performance evaluations and motivation in the workplace, and confidence	Carlomagno et al. (2014), Marujo et al. (2007)
Proactive coping	Chang and Chan (2015), Scheier et al. (1994)	Lower absenteeism, self-efficacy, optimism, satisfaction with life and positive affects	Pacico (2013)
Work engagement	Salminen et al. (2014)	Presenteeism, less reports of depression, and anxiety	Martinez et al. (2007)
Affective commitment, job satisfaction, and task performance	Kluemper et al. (2009)	Better relationship with peers, greater dynamism at work, good strategies to reach goals	Snyder and Lopez (2009), Carlsen et al. (2012)
High motivational levels	Reivich and Gillham (2003)	Life quality and organizational citizenship	Nafei (2015)

supervisors), Avey, Reichard, Luthans, and Mhatre (2011) computed 51 works and a sample of 12,567 employees. The keyword *capital psicológico* (psychological capital, in Portuguese) was searched in published and unpublished works, in an exhaustive search from 1874 to the time when the study was produced. The results pointed out positive and significant relationships among all the variables investigated in all studies comprised by the meta-analysis.

In another meta-analysis published in 2015, Nafei reports positive, significant, and strong links between optimism, hope, and other elements that make up the psychological capital (resilience and self-efficacy) with behaviors of organizational citizenship and reports of better quality of life.

Table 3.1 summarizes the main findings of investigations that related optimism and hope with outcomes in organizational contexts.

The results reported in the paragraphs above foresee managerial actions to implement or improve optimism and hope in work organizations. This will be approached next.

3.5 Applications

Considering the evidence found in several works that show the positive relations among optimism, hope, and desired results in the scope of work corporations, authors investigated strategies to improve the psychological capital through organizational actions.

The strategies listed by the authors are based on two common assumptions: the psychological capital entails benefits to quality of life and satisfaction of employees as well as to the competitive effectiveness of organizations (Luthans & Youssef, 2004), and its characteristics are subject to change (pessimism/optimism and hopelessness/hope) through educational or environmental interventions (Carlsen et al., 2012; Nafei, 2015).

In an attempt to increase managers' and employees' hope, Luthans and Youssef (2004) postulate that organizational goals should be clearly defined and communicated. Subgoals should be outlined as stages to be surmounted to reach the final goals. According to the authors, these subgoals should be reachable in the short or medium term so that employees and managers perceive them as attainable. The scope of small goals could increase general hope through the perceived likeliness of success (Luthans & Youssef, 2004). Regarding optimism, Luthans and Youssef (2004) postulate that organizational interventions should lead employees to rethink and reassess their past mistakes, appraise the positive aspects of the present life, and proactively identify the opportunities for future success. The authors conclude their work saying that flexible corporate environment attentive to contemporary demands is crucial to enhance the psychological capital of their teams.

In 2010, Luthans, Avey, and Avolio proposed a training program with tasks specifically aimed to the development of hope and optimism in work organizations. The tasks had the following purposes: (1) plan the goals; (2) define pathways to reach the goals, including the obstacles (increase of hope); and (3) build reliable relationships that increased positive expectations of future (increase of optimism). Training was made up by short tasks to be performed in group, focused on short-term planning and feedback from the group. Before-after measurements of the degrees of hope and optimism showed that goals were fulfilled.

The previous study resembles the proposal by Rodríguez-Muñoz and Bakker (2013) who consider efficacious interventions as those that promote the well-being of workers when tasks are structured and areas are defined. These authors also add that a participatory focus should be adopted to promote the cooperation between management and employees. During interventions, the employees' arguments are to be considered, as well as the organization's responsibility. Finally, the intervention should be evaluated. The comparison of these studies show that planning of goals, definition of pathways, delimitation of tasks, and, above all, feedback assist to expand optimism and work engagement.

The intervention program on work engagement, aimed to improve behaviors of civility and learning of new behaviors toward balanced and healthy everyday life of employees, presented positive results in up to six months after the intervention. The interventions aimed at the development of psychological capital (self-efficacy, optimism, hope, and resilience) were recommended because these could affect work engagement, according to Bakker, Albrecht, and Michael (2011). The studies presented above and summarized in Table 3.1 show the relationships between optimism and hope and important aspects of the organizational life such as performance, behavior of organizational citizenship, employee's physical well-being, confidence, satisfaction, and quality of life in the workplace. These are specific studies that raise

criticism about their capacity of generalization. However, favorable indicators cannot be neglected.

Besides focusing on the development of the employee's psychological capital, the studies have also approached managers. In a meta-analytical study that comprised eight studies carried out in 2014 in education institutions in Egypt, which approached the impact of psychological capital on behaviors of organizational citizenship and reported quality of life, Nafei (2015) reports that all studies found positive relationships between the investigated variables. The author concludes the work listing the managerial actions required to develop psychological capital among employees: (1) identify situation that inhibit the flourishing of psychological capital through feedback suggesting likely pathways to reach success; (2) formulate strategies to reach the proposed goals; (3) identify the role of each subordinate in the organizational development; (4) clearly inform subordinates about what is expected from the performance of their roles; and (5) define a realistic career plan. These managerial actions and characteristics surely refer to people management and are in line with the vision of Snyder and Lopez (2009). These authors sustain that managers should provide a wide range of tasks and safe environments with fair earnings and friendship to ensure the effective participation of all in the decisions that affect them, creating an environment of cooperation and dialogue. The listed actions and concerns refer to policies and practices of human resources management.

Bozek (2015) focused on the role of managers to implement psychological capital in work organizations. According to the author, the main trait of effective managers in this task is the volunteer participation in programs designed for this purpose. According to Bozek (2015), effective participation is identified by longer time in contact with peers and subordinates in other environments than cabinets; simple and straightforward communication between senior members and subordinates; employees treated as partners that deserve individual respect; trust, rather than control and discipline, that shapes relationships; work that is developed in groups from different organizational segments; and managers who are continuously trained to perform their duties and listen to subordinates in decisions that affect them. In brief, the role of managers and management policies and practices should be the object of study when the aim is to develop optimism and hope in the organizational context. In broader terms, the same is true to the development of psychological capital as a whole.

3.6 Conclusions

In the current world of work configuration, in which organizations must fit into the new changes of environment, workers should not only have good knowledge and technical capacity but also psychological resources that help them to be optimally adjusted to the ever-changing work environment. Some psychological traits seem to facilitate better coping with negative and stressing situation by perceiving the life events in a more positive way (optimism) or acting on the environment to make it more attractive or pleasant (hope).

Optimistic and hopeful individuals are a new opportunity of positive, healthy, and productive labor force, which is also independent, open to new ideas, and capable of accepting changes and organizational developments. These workers' characteristics enable them to cope with changes in the world of work in a more effective way than the others. Therefore, collaborators with high level of optimism and hope seem to have a differential in the work environment (Luthans et al., 2007a).

Organizations have the possibility of working on their environment to emphasize its strengths and adjust its weaknesses, using a proactive and positive approach (Luthans & Crurch, 2002). They should recognize optimism and hope as important psychological capitals that have positive impact on the workers' well-being or the organizations' effectiveness (Luthans, 2002).

References

Abramson, L., Seligman, M., & Teasdale, J. (1978). Learned helplessness in humans: Critique and reformulation. *Journal of Abnormal Psychology, 87*, 49–74.

Alarcon, G., Eschleman, K. J., & Bowling, N. A. (2009). Relationships between personality variables and burnout: A meta-analysis. *Work & Stress, 23*(3), 244–263. doi:10.1080/02678370903282600.

Avey, J. B., Patera, J. L., & West, B. J. (2006). Positive psychological capital: A new lens to view absenteeism. *Journal of Leadership and Organizational Studies, 13*, 42–60.

Avey, J. B., Reichard, R. J., Luthans, F., & Mhatre, K. H. (2011). Meta-analysis of the positive psychological capital on employee attitudes, behaviors, and performance. *Human Resource Development Quarterly, 22*(2), 127–152.

Bakker, A. B., Albrecht, S. L., & Michael, P. (2011). Key questions regarding work engagement. *European Journal of Work and Organizational Psychology, 20*(1), 4–28. doi:10.1080/1359432X.2010.485352.

Barbosa, T. S. (2010). *Os impactos do balanço emocional, Otimismo e percepções de suportes sobre bem-estar no trabalho de agentes comunitários de saúde.* Health Psychology Master's Degree Dissertaion. Universidade Metodista de São Bernardo do Campo, São Bernardo do Campo.

Barkhuizen, N., Rothmann, S., & Vijver, F. J. (2014). Burnout and work engagement of academics in higher education institutions: Effects of dispositional optimism. *Stress and Health, 30*(4), 322–332. doi:10.1002/smi.2520.

Bastianello, M. R., Pacico, J. C., & Hutz, C. S. (2014). Optimism, self-esteem and personality: Adaptation and validation of the Brazilian version of the Revised Life Orientation Test (LOT-R). *Psico- USF, 19*(3), 523–531. doi:10.1590/1413-827120140190030.

Bozek, A. (2015). Positive psychological capital concept: A critical analysis in the context of participatory management. *Management and Business Administration Central Europe, 23*(3), 19–31. doi:10.7206/mba.ce.2084-3356.148.

Burke, K. L., Joyner, A. B., Czech, D. R., & Wilson, M. J. (2000). An investigation of concurrent validity between two optimism/pessimism questionnaires: The Life Orientation Test-Revised and The Optimism/Pessimism Scale. *Current Psychology, 19*(2), 129–136.

Carlomagno, L. L. L., Natividade, J. C., de Oliveira, M. Z., & Hutz, C. S. (2014). Relações entre criatividade, esperança, otimismo e desempenho profissional. *Temas em Psicologia, 22*(2), 497–508. doi:10.9788/TP2014.2-18.

Carlsen, A., Hagen, A. L., & Mortensen, T. F. (2012). Imagining hope in organizations. From individual goal attainment to horizons of relational possibility. In K. Cameron & G. Spreitzer (Eds.), *The handbook of positive organizational scholarship* (pp. 288–303). New York: Oxford University Press.

Carver, C., & Scheier, M. (1998). *On the self-regulation of behavior* (Italian translation. Autoregolazione del Comportamento. Trento: Erickson)*.* New York: Cambridge.

Carver, C., & Scheier, M. (2002). Optimism. In C. R. Snyder & S. J. Lopez (Eds.), *Handbook of positive psychology* (pp. 231–243). New York: Oxford.

Carver, C., & Scheier, M. (2003). Optimism. In S. J. Lopez & C. R. Snyder (Eds.), *Positive psychological assessment: A handbook of models and measures* (pp. 75–89). Washington: American Psychological Association.

Carver, C. S., & Scheier, M. F. (2014). Dispositional optimism. *Trends in Cognitive Sciences, 18*(6), 293–299. doi:10.1016/j.tics.2014.02.003.

Chang, Y., & Chan, H. J. (2015). Optimism and proactive coping in relation to burnout among nurses. *Journal of Nursing Management, 23*(3), 401–408. doi:10.1111/jonm.12148.

Colligan, R., Offord, K., Malinchoc, M., Schulman, P., & Seligman, M. (1994). Caveing the MMPI for an optimism-pessimism scale: Seligman's attributional model and the assessment of explanatory style. *Journal of Clinical Psychology, 50*(1), 71–95.

Hmieleski, K. M., & Baron, R. A. (2009). Entrepreneurs' optimism and new venture performance: A social cognitive perspective. *Academy of Management Journal, 52*(3), 473–488.

Kluemper, D., Little, L., & DeGroot, T. (2009). State or trait: Effects of optimism on job-related outcomes. *Journal of Organizational Behavior, 30*(2), 209–231. doi:10.1002/job.591.

Lopes, M. P., & Cunha, M. P. (2005). *Positive psychological capital: Distinguishing profiles and their impact on organizational climate*. Manuscript under review.

Luthans, F. (2002). The need for and meaning of positive organizational behavior. *Journal of Organizational Behavior, 23*(6), 695–706.

Luthans, F., & Crurch, A. (2002). Positive organizational behavior. *Academy of Management Executive, 16*(1), 57–72.

Luthans, F., & Youssef, C. (2004). Investing in people for competitive advantage. *Organizational Dynamics, 33*(2), 143–160. doi:10.1016/j.orgdyn.2004.01.003.

Luthans, F., Luthans, K. W., & Luthans, B. C. (2004). Positive psychological capital: Beyond human and social capital. *Business Horizons, 41*(1), 45–50.

Luthans, F., Avey, J. B., Avolio, B. J., Norman, S. M., & Combs, G. M. (2006). Psychological capital development: Toward a micro-intervention. *Journal of Organizational Behaviour, 27*(3), 387–393. doi:10.1002/job.373.

Luthans, F., Avolio, B. J., Avey, J. B., & Norman, S. M. (2007a). Positive psychological capital: Measurement and relationship with performance and satisfaction. *Personnel Psychology, 60*(3), 541–572. doi:10.1111/j.1744-6570.2007.00083.x.

Luthans, F., Youssef, C., & Avolio, B. (2007b). *Psychological capital: Developing the human competitive edge*. Oxford: New York.

Luthans, F., Avey, J. B., & Patera, J. L. (2008). Experimental analysis of a web-based training intervention to develop Positive Psychological Capital. *Academy of Management Learning & Education, 7*(2), 209–221.

Luthans, F., Avey, J. B., Avolio, B. J., & Peterson, S. J. (2010). The development and resulting performance impact of positive psychological capital. *Human Resource Development Quarterly, 21*(1), 41–67. doi:10.1002/hrdq.20034.

Mäkikangas, A., & Kinnunen, U. (2003). Psychosocial work stressors and wellbeing: Self-esteem and optimism as moderators in a one-year longitudinal sample. *Personality and Individual Differences, 35*(3), 537–557. doi:10.1016/S0191-8869(02)00217-9.

Malinchoc, M., Offord, K., & Colligan, R. (1995). PSM-R: Revised optimism-pessimism scale for the MMPI-2 and MMPI. *Journal of Clinical Psychology, 51*(2), 205–214.

Martinez, L. F., Ferreira, A. I., Sousa, L. M., & Cunha, J. V. (2007). A esperança é a última que morre? Capital psicológico positivo e presenteísmo. *Comportamento Organizacional, 13*(1), 37–54.

Marujo, H. A., Miguel Neto, L., Caetano, A., & Rivero, C. (2007). Revolução positiva: Psicologia positiva e práticas em contextos organizacionais. *Comportamento Organizacional, 13*(1), 115–136.

Nafei, W. (2015). Meta-analysis of the impact of psychological capital on quality of work life and organizational citizenship behavior: A study on Sadat City University. *International Journal of Business Administration, 6*(2), 42–59. doi:10.5430/ijba.v6n2p42.

Norem, J. K. (2000). Defensive pessimism, optimism and pessimism. In E. C. Chang (Ed.), *Optimism & Pessimism* (pp. 77–100). Washington: American Psychological Association.

Norem, J. K., & Cantor, N. (1986a). Anticipatory and post hoc cushioning strategies: Optimism and defensive pessimism in "rischy" situations. *Cognitive Therapy and Research, 10*(3), 347–362.

Norem, J. K., & Cantor, N. (1986b). Defensive pessimism: Harnessing anxiety as motivation. *Journal of Personality and Social Psychology, 51*(6), 1208–1217. doi:10.1037/0022-3514.51.6.1208.

Pacico, J. C. (2013). *Absenteísmo e Relações com Esperança, Autoeficácia, Afetos, Satisfação de Vida e Otimismo*. Monograph of Specialization in Organizational Psychology. Universidade Federal do Rio Grande do Sul, Porto Alegre.

Pacico, J. C., & Bastianello, M. R. (2014). Instrumentos para Avaliação da Esperança: Escala de Esperança Disposicional e Escala de Esperança Cognitiva. In C. S. Hutz (Ed.), *Avaliação em Psicologia Positiva* (pp. 101–110). Porto Alegre: Artmed.

Pacico, J. C., Batianello, M. R., Zanon, C., & Hutz, C. S. (2013). Adaptation and validation of disposicional hope scale for adolescents. *Psicologia: Reflexão e Crítica, 26*(3), 488–492. doi:10.1590/S0102-79722013000300008.

Palma, P. J., Cunha, M. P., & Lopes, M. P. (2007). Comportamento Organizacional Positivo e Empreendorismo: Uma Influência Mutuamente Vantajosa. *Comportamento Organizacional e Gestão, 13*(1), 93–114.

Peterson, C. (1992). Explanatory style. In C. Smith, J. Atkinson, D. McClelland, & J. Veroff (Eds.), *Motivation and personality: Handbook of thematic content analysis* (pp. 376–382). New York: Cambridge.

Peterson, C. (2000). The future of optimism. *American Psychologist, 55*(1), 44–55.

Peterson, C., & Bossio, L. (2000). Optimism and physical wellbeing. In E. C. Chang (Ed.), *Optimism & pessimism* (pp. 127–145). Washington: American Psychological Association.

Peterson, C., & Steen, I. (2002). Optimism explanatory style. In C. R. Snyder & S. J. Lopez (Eds.), *Handbook of positive psychology* (pp. 244–256). New York: Oxford.

Peterson, C., Semmel, A., Baeyer, C., Abramson, L., Metalsky, G., et al. (1982). The attributional style questionnaire. *Cognitive Therapy and Research, 16*(3), 287–300.

Reivich, K., Gillham, J. (2003). Learned optimism: The measure of explanatory style. In S. J. Lopez, C. R Snyder, *Positive psychological assessment: A handbook of models and measures* (pp. 57-74). Washington: American Psychological Association.

Reppold, C. T., Gurge, L. G., & Schiavon, C. C. (2015). Research in positive psychology: A systematic literature review. *Psico-Usf, 20*(2), 275–285. doi:10.1590/1413-82712015200208.

Riskind, J. H., Sarampote, C. S., & Mercier, M. A. (1996). For every malady a sovereign cure: Optimism training. *Journal of Cognitive Psychotherapy, 10*(2), 105–117.

Rodríguez-Muñoz, A., & Bakker, A. B. (2013). El engagement en el trabajo. In B. Moreno-Jimenez & E. Garrosa Hernandez (Eds.), *Salud laboral: Riesgos laborales psicosociales y bienestar laboral* (pp. 437–452). Madrid: Pirámide.

Salminen, S. R., Mäkikangas, A., & Feldt, T. (2014). Job resources and work engagement: Optimism as moderator among finish managers. *Journal of European Psychology Students, 5*(1), 69–77. doi:10.5334/jeps.bu.

Sartori, A. C., & Grossi, S. A. A. (2008). Escala de Esperança de Herth: Instrumento Adaptado e Validado para a Língua Portuguesa. *Revista da Escola de Enfermagem da USP, 42*(2), 227–232. doi:10.1590/S0080-62342008000200003.

Scheier, M., & Carver, C. (1985). Optimism, coping, and health: Assessment and implications of generalized outcome expectancies. *Health Psychology, 4*(3), 219–247.

Scheier, M., & Carver, C. (1992). Effects of optimism on psychological and physical wellbeing: Theorical overview and empirical update. *Cognitive Therapy and Research, 16*(2), 201–228.

Scheier, M., & Carver, C. (1993). On the power of positive thinking: The benefits of being optimistic. *Current Directions of Psychological Science, 2*, 26–30.

Scheier, M., Carver, C., & Bridges, M. (1994). Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): A reevaluation of the Life Orientation Test. *Journal of Personality and Social Psychology, 67*(6), 1063–1078.

Scheier, M., Carver, C., & Bridges, M. (2000). Optimism, pessimism, and psychological well-being. In E. C. Chang (Ed.), *Optimism & pessimism* (pp. 189–216). Washington: American Psychological Association.

Schneider, S. (2001). In search of realistic optimism. *American Psychologist, 56*(3), 250–260.

Seligman, M. (1990). *Learned optimism: How to change your mind and your life*. Fulvia Innocenti, Trad., Imparare l'ottimismo, Firenze: Giunti Gruppo Editoriale, 1996. NY: Pocket Books.

Seligman, M. E., & Csikszentmihhalyi, M. (2000). Positive psychology: An introduction. *American Psychology, 55*, 5–14.

Seligman, M., & Schulman, P. (1986). Explanatory style as a predictor of productivity and quitting among life insurance sales agents. *Journal of Personality and Social Psychology, 50*(4), 832–838.

Siqueira, M. M. M., Martins, M. C. F., & Souza, W. S. (2014). Capital Psicológico no Trabalho. In M. M. M. Siqueira (Ed.), *Novas Medidas do Comportamento Organizacional: Ferramentas de Diagnóstico e Gestão* (pp. 65–78). Porto Alegre: Artmed.

Snyder, C. R., & Feldman, D. (2000). Hope for the many: An empowering social agenda. In C. R. Snyder (Ed.), *Handbook of hope: Theory, measures and applications* (pp. 389–412). San Diego: Academic Press.

Snyder, C. R., & Lopez, S. J. (2009). *Psicologia Positiva: Uma Abordagem Prática das Qualidades Humanas*. Porto Alegre: Artmed.

Snyder, C. R., Harris, C., Anderson, J. R., Holleran, S., Irving, I. M., & Sigmon, S. T. (1991). The will and the ways: Development and validation of an individual-differences measure of hope. *Personality and Social Psychology, 60*(4), 570–585.

Snyder, C. R., Hoza, B., Pelham, W. E., Rapoff, M., Ware, L., Danovsky, M., et al. (1997). The development and validation of the Children's Hope Scale. *Journal of Pediatric Psychology, 22*(3), 399–421.

Sonnetang, S. (2015). Dynamics of Wellbeing. *The Annual Review of Organizational Psychology and Organizational Behavior, 2*, 261–269. doi:10.1146/annurev-orgpsych-032414-111347.

Taylor, S., & Brown, J. (1988). Illusion and wellbeing: A social psychological perspective on mental health. *Psychological Bulletin, 13*(2), 193–210.

Weinstein, N. (1980). Unrealistic optimism about future life events. *Journal of Personality and Social Psychology, 39*(5), 806–820.

Weinstein, N. D., Marcus, S. E., & Moser, R. P. (2005). Smokers' unrealistic optimism about their risk. *Tobacco Control, 14*(1), 55–59. doi:10.1136/tc.2004.008375.

Xanthopoulou, D., Bakker, A., Demerouti, E., & Schaufeli, W. (2007). The role of personal resources in the job demands-resources model. *International Journal of Stress Management, 14*(2), 121–141. doi:10.1037/1072-5245.14.2.121.

Xanthopoulou, D., Bakker, A., Demerouti, E., & Schaufeli, W. (2009). Reciprocal relationships between job resources, personal resources, and work engagement. *Journal of Vocational Behavior, 74*(3), 235–244. doi:10.1016/j.jvb.2008.11.003.

Yew, S. H., Lim, K. M. J., Haw, Y. X., & Gan, S. K. E. (2015). The association between perceived stress, life satisfaction, optimism, and physical health in the Singapore Asian context. *Asian Journal of Humanities and Social Sciences (AJHSS), 3*(1), 56–66.

Youssef, C., & Luthans, F. (2007). Positive organizational behavior in the workplace: The impact of hope, optimism and resilience. *Journal of Management, 33*(5), 774–800. doi:10.1177/0149206307305562.

Chapter 4
Work Engagement

**Áurea de Fátima Oliveira, Maria Cristina Ferreira,
and Laís Paranaíba Frattari Ribeiro**

4.1 Introduction

In 2002, Luthans presents the conception of positive organizational behavior (POB). This new field of studies focuses on the various positive psychosocial aspects of workers, based on the presupposition that positive human aspects are sustained by theoretical bases and, thus, are measured and capable of being learned and of organizational management. According to Bakker and Schaufeli (2008), POB aims at the study of positive individual psychological conditions related to the well-being of the employee and improvement of performance. Among the investigated themes, these authors list self-efficacy, optimism, hope, resiliency, engagement, and personal resources which help the individual to deal with organizational demands. Thus, POB researches have interest in performances in organizations and conditions that stimulate employees.

Organizations need engaged and committed employees in order to accomplish organizational objectives in the midst of transformations (Ribas & Rodrigues, 2009). In the current socioeconomic context, having engaged employees provides competitive advantage, since this is directly related to performance, commitment, and health. Engaged employees have high levels of energy, enthusiasm, inspiration, and pride in their work, and they feel that time flies while working (Breevaart, Bakker, Demerouti, & Heuvel, 2015).

Á. de Fátima Oliveira (✉)
Universidade Federal de Uberlândia, Uberlândia, Minas Gerais, Brazil
e-mail: aurea.oliveira@ufu.br

M.C. Ferreira
Universidade Salgado de Oliveira, Rio de Janeiro, RJ, Brazil
e-mail: mcris@centroin.com.br

L.P.F. Ribeiro
Ministério Público do Estado de Minas Gerais, MPMG, Uberlândia, Minas Gerais, Brazil
e-mail: laisparanaiba@hotmail.com

The subject of work engagement is important, since understanding positive aspects in an organization where workers feel satisfied, involved, and committed to their tasks becomes fundamental (Cavalcante, 2013).

According to Bakker (2009), organizations come to have a true competitive differential when planning and executing activities which promote engagement. Measures such as review of processes and reduction of expenses or of the team of functionaries are not necessarily sufficient in order that organizations reach a state of excellency. Concerning this, Rodríguez-Muñoz and Bakker (2013) added that new approaches are necessary in order that organizations not only survive but also develop and grow in a sustainable manner.

Within a practical perspective, there are indications from literature about positive consequences of work engagement. According to Bakker, Schaufeli, Leiter, and Taris (2008), workers with high indexes of work engagement employ more energy in their tasks, show more enthusiasm while performing them, and remain more focused on their work. Carrasco, Martines-Tur, Peiró, Garcia-Buades, and Moliner (2011), in turn, added that engagement can be a prediction of positive emotions of the worker both in individual and team contexts. These emotions would have impact, like a domino effect, on the working environment. It concerns a positive state which makes possible and facilitates the use of resources, which is intimately linked with the development of the organization, stimulating positive organizational results and, thus, reducing the negative ones.

Considering a period of turbulence which generates the necessity of new organizational strategies with a view to the survival and growth of organizations as to the well-being of their collaborators, studying work engagement and its applications means assuming a strategic and contemporary vision in the face of emerging challenges which appear to professionals and academicians.

The chapter makes a review of the main research findings about work engagement, involving Brazilian and international studies, presents practical implications of these findings, and discusses the role of personnel and team management in the promotion of engagement.

4.2   Conceptual Aspects

According to Siqueira, Martins, Orengo, and Souza (2014), the introduction of the concept of engagement is attributed to Kahn (1990). For this author, engagement is defined as improvement of members of an organization in the roles they perform. Thus, persons who are not engaged in their work distance themselves from their organizational roles. Being engaged means being psychologically involved and present while executing a task.

For Kahn (1990), engaged employees would express their physical, emotional, and cognitive characteristics during the performance of their tasks, and that would bring benefits to the organization and the individual. An engaged employee is physically involved, cognitively vigilant, and emotionally connected to the work and

directs more efforts toward it, inasmuch as one is identified with it. Thus, engagement is a mental state capable of producing positive results both for the individual (personal growth and development) and for organizations (quality of performance).

Rothbard (2001) added that being engaged, besides being psychologically present, means being attentive and absorbed by functions. Attention refers to the cognitive ability to reflect upon the role one performs, and absorption refers to the intensity with which the individual is concentrated on one's role.

Schaufeli, Salanova, González-Romá, and Bakker (2002) brought one of the most employed definitions in the literature: engagement is a positive state related to work, characterized by vigor, dedication, and absorption. Thus, it does not regard a momentary state, but rather a persistent one, not having focus on any objective, behavior, event, or individual in particular. In relation to the components of work engagement, vigor involves high levels of energy while one is working, a tendency to concentrate oneself on solutions and decisions instead of conforming to difficulties; dedication refers to feelings of enthusiasm, inspiration, pride, and challenge; absorption is being concentrated on work, having the sensation that time passes quickly and still not detaching oneself from work (Hassan & Ahmed, 2011).

Saks (2006), in turn, affirms that engagement is defined as a single and distinct construct, composed of cognitions, emotions, and behaviors associated with individual performance. In 2014, in Brazil, Siqueira and collaborators defined work engagement as "a positive mental state based on beliefs concerning the intensity with which the individual feels vigorous and absorbed while performs one's professional activities" (Siqueira et al., 2014, p. 150). For these authors, the dimension of dedication was disregarded because this construct is similar to other concepts existent in the literature of organizational behavior related to challenge, inspiration, enthusiasm, meaning, and purpose. Such working qualities can be partially found as items of measures which evaluate construct as involvement with work. This subject shall be resumed briefly, from the perspective of other authors.

Engagement is also considered a motivational construct, inasmuch as it represents the active use of personal resources in relation to tasks pertinent to the professional role (Christian, Garza, & Slaughter, 2011). Based on the work of Kahn (1990), Christian et al. (2011) highlight two important aspects in relation to the theme: (1) work engagement refers to "psychological connection with performance of working tasks rather than an attitude towards characteristics of the organization or the work" (p. 91); (2) the construct refers to self-investment of personal resources in work. Such resources are of physical, emotional, and cognitive nature, being employed in the performance of roles.

Engagement has become a concept widely employed, but most of the publications have occurred in journalistic articles, and little has been researched about the theme. Besides that, authors affirm that engagement is many times confounded with other concepts, such as commitment, involvement, and satisfaction, but these concern distinct concepts (Hassan & Ahmed, 2011; Robinson, Perryman, & Hayday, 2004).

The conceptual distinction between engagement and other constructs investigated in organizational behavior is discussed by Christian et al. (2011) and Bakker, Albrecht, and Michael (2011), who begin their argumentation affirming that there is no agreement between professionals and academicians in relation to the definition of work engagement, many times considered similar to affective and continual organizational commitment, extra-role behavior, and involvement with work. In spite of this, authors defend the unity and identity of the concept, for it does not concern "old wine in a new bottle." Christian et al. (2011) clarify that involvement is a belief of the individual that the work satisfies one's necessities, besides having a strong identification with it. In case of involvement, the performance of the individual affects one's self-esteem (Lodahl & Kejner, 1965). Christian et al. (2011) synthesize the differences in the following way: involvement, for being a cognitive construct, can be conceived as a facet of engagement but must not be considered equivalent to this. They also add that involvement with work generally refers to centrality of work for the identity of the individual, but it does not specifically concern working tasks.

Engagement differs from organizational commitment because this refers to an attitude before the organization, and that is not an attitude but rather the degree in which individuals are attentive and absorbed in their roles; it differs from involvement because this is a cognitive judgment on the necessity of satisfying oneself to the necessities of work, and engagement involves the use not only of cognitions but also of emotions and behaviors (May, Gilson, & Harter, 2004), maybe an antecedent of involvement. Now, satisfaction is a measure of pleasure (affective component) reached in the practice of profession, which results from the perception that work allows the fulfillment of important values and engagement creates a positive mental state which generates involvement with the company and contributes to retention of talents and better performance (Halbesleben & Wheeler, 2008). Extra-role behaviors have basis actions not predicted in the work contract, which also differ from engagement (Bakker et al., 2011).

Bakker et al. (2011), in turn, distinguish work engagement from workaholics. Engaged employees also weary themselves working, though this weariness relates to a state of pleasure explained by positive achievements, whereas workaholics would be driven by an impulse over which they do not have control, making them work hard. In this last case, work affects the private life of the employee, generating even work–family conflict.

Another important aspect in relation to the conceptual issue is the debate among authors of whether engagement is a trait or a state. Schaufeli and Salanova (2007), for instance, conceptualized engagement as an individual variable relatively stable which varies with persons. Previously, Schaufeli et al. (2002) considered that engagement should be a relatively durable state, though there would be fluctuations along time.

Christian et al. (2011) run over in respect to the daily fluctuation which might occur at the level of work engagement. Variation may be intraindividual and interindividual. There are not enough data yet so as to affirm whether engagement must be defined as a stable trait or a dynamic state. However, the proposition that there are variations intra- and interindividuals is accepted, as it occurs with other

phenomena of organizational behavior. Sonnentag, Dormann, and Demerouti (2010) had already demonstrated the existence of intraindividual fluctuations, indicating that a more comprehensive understanding of work engagement must consider shorter periods of time (hours, days). In the study by Kühnel, Sonnentag, and Bledow (2012), the answers to the questionnaires about resources, such as psychological atmosphere and working control, together with work engagement, were collected three times a day. On the days when employees felt more working control and pressure of time, the level of engagement was higher. Nevertheless, there was loss as to engagement when there was less working control and pressure.

Still within this line of investigation, Xanthopoulou, Bakker, Demerouti, and Schaufeli (2007) worked with employees of a fast-food company. The authors investigated how the daily fluctuation of working resources related to personal and financial resources. Analyses indicated that the daily working resources affected work engagement through personal resources. Financial results were affected in the following manner: daily coaching maintained a direct relation with work engagement which, in turn, revealed itself predictor of financial return. The studies presented clearly indicate the necessity of considering the temporal dimension in studies about engagement, delineating more complex projects of investigation.

According to Shuck (2011), presently there are four perspectives which found the concept of engagement. The first one of these is developed by Kahn (1990), which identifies three psychological conditions that would influence engagement: psychological meaning, security, and availability. Psychological meaning is the perception of return received by the employee in conformity with one's efforts; security is related to clear perception of what is expected from the worker and how much one trusts the working environment, whereas availability is defined as belief of the worker that one has physical and emotional resources to accomplish tasks. Shuck (2011) denominates this approach "satisfaction of necessities."

The second perspective, proposed by Maslach, Schaufeli, and Leiter (2001), treats engagement as the opposite pole of burnout, which is a psychological syndrome related to work, originated from a strong chronic emotional tension related to occupational stress, composed of exhaustion, depersonalization, and efficacy. Thus, vigor and dedication are considered direct opposites of exhaustion and the two main symptoms of burnout. Vigor, contrary to exhaustion, has been labeled "energy," while dedication, differently from cynicism, has been labeled "identification." Thus, workforce is characterized by a high level of energy and strong identification with one's own work, while burnout is characterized by the contrary: low level of energy and no identification with one's own work. In the third perspective, engagement is defined as individual involvement and satisfaction, as well as enthusiasm with work, this approach being denominated "satisfaction–engagement" (Saks, 2006).

Finally, Saks (2006) affirms that the previous authors do not explain why there are different levels of engagement among workers, and because of this the author proposes that engagement comprehends separate states: engagement with work and with the organization. In order to test his hypothesis, the author employed two scales of engagement created by him in a sample of 102 workers and verified that characteristics of work, support from the organization and supervisor, recognition

and recompenses, justice of procedures, and distribution influenced engagement with the organization and work. This approach created by Saks is denominated multidimensional approach.

4.3 Studies About Work Engagement

Shuck, in 2011, related the increase of interest of professionals and researchers in work engagement. Ugwu, Onyishi, and Rodríguez-Sanchez (2014) complement that, although being a positive behavior, empirical studies about engagement have only recently been made, especially in North America, Asia, South Africa, and Europe. Bakker et al. relate that in 2002 the keyword engagement produced two million hits on the Web. On the other hand, search on the database PsycInfo generated only 61 publications, including scientific articles and chapters.

In Brazil, few authors have researched work engagement in the organizational scene. The ones who have accomplished researches have made them together with themes of social rights, such as environmental sciences, ecology, communication, community works, and society, and in various aspects with the very social policy. Porto-Martins, Basso-Machado, and Benevides-Pereira (2013), when reviewing the theory of work engagement, identified only nine articles in Brazilian databases and scientific events.

The Scottish Executive Social Research (2007) made a research in more than 150 articles about the engagement construct and gathered the main findings. In the researched articles, differences on engagement levels of workers from the public and private sectors were not found, since for the authors engagement levels vary according to characteristics of the organization, sector, and personal (gender and ethnic minority, among others) and function (managers have higher engagement levels than their partners) characteristics. However, public organizations have greater difficulties in relation to strategic vision and management of changes when compared to private organizations. Researches suggest that most functionaries have intermediary engagement levels; only 10–30% are completely engaged in their works. Still according to this study, it is more important to understand the variations of engagement levels between sectors of the same organization than compare engagement levels between public and private companies (Scottish Executive Social Research 2007).

In this study, the authors make an important consideration: much have been studied about benefits of engaged functionaries to organizations, such as convincing employees to adopt practices which may lead to engagement, and about which factors are directly consequent from organizations, but little have been studied about costs of increasing this index. Other lacunas about the study of engagement were pointed out: in general, the literature does not treat of an ideal engagement level, which can be different among organizations and within the same organization; little has been studied about behaviors which lead to nonengagement. Similarly, few studies deal with recruiting and selection processes

which identify future professionals who might be more engaged. Furthermore, in order to implement actions that lead to engagement, the desire of functionaries is necessary. Nevertheless, this is more difficult in the public sector, where people show more levels of resistance to change (Scottish Executive Social Research 2007).

Identification of impact of personal characteristics on work engagement, in a research with eight organizations from the public and private sectors, was the aim of investigation by Robinson and collaborators (2004), whose results showed that women, ethnic minorities, persons less than 20 and more than 60 years old, individuals with health problems, and those who are responsible for the sustenance of their homes presented higher levels of engagement. One curiosity of this research is that, for the ones born from the decade of the 1980s on, engagement levels are lower than for the ones born before this date. Sinclair, Robertson-Smith, and Hennessy (2008) found a similar result: younger managers are less engaged than their older colleagues.

Robertson-Smith and Markwick (2009) affirm that engagement levels can vary between individuals and in the selfsame person along one's life. These variations are attributed to biographical data, personal characteristics, and whether the person has a personality which adapts to different kinds of activities.

Considering personal characteristics, Bakker, Tims, and Derks (2012) verified the role of proactive personality as predictor of work engagement and performance. The authors started from the hypothesis that functionaries with proactive personality should be more likely to reconfigure their jobs so that they would remain engaged and have efficient performance. The model of structural equations confirmed the proposed model: functionaries who were characterized by a proactive personality had more probability of reconfiguring their jobs; reconfiguring of work, in turn, was predictor of work engagement (vigor, dedication, and absorption). These results suggest that, as long as functionaries adjust their working environment in a proactive manner, they succeed in remaining engaged and attaining good working performance.

With the objective of verifying correlations between dimensions of burnout and work engagement, Tamayo and Alencar (2012) made a research by using the scales of burnout characterization and of work engagement. The results sustained the factorial structure of the scale of burnout characterization but did not confirm the multidimensional structure of the scale of work engagement, which proved unifactorial. Nevertheless, the antagonistic relation between burnout and work engagement proposed in the literature obtained empirical support, confirmed in the coefficients of correlation (negative and significant).

Efficacy of an accident prevention program in relation to perception of social support, work engagement, working burden, and necessity of recuperation was the aim of the investigation by Hengel, Blatter, Joling, Beek, and Bongers (2012). Significant differences were not found between groups of control and intervention. The program did not affect any of the variables, including necessity of recuperation among the workers studied, which suggests evaluation and reformulation of the program.

In the educational area, two studies were made in Brazil. In the first one of them, by Machado, Porto-Martins, and Amorim (2012), it was found out that practically half the sample of 63 professionals of the educational area obtained high indexes of work engagement, verified by means of the Utrecht Work Engagement. However, for the authors, it is important that the study of the construct be developed in Brazil, having in mind the paradigm of promotion of positive labor aspects and that it concerns a recent concept, mainly in relation to Brazilian reality.

From the second study, a sample of 201 teachers from ten state public schools of secondary education participated in it, with the objective of verifying the relation between satisfaction, work engagement, conflicts, and perception of success in the teaching career (Pauli, Comim, & Tomasi, 2016). In relation to work satisfaction, results pointed out satisfaction in relation to salary and relationship with colleagues and chieftaincy; as for work engagement, the highest levels were obtained in absorption. For the authors, both satisfaction and engagement influence in the perception of success in the teaching career. Thus, it was verified that, in the perception of teachers, success does not originate only from objective aspects, such as levels of satisfaction with the salary, but also from the nature of work, since teachers perceive success in their career through identification with work, energy, and cooperation from colleagues as well. There was a positive relation of satisfaction and engagement as elements which compound the self-perception of success in the career for teachers.

Besides that, new concepts in the literature have been related with work engagement: job crafting and flourishing. Demerouti, Bakker, and Gevers (2015) verified the role of engagement and flourishing in actions of job crafting and extra-role behaviors. Job crafting stands for strategic actions which employees adopt to alter their conditions of work, adjust themselves to it, and make it healthier and more motivating (Petrou, Demerouti, Peeters, Schaufeli, & Hetland, 2012), with the objective of becoming more engaged, satisfied, resilient, and successful (Wrzesniewski & Dutton, 2001).

Petrou et al. (2012) affirm that two of the three components of job crafting can be related to work engagement: working resources and challenges. However, in their study with 294 workers, only the pursuit of resources increased engagement and flourishing levels, that is, employees who looked for more resources in their working environments were the most engaged. On the other hand, decreasing work demands was negatively related to engagement, since reduction of demands can generate a less stimulant environment and, consequently, lower engagement levels.

Still in this study, the authors found out that engagement was a better predictor than flourishing of the supervisor's perception of the extra-role behavior from one subordinate. For this sample, pursuing challenging tasks did not increase engagement and flourishing levels; challenge by itself alone is not motivating, since other resources are necessary in order that these constructs exist in workers: employees create resources in their jobs by means of actions of job crafting, which is reinvested in their work by means of engaged behaviors. Thus, it is important that organizations find means of stimulating job crafting, since this can increase the engagement levels of functionaries (Petrou et al., 2012).

Engaged and flourished employees are more disposed to invest their personal resources in work and go beyond what is solicited. Engagement is, in this way, an intrinsic motivation to the individual who feels pleasure and enthusiasm in one's labor activities, this motivation being also necessary for creativity. Therefore, high engagement levels can also favor creativity (Demerouti et al., 2015). Previously, Gevers and Demerouti (2013) had already confirmed that engineers absorbed by their work, that is, engaged, showed higher levels of creativity.

Bakker, Rodríguez-Muñoz, and Vergel (2015) investigated whether actions of job crafting of the worker influence engagement of one colleague. Using the theory of work demands–resources, 206 employees were divided into 103 pairs. The hypothesis of the authors was confirmed: some actions of job crafting can lead the worker to develop one's own levels of vigor, absorption, and dedication and influence colleagues to develop engagement behaviors as well (contagious effect). This happens because the individual transforms work demands and resources so as to adjust them to one's qualities, personal characteristics, abilities, and preferences, which increases, in turn, significance of the work.

In this study, the authors also complement that the association of resources made available in the working environment (opportunity of development) and personal abilities lead to engagement, especially when working exigencies are high: increasing work challenges also raise engagement indexes, inasmuch as stimulates concentration (Bakker et al., 2015).

Employing the leader–member exchange (LXM) theory, Bakker et al. (2015) were pioneers when they related the variables of leader–member exchange, performance, and work engagement. The quality of the relation leader–member influences behaviors and attitudes of functionaries, which can bring positive results to organizations, for example, increase on satisfaction levels, behaviors of organizational citizenship, performance, commitment, and clarity in the roles to be taken. It is more likely that employees feel more engaged when the relation with their leaders is considered of good quality. From a sample of 847 police officers, the authors found out that leaders, when making available resources at work, increase engagement and performance levels of their subordinates, which contributes to the development of the whole organization.

For Hassan and Ahmed (2011), another important relation is between engagement and trust. For the authors, high levels of trust bring positive results to organizations, such as satisfaction indexes, commitment, intention of not detaching oneself, and engagement as well. They add that there might be increase of engagement levels of subordinates if there is trust in the abilities and competences of supervisors. Thus, leaders who help their led ones to attain their objectives, organize their work, demonstrate interest in their careers, indicate aspects to be improved, and wish professional growth, besides offering help when necessary, are contributing in order that engagement levels be raised.

The aforementioned authors had an objective verifying how authentic leadership (authentic leaders being those who are deeply conscious of their behaviors and thoughts and are perceived by people as conscious of the values, knowledge, and perceptions of these as well, independent of the context in which they are) contributes

to the trust from the employee in one's leader and, consequently, how trust predicts engagement levels. Results found were that authentic leadership, in the sample of 395 professionals from Malaysia, was predictor of trust from the employee in one's leader and of engagement as well and that, partially, trust mediated the relation between authentic leadership and engagement. The authors conclude that leaders, whose conducts are transparent, act according to values defended by the company, do not show conducts of self-protection only, and succeed in establishing a relation of trust with their employees, contributing more to work engagement (Hassan & Ahmed, 2011).

These results are congruent with those previously found by Cropanzano and Mitchell (2005), since they related that high engagement levels are related to trust, loyalty, and mutual commitment between organization and employee.

The study by Lin (2010), in turn, relates the four dimensions of organizational citizenship (economic, legal, and ethic dimensions and discretionary citizenship) to trust and work engagement. For this author, organizational citizenship behavior affects work engagement in two ways: directly and indirectly. When citizenship affects engagement indirectly, trust has a role of mediator in this relation. However, trust is a mediator which affects engagement, but the contrary is not valid. This is justifiable because it is unlikely that individuals develop engagement if they do not trust the organization. For Lin (2010), lack of engagement has low commitment, burnout, and low performance as its consequences.

Ugwu et al. (2014) investigated the role of psychological empowerment in the relation between trust and work engagement in a sample of 715 workers from the banking and pharmaceutical sectors of Nigeria. As a result, there were found that trust and empowerment are positively related to engagement and that empowerment is moderator of the relation between trust and engagement. This means that workers who have trust in the organization and are strengthened by it will have higher engagement levels in their jobs. On the other hand, when employees do not have trust in their organizations, though show empowerment, they will have higher engagement levels than those who show low empowerment levels. Previously, still in 1998, Jones and George already affirmed that empowerment only improves collaboration and performance in working teams if there is trust between individuals and chieftaincies. Chieftaincies are responsible for perceiving what generates and develops trust within their companies, so that they may be able to provide it when necessary.

The relation between trust and engagement has practical implications in organizations. Trust is an important component in organizations, and employees understand that one way of surviving is to provide support for one another: while the organization creates an atmosphere of trust, employees reciprocally respond by working in an engaged manner. It concerns, thus, a relation of exchange, which can create a positive atmosphere and good working performance. When employees trust their supervisors and perceive themselves as able to generate positive results to organizations, they will respond to the organization by emitting positive behaviors as well (Ugwu et al., 2014).

In Brazil, the study of engagement has advanced, though slowly, but with support from the literature. So did Oliveira and Ferreira (2016), based on the model of working demands and resources, according to which demands are associated to factors of the working context that require physical and psychological efforts from the individual, capable of generating a state of weariness which exhaust one's energies, affecting one's health. Resources, in turn, refer to intrinsic motivational factors, such as autonomy and feedback, and extrinsic, such as support from colleagues and supervisors and participation in decision-making. The study considered the impact of contextual (perceptions of justice) and individual (resilience) factors on work engagement, which was predicted by perceptions of distributive and interpersonal justice, and resilience as well. Nevertheless, the greatest weight of the explanation of engagement was attributed to contextual factors.

In this case, extrinsic resources represented by justice were the unleashing factors of work engagement. Personal resources—"positive self-evaluations associated to capacity of controlling more efficaciously one's own environment" (Oliveira & Ferreira, 2016, p. 753)—also interfere with engagement but contributed less in the explanation of the result.

The model of working demands and resources was also constituted as referential by Rodríguez-Muñoz and Bakker (2013) to analyze antecedents and consequents of work engagement, from consultation of empirical studies. Table 4.1 shows some of the studies relative to antecedents.

A wider view of antecedent and consequent variables of engagement is presented by Christian et al. (2011), who sought support in works by Macey and Schneider (2008) and by Hackman and Oldham (1980). According to the proposed model, work engagement would have as antecedents three blocks of variables: (1) work characteristics, autonomy, task variety, significant tasks, problem solution, work complexity, feedback, social support, physical demands, and work conditions; (2) transformational leadership and leader–member exchange; and (3) dispositional characteristics, conscientiousness, positive affection, and proactive personality.

Table 4.1 Antecedents of work engagement

Authors	Results of studies on antecedents of work engagement
Schaufeli and Bakker (2004)	Relation between labor resources (feedback, social support, and supervisor's coaching) and engagement
Salanova, Agut, and Peiró (2005)	Organizational resources positively affected work engagement
Hakanen, Bakker, and Demerouti (2005)	Variability of professional competences increased engagement levels in situations of high labor demand
Xanthopoulou et al. (2007)	Self-efficacy and optimism (personal resources) predicted work engagement
Bakker et al. (2012)	Proactive personality relates to engagement, specially to the absorption dimension
Tims, Baker, and Xanthopoulou (2011)	Relation between transformational leadership and work engagement

This set of variables, according to the authors, would affect work engagement, besides attitudes such as organizational commitment, satisfaction at work, and involvement with work. Work engagement and the attitudes previously related, in turn, would have an impact on performance of tasks (activities accomplished by workers who contribute to the technical nucleus of the organization) and contextual performance (performance not required as formal part of work but which contributes to the social and psychological context of the organization) (Borman & Motowidlo, 1993).

In the study by Christian et al. (2011), the articles were obtained from databases and journals, in the period from 1990 to April 2010. After the application of criteria, 91 publications from the 230 ones found were maintained in the study, of which 30 were non-published articles. The authors included also theses in the search.

Among the various criteria adopted by the authors for meta-analysis, it was required that the studies contained the engagement measure, which allowed to verify correlations with constructs of interest specified in the model. Furthermore, the individual level of analysis should be referred. The variables of performance of tasks and contextual performance, as well as engagement, were previously defined in consonance with the literature. The calculations executed comprehended discriminant validity, antecedents of work engagement, analyses of moderation, and test of the model.

Analyses of results showed that engagement is a single concept but shares conceptual space with working attitudes. However, engagement differs from attitudes for being associated with motivation relative to specific working tasks, which, according to the authors, would explain its relation with performance of tasks and contextual performance.

Results confirmed discriminant validity between work engagement and constructs of satisfaction at work, organizational commitment, and involvement with work. Another aspect highlighted by the authors refers to association between engagement, organizational citizenship behavior, and extra-role behavior. The given explanation is that engaged employees seek resources so as to attain goals and have an efficient and efficacious performance of tasks, leading them to accomplish activities not prescribed in the formal work contract.

The issue relative to definition of engagement as trait or state was not solved. Christian et al. (2011) ask for caution in relation to this result, since the sample contained a reduced number of studies.

A quite interesting result is about evidences that engagement is partially mediated by relations between distal factors (work characteristics, leadership, and dispositional characteristics) and performance. However, autonomy, feedback, and transformational leadership presented weights near zero in relation to engagement in the final model. The authors created the hypothesis on the minor importance of these variables when in the presence of other factors. Studies previously presented have highlighted the role of these variables in relation to engagement (Bakker et al., 2015; Hassan & Ahmed, 2011), which indicates, therefore, necessity of other investigations, including a new, more recent meta-analysis, in order to confront the presented results.

On the other hand, analyses with the intention of verifying moderation indicated correlations between work engagement and all antecedent and consequent variables. Christian et al. (2011) argued the hypothesis of reverse causality, exemplifying it in the following manner: employees engaged in work act on a social context, creating a favorable environment to the engagement of colleagues and increasing social support.

Regarding the relation between work engagement and performance of tasks and contextual performance, the aforementioned authors argue that engagement is aligned with motivational aspects of the worker's context. Nevertheless, it is important to take into account the variety of tasks and their degree of importance to the employee, considering that feedback and autonomy presented very low correlations with engagement in the final model.

Finally, in the case of leadership, evidence is weak in what refers to its association with work engagement. Again, Christian et al. (2011) point out that other aspects can interfere in this relation, for instance, trust in the leader and psychological security. Hassan and Ahmed (2011) had already identified that authentic leadership was predictor of trust from the employee to the leader and of engagement and trust partially mediated the relation between authentic leadership and engagement. Also, the relation between trust and engagement was one of the conclusions of the study by Ugwu and collaborators (2014).

Thus, other studies become necessary with the amplification of other variables such as trust in the supervisor or even trust in the organization. Equally necessary is to investigate the contribution of personal variables which were maintained in the model (proactive personality, positive affection, and conscientiousness).

Until this moment engagement has been dealt in the perspective of the individual; however, this construct has been investigated within the ambit of working teams. The empiric validation of the work engagement construct of teams was the aim of study by Costa, Passos, and Bakker (2014), who bring as point of reference the existence of engagement in a working collectivity. The authors exemplify that persons who work together present a similar pattern of humor (p. 34). The emotional contagion occurs as a result of frequent interactions, both due to positive and negative events, favoring the exchange of feelings between persons in relation to their work. Then, it is more likely that they have a shared perception, which is essential when a team is concerned. Thus, engagement in working teams is considered an emerging state whose structure is shaped by the nature of its members and interactions during team processes (Costa et al., 2014, p. 35).

Among the results of the study by Costa et al. (2014), the authors confirmed the conceptual distinction between engagement at individual and team levels. However, they obtained an instrument with unifactorial solution in the case of teamwork engagement.

On the other hand, the study by Torrente, Salanova, Llorens, and Schaufeli (2012) showed that team engagement is a mediator between social resources (perception of social support, coordination, and teamwork) and working performance. The model of structural equations revealed that team engagement has a mediator role between social resources perceived by the team and its performance, evaluated by the supervisor. Nevertheless, the authors did not prove the hypothesis that the factorial structure of teamwork engagement is similar to the individual level com-

posed by the factors of vigor, dedication, and absorption. Results suggest that the social resources of the team relate positively to shared psychological states, which in turn are related to performance. In the face of these studies, a research agenda should take into account the necessity of giving continuity to the work on the issue of conceptual measurement and refinement.

4.4 Applications

Work engagement cannot be imposed by managers to subordinates, but it can be achieved after employees cautiously observe different actions of the company. Kane-Frieder, Hochwarter, and Ferris (2014) claim that the perception of organizational policies increases work engagement; engaged individuals are less stressed, more satisfied, work with higher intensity, and achieve better performance. Results from the meta-analysis by Christian et al. (2011) had already indicated that performance of tasks is associated with work engagement. Engagement also propitiates the creation of an environment favorable to creativity, and cooperative behaviors, that is, contextual performance, can be stimulated.

The Scottish Executive Social Research (2007) recognizes that the organization is responsible for leading employees to engage in work, and this can be done in different ways, for instance, through leaders, openness to communication, forms of remuneration and benefits, justice and egalitarian treatment, actions toward training and development, work load, as well as occupational health and safety programs of the worker. It can be observed that among the aspects listed, the majority refers to personnel management. Managers can improve work engagement level through processes of personnel selection and on-the-job training (Christian et al., 2011). Organizations should not only recruit high-level talents but should provide them with conditions to develop their competences at work. It should also be considered that organizations need employees psychologically connected to their work, who are dedicated and have energy to apply in their activities (Bakker & Leiter, 2010).

Hiring workers with traces such as proactivity, conscientiousness, and positive affection is a suggestion that has scientific support. Nevertheless, this in itself is not a sufficient condition for the increment of engagement level, since managers should propitiate conditions in order to ensure varying and significant tasks (Christian et al., 2011). Rodríguez-Muñoz and Bakker (2013) add that encouraging participation of employees is important; it is even likely to generate a positive image of the company.

Taking into consideration human resources policies as well, suggestions by Oliveira and Ferreira (2016) resulting from investigation indicate that the adoption of rewarding systems based on fair criteria, besides the perception of interactional justice (employees feeling they are first class citizens), is important to stimulate work engagement. The authors add the training of leaders in order to develop interpersonal abilities that are useful in their relations with employees. Although the importance of leadership might still not be clearly defined, this kind of training certainly helps daily coexistence, since the perception of interactional justice affects engagement.

The consequences of engagement are the increase of productivity indexes, lower costs with recruitment and selection, higher profits, attainment of objectives of the organization, better performance, and decrease of turnover. The challenge at present is making employers understand the importance of engagement to the organization and direct actions so as to increase this index (Scottish Executive Social Research 2007). Similarly, organizations need to understand that they will gain by generating more positive conditions to stimulate the engagement of their collaborators.

Intervention strategy with a view to work engagement is suggested by Schaufeli and Salanova (2007) as containing the following stages: (1) evaluation of values and preferences of employees, (2) negotiation of a written contract with definition of objectives and necessary resources which the organization should provide, and (3) systematic supervision of contract and update of objectives, if necessary. There is no empirical evidence about this methodology, though there is a logic in its stages. Only the application and evaluation of results will indicate its efficacy.

Now, Rodríguez-Muñoz and Bakker (2013) declare that more efficacious interventions promote the well-being of workers when those are structured, and tasks and areas are defined. They also add that a participative focus, with the cooperation of administration and employees, should be adopted. During interventions, the arguments of employees should be considered, as well as the responsibility of the organization. Finally, the intervention should be evaluated.

CREW (*Civility, Respect, and Engagement at Work*) is an intervention program described by Bakker et al. (2011) with duration of 6 months. Its results were improvement in civility behaviors and learning of new behaviors which rendered daily interaction more balanced and healthier. The authors also relate that responsibility assumed by the work group was positive. Efforts were dispensed with a view to create friendly relations among work colleagues. They add that interventions which aim at the development of psychological capital (self-efficacy, optimism, hope, and resilience) are also indicated because they can affect work engagement.

Still in relation to interventions, Salanova and Schaufeli (2009) relate some strategies: socialization and evaluation of collaborators, audits, workshops, increment of labor resources, management of diversity, personnel selection, and psychological contract.

A research agenda on the theme should comprehend the still discussed issue of trait versus state of work engagement by employing, preferably, longitudinal studies, besides controlling personal variables. This issue also generates a challenge to professionals and researchers who might strive to develop methodologies to evaluate capacity and motivation of workers focused on each one of the elements of work engagement (Christian et al., 2011). Equally important is to amplify the gamut of variables capable of influencing engagement as well as its consequences on the individual level, teams, and organizations.

References

Bakker, A. B. (2009). Building engagement in the work place. In R. J. Burke & C. L. Cooper (Eds.), *The peak performing organization* (pp. 50–72). Abingdon: Routledge.

Bakker, A. B., & Leiter, M. P. (Eds.). (2010). *Work engagement: A handbook of essential theory and research*. New York: Psychology Press.

Bakker, A. B., & Schaufeli, W. B. (2008). Positive organizational behavior: Engaged employees in flourishing organizations. *Journal of Organizational Behavior, 29*(2), 147–154. doi:10.1002/job.515.

Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2002). Validation of the Maslach Burnout Inventory general survey: An internet study. *Anxiety, Stress, and Coping, 15*(3), 245–260. doi:10.1080/1061580021000020716.

Bakker, A. B., Schaufeli, W. B., Leiter, M. P., & Taris, T. W. (2008). Work engagement: An emerging concept in occupational health psychology. *Work & Stress, 22*(3), 187–200. doi:10.1080/02678370802393649.

Bakker, A. B., Albrecht, S. L., & Michael, P. (2011). Key questions regarding work engagement. *European Journal of Work and Organizational Psychology, 20*(1), 4–28. doi:10.1080/1359432X.2010.485352.

Bakker, A. B., Tims, M., & Derks, D. (2012). Proactive personality and job performance: The role of job crafting and work engagement. *Human Relations, 65*(10), 1359–1378. doi:10.1177/0018726712453471.

Bakker, A. B., Rodríguez-Muñoz, A., & Vergel, A. I. S. (2015). Modelling job crafting behaviours: Implications for work engagement. *Human Relations, 69*(1), 169–189. doi:10.1177/0018726715581690.

Borman, W. C., & Motowidlo, S. (1993). Expanding the criterion domain to include elements of contextual performance. In N. Schmitt & W. Borman (Eds.), *Personnel selection in organizations* (pp. 71–98). San Francisco, CA: Jossey-Bass.

Breevaart, K., Bakker, A. B., Demerouti, E., & van Den Heuvel, M. (2015). Leader-member exchange, work engagement and job performance. *Journal of Managerial Psychology, 30*(7), 754–770. doi:10.1108/JMP-03-2013-0088.

Carrasco, H., Martines-Tur, V., Peiró, J. M., Garcia-Buades, E., & Moliner, C. (2011). Service climate and display of employees positive emotions: The mediating role of burnout and engagement in services. *Psychologica, 55*, 229–253. http://iduc.uc.pt/index.php/psychologica/article/view/1129/577.

Cavalcante, M. M. (2013). *Engajamento no trabalho, bem-estar no trabalho e capital psicológico: um estudo com profissionais da área de gestão de pessoas*. Dissertação de mestrado. Faculdade de Administração e Economia da Universidade Metodista de São Paulo, São Bernardo do Campo, São Paulo.

Christian, M. S., Garza, A. S., & Slaughter, J. E. (2011). Work engagement: A quantitative review and test of its relations with task and contextual performance. *Personnel Psychology, 64*(1), 89–136. doi:10.1111/j.1744-6570.2010.01203.x.

Costa, P., Passos, A. M., & Bakker, A. B. (2014). Empirical validation of team work engagement construct. *Journal of Personnel Psychology, 13*(1), 34–45. doi:10.1027/1866-5888/a000102.

Cropanzano, R., & Mitchell, M. (2005). Social exchange theory: An interdisciplinary review. *Journal of Management, 31*(6), 874–900. doi:10.1177/0149206305279602.

Demerouti, E., Bakker, A. B., & Gevers, J. M. P. (2015). Job crafting and extra-role behaviour: The role of work engagement and flourishing. *Journal of Vocational Behavior, 91*, 87–96. doi:10.1016/j.jvb.2015.09.001.

Gevers, J., & Demerouti, E. (2013). How supervisors' reminders relate to subordinates' absorption and creativity. *Journal of Managerial Psychology, 28*(6), 677–698. doi:10.1108/JPM-09-2011-0055.

Hackman, J. R., & Oldham, G. R. (1980). *Work redesign*. Reading, MA: Addison-Wesley.

Hakanen, J. J., Bakker, A. B., & Demerouti, E. (2005). How dentist cope with their job demands and stay engaged: The moderating role of job resources. *European Journal of Oral Sciences, 113*(6), 479–487. doi:10.1111/j.1600-0722.2005.00250.x.

Halbesleben, J. R. B., & Wheeler, A. R. (2008). The relative roles of engagement and embeddedness in predicting job performance and intention to leave. *Work & Stress, 22*(3), 242–256. doi:10.1080/02678370802383962.

Hassan, A., & Ahmed, F. (2011). Authentic leadership, trust and work engagement. *International Journal of Social, Behavioral, Educational, Economic and Management Engineering, 5*(8), 932–938. scholar.waset.org/1999.10/10397.

Hengel, K. M. O., Blatter, B. M., Joling, C. I., Beek, A. J., & Bongers, P. M. (2012). Effectiveness of an intervention at construction worksites on work engagement, social support, physical workload, and need for recovery: Results from a cluster randomized controlled trial. *BMC Public Health, 12*(1008), 1–10. doi:10.1186/1471-2458-12-1008.

Jones, G. R., & George, J. M. (1998). The experience and evolution of trust: Implications for cooperation and teamwork. *The Academy of Management Review*, *23*(3), 531–546. http://web.mit.edu/jrankin/www/teamwork/teamwork_Jones.pdf

Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal, 33*(4), 692–724. doi:10.2307/256287.

Kane-Frieder, R. E., Hochwarter, W. A., & Ferris, G. R. (2014). Terms of engagement: Political boundaries of work engagement–work outcomes relationships. *Human Relations, 67*(3), 357–382. doi:10.1177/0018726713495068.

Kühnel, J., Sonnentag, S., & Bledow, R. (2012). Resources and time pressure as day-level antecedents of work engagement. *Journal of Occupational & Organizational Psychology, 85*(1), 181–198. doi:10.1111/j.2044-8325.2011.02022.x.

Lin, C. (2010). Modeling corporate citizenship, organizational trust, and work engagement based on attachment theory. *Journal of Business Ethics, 94*(4), 517–531. doi:10.1007/s10551-009-0279-6.

Lodahl, T. M., & Kejner, M. (1965). The definition and measurement of job involvement. *Journal of Applied Psychology, 49*, 24–33. doi:10.1037/h0021692.

Luthans, F. (2002). The need for and meaning of positive organizational behavior. *Journal of Organizational Behavior, 23*(1), 695–706. doi:10.1002/job.165.

Macey, W., & Schneider, M. (2008). The meaning of employee engagement. *Industrial and Organizational Psychology, 1*(1), 3–30. doi:10.1111/j.1754-9434.2007.0002.x.

Machado, P. G. B., Porto-Martins, P. C., & Amorim, C. (2012). Engagement no trabalho entre profissionais da educação. *Revista Intersaberes, 13*(7), 193–214. http://www.uninter.com/intersaberes/index.php/revista/article/view/257/166.

Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review Psychology, 52*(1), 397–422. doi:10.1146/annurev.psych.52.1.397.

May, D. R., Gilson, R. L., & Harter, L. M. (2004). The psychological conditions of meaningfulness, safety and availability and the engagement of human spirit at work. *Journal of Occupational & Organizational Psychology, 77*(1), 11–37. doi:10.1348/096317904322915892.

Oliveira, D. F., & Ferreira, M. C. (2016). O impacto das percepções de justiça organizacional e da resiliência sobre o engajamento no trabalho. *Estudos de Psicologia Campinas, 33*(4), 747–755. doi:10.1590/1982-02752016000400017.

Pauli, J., Comim, L. C., & Tomasi, M. (2016). Satisfação e engajamento no trabalho como variáveis preditoras da percepção de sucesso na carreira de docentes. *Espacios, 37*(12), 1–13. http://revista.uepb.edu.br/index.php/qualitas/article/viewFile/2061/1264.

Petrou, P., Demerouti, E., Peeters, M. C. W., Schaufeli, W. B., & Hetland, J. (2012). Crafting a job on a daily basis: Contextual correlates and the link to work engagement. *Journal of Organizational Behavior, 33*(8), 1120–1141. doi:10.1002/job.1783.

Porto-Martins, P. C., Basso-Machado, P. G., & Benevides-Pereira, A. M. T. (2013). Engajamento no trabalho: Uma discussão teórica. *Fractal, 25*(3), 629–644. doi:10.1590/S1984-02922013000300013.

Ribas, F. T. T., & Rodrigues, C. M. C. (2009). Valores organizacionais declarados e implantados: Uma percepção entre o real e o desejável. *Iberoamerican Journal of Industrial Engineering, 2*(1), 43–60. http://stat.elogo.incubadora.ufsc.br/index.php/IJIE/article/viewFile/172/pdf_50.

Robertson-Smith, G., & Markwick, C. (2009). *Employee engagement – A review of current thinking*. Brighton: Institute for Employment Studies. http://www.employment-studies.co.uk/resource/employee-engagement-review-current-thinking.

Robinson, D., Perryman, S., & Hayday, S. (2004). *The Drivers of Employee Engagement, Institute for Employment Studies*. Brighton: Institute of Employment Studies. http://www.employment-studies.co.uk/system/files/resources/files/408.pdf.

Rodríguez-Muñoz, A., & Bakker, A. B. (2013). El engagement en el trabajo. In B. Moreno-Jimenez & E. Garrosa Hernandez (Eds.), *Salud laboral: Riesgos laborales psicosociales y bienestar laboral* (pp. 437–452). Madrid: Pirámide.

Rothbard, N. R. (2001). Enriching or depleting? The dynamics of engagement in work and family roles. *Administrative Science Quarterly, 46*(4), 655–684.

Saks, A. M. (2006). Antecedents and consequences of employee engagement. *Journal of Managerial Psychology, 21*(7), 600–619. doi:10.1108/02683940610690169.

Salanova, M., & Schaufeli, W. B. (2009). *El engagement em el trabajo*. Madri: Alianza.

Salanova, M., Agut, S., & Peiró, J. M. (2005). Linking organizational resources and work engagemente to employee performance and customer loyalty: The mediation of service climate. *Journal of Applied Psychology, 90*, 1217–1227. doi:10.1037/0021-9010.90.6.1217.

Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *Journal of Organizational Behavior, 25*, 293–315. doi:10.1002/job.248.

Schaufeli, W. B., & Salanova, M. (2007). Work engagement: An emerging psychological concept and its implications for organizations. In S. W. Gilliland, D. D. Steiner, & D. P. Skarlicki (Eds.), *Research in social issues in management*, *Managing social and ethical issues in organizations* (Vol. 5, pp. 135–177). Greenwich, CT: Information Age Publishers.

Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies, 3*(1), 71–92. doi:10.1023/A:1015630930326.

Scottish Executive Social Research. (2007). *Employee engagement in the public sector: A review of literature*. Edinburgh: Scotland. www.scotland.gov.uk/socialresearch.

Shuck, B. (2011). Integrative literature review: Four emerging perspectives of employee engagement: An integrative literature review. *Human Resource Development Review, 10*(3), 304–328. doi:10.1177/1534484311410840.

Sinclair, A., Robertson-Smith, G., & Hennessy, J. (2008). *The management agenda*. Roffey Park Institute.

Siqueira, M. M. M., Martins, M. C. F., Orengo, V., & Souza, W. S. (2014). Engajamento no trabalho. In M. M. M. Siqueira (Org.), *Novas Medidas do comportamento organizacional: Ferramentas de diagnóstico e de gestão* (pp. 147–155). Porto Alegre: Artmed.

Sonnentag, S., Dormann, C., & Demerouti, E. (2010). Not all days are create equal: The concept of state work engagement. In A. B. Bakker & M. P. Leiter (Eds.), *Work engagement: A handbook of essential theory and research* (pp. 25–38). New York: Psychology Press.

Tamayo, M. R., & Alencar, V. O. (2012). Burnout e engajamento no trabalho: validação de medidas. *5° Congresso Brasileiro de Psicologia Organizacional e do Trabalho*. Rio de Janeiro.

Tims, M., Baker, A. B., & Xanthopoulou, D. (2011). Do transformational leaders enhance their follower's daily work engagement? *The Leadership Quarterly, 22*(1), 121–131. doi:10.1016/j.leaqua.2010.12.011.

Torrente, P., Salanova, M., Llorens, S., & Schaufeli, W. B. (2012). Teams make it work: How team work engagement mediates between social resources and performance in teams. *Psicothema, 24*(1), 106–112. http://www.psicothema.com/PDF/3986.pdf.

Ugwu, F. O., Onyishi, I. E., & Rodríguez-Sanchez, A. M. (2014). Linking organizational trust with employee engagement: The role of psychological empowerment. *Personnel Review, 43*(3), 377–400. doi:10.1108/PR-11-2012-0198.

Wrzesniewski, A., & Dutton, J. E. (2001). Crafting a job: Revisioning employees as active crafters of their work. *Academy of Management Review, 26*(2), 179–201.

Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2007). Work engagement and financial returns: A diary study on the role of job and personal resources. *Journal of Occupational and Organizational Psychology, 82*(1), 183–200. doi:10.1348/096317908X285633.

Chapter 5
Aging in Brazil and Portugal and Its Impact on the Organizational Context

**Lucia Helena de Freitas Pinho França, António Rosinha,
Simone Mafra, and Juliana Seidl**

5.1 Introduction

Population aging is a natural, irreversible, and global phenomenon. Estimates point out that from 2005 to 2050, the number of individuals in the 65–79 years age group will increase to 44.5%, while the population of more than 80 years will rise to 171.6% (European Commission, 2006). In the United States, individuals of 65 years old or more accounted for 14.5% of the country's population in 2014, and they are expected to double in 2060, jumping from 46 million to 98 million, i.e., a 22% rise (US Department of Health and Human Services, 2015).

According to the *Instituto Nacional de Estatística* (INE, 2009), demographic aging is the tendency for the next 50 years in Portugal. In 2060, the country is expected to have about three old persons for each youngster, i.e., nearly 271 old people per each 100 youngsters will live in Portugal, which is more than the double of the figures forecasted for 2009 (116 old people to every 100 youngsters). The demographic aging process is associated to the consistent reduction of birth and mortality rates, late marriage, women's emancipation and their greater insertion in the labor market, as well as increased life expectancy.

L.H.F.P. França (✉)
Universidade Salgado de Oliveira, Rio de Janeiro, RJ, Brazil
e-mail: lucia.franca@gmail.com

A. Rosinha
Military Academy and School of Business Communication (ISCEM), Lisbon, Portugal
e-mail: antonio.rosinha@sapo.pt

S. Mafra
Universidade Federal de Viçosa, Viçosa, MG, Brazil
e-mail: sctmafra@ufv.br

J. Seidl
Universidade de Brasília, Brasilia, DF, Brazil
e-mail: juliana.seidl@gmail.com

Population aging is a challenge mainly in the macroeconomic scope—due to increase of health and pension expenses—and microeconomic scope, because of the need to withhold a higher number of contribution payer workers to maintain the labor market (França, 2012) and avoid the loss of knowledge, competences, and experiences (Armstrong-Stassen & Schlosser, 2011). However, despite the evident need for keeping older workers in the labor market, corporations follow the opposite trend, i.e., reduce their presence in organizations (Hult & Stattin, 2009).

People's age remains a metric to define employability rather than merit, competences, and tacit knowledge acquired. Scherbov and Sanderson (2016) propose the "perspective age" to measure how elderly someone is, not only based on his date of birth but also in relation to the expanded average life expectancy. It means to say that 40 years old in 2000 could be compared to 30 years old in 1960, because they both share the same remaining life expectancy.

In Brazil, it is interesting to analyze the exceptional increase in life expectancy and the number of individuals in employment against the economically inactive ones (children and elderly). Between 1940 and 2015, the Brazilian life expectancy was added with 30 years for both sexes, raising from 45.5 years old to 75.5 (Portal Brasil, 2016). In the next 25 years, the country will conclude a demographic transition that took over 100 years in developed countries, as underlined by Tafner, Botelho, and Erbisti (2014). Moreover, Brazil had 199 million inhabitants in 2015, of which 22% were 0–14 years old, 66% were 15–59 years old, and 12% were 60 years old or older. Currently, there are 220 million inhabitants, but this population is expected to decrease from 2035 onward, and in 2035 it will be a country of 206 million inhabitants with the ratio of children falling from 22% to 9%, the population in working age will drop from 66% to 58%, and the elderly will virtually triplicate from 12% to 33% (Camarano, 2014).

Examining the work world, between 2004 and 2009 Brazil experienced an increase from 38.7% to 42% in the number of jobs occupied by people older than 40 years. In 2040, approximately 57% of the Brazilian population in working age is expected to be older than 45 years (PwC/FGV, 2013). These demographic transformations will make people work longer to compensate the shortage of skilled workforce and maintain the economy sustainable. However, the labor market should be prepared to receive the demands of professionals of different ages, especially if the social security reform proposed by the Brazilian government in December 2016 be approved. The economic crisis that besets the country, with fall in tax collection and successive primary deficits, increases social security expenses, opening the discussion about the need for yet another reform in 2017. Other reforms were made in 1998 and 2003, and one of the polemic issues suggested by the next reform is to set 65 years as the minimum age for retiring (Seidl, 2017).

The situation is also concerning in Portugal. According to the latest Portuguese Census (INE, 2011, 2014), the country is facing a phenomenon of double aging, i.e., youth is decreasing and elderly increasing, producing generation imbalance. The aging index in the country is 129, meaning there are 129 citizens of 65 years old or more per each 100 citizens of up to 14 years old. The aging rate between 2012 and

2016 is estimated to increase from 131 to 307 old people to every 100 young people, sharpening the difference between old and young populations.

The Law on Pensions Convergence established the same retirement age for the public and private sectors in Portugal: 66 years and 3 months old to enjoy full pension in 2016. The increased legal retirement age as well as the national pension system reform represents results of the Portuguese population aging. Moreover, the average life expectancy today in Portugal is 80.8 years for the total population, and at the age of 65 years, it is 19.6 years, according to data of the INE referring to the triennium 2013–2015.

The Observatory of Birth and Ageing in Portugal (Noronha, 2017) highlights that, according to a study comprising 1335 individuals of 35 years or older, around one third of the respondents would like to retire at the age of 63 years, on average. This shows different expectations that imply the need to find solutions to enable senior citizens to remain participating in the work world. A relevant datum of the study is that about 70% of the respondents said to have no savings for retirement, what will surely impact the sustainability of the Portuguese social security in the short and medium terms.

In Brazil, despite the actual demand for retaining older individuals in the labor market, this remains a controversial topic since until recent times several organizations encouraged early retirement to renew or downsize their staff (França et al., 2014). Moreover, in 2050 more than one fourth of the workers may be retired, although many of them are likely to decide to remain working (França, Menezes, Bendassolli, & Macedo, 2013).

A study conducted by Manpower in 2007 (quoted by Armstrong-Stassen, 2008) interviewed more than 28 thousand employers in 25 countries and showed that only 21% of the employers developed strategies to retain older workers. To cope with this situation, the European Union set as goal to governments, social partners, and organizations to increase the rate of older workers' employment and the access to capacity building to allow healthier and more productive aging (Naegele & Walker, 2006).

In brief, the current rate of old population growth is one of the most remarkable traits of the recent demographic evolution, which impacts the working population composition (Armstrong-Stassen & Schlosser, 2011; Conen, Henkens, & Schippers, 2012). This situation represents a paradox as the economy and public policies require the population to work longer, but the organizations and the society are not prepared to deal with the increasing number of older workers. This chapter aims to present challenges and gains of work teams made up by individuals of different ages and the type of measures already adopted and that could be adopted in Brazil and in Portugal to prepare, attract, and retain older workers in the labor market.

5.2 Challenges and Gains of Work Teams Made Up by Older Workers

Organizations fear that worker aging could bring challenges such as higher costs with health plans and productivity losses. However, many of the disadvantages perceived by managers regarding teams made up by older workers are based on

stereotypes. Scientific studies that disclose the actual challenges and gains of these professionals should be accessed to propose interventions based on such reality, fighting stereotypes about the performance of older workers to avoid losing the opportunity of employing many of the most competent and productive workers in the working population (Posthuma & Campion, 2009).

Making reference to different studies, Calo, Patterson, and Decker (2014) stated that positive stereotypes about older workers are related to interpersonal skills such as being more reliable and experienced. The negative stereotypes, in turn, have to do with the capacity and willingness to learn and grow in the work and their general motivation. The authors conclude that negative perceptions seem to be more disseminated than the positive ones. Research performed by França (2012) and Henkens (2005) found results similar to those approached in the subitem about ageism in this chapter.

New investigations focus on positive age-related aspects. For example, Ng and Feldman (2012) performed a meta-analysis based on a sample of 418 studies about six age-associated stereotypes (lower motivation, less interest for training and career development, less reliable, less healthy, and more vulnerable to work/family conflict). They found that the only consistence between stereotypes and the empirical evidence is that older workers are less prone to participate in training and personal development actions. This could be explained by the fact that sometimes the traditional classroom methodologies are not attractive and because older workers do not perceive any benefit in developing their careers.

The elderly-associated stereotypes emphasize they are conservative, solitary, unproductive, sick, depressive, weak, superstitious, slow, and lackluster, among others. There are also positive stereotypes of the elderly expressed by the belief that they are wise, mature, calm, careful, and happy, but these are less usual (Nelson, 2005; Neto, 2004). Truxillo, Cadiz, and Hammer (2015) have published a literature review where they present the physical, cognitive, affective, personality, and motivation changes that individuals undergo with age. Some of these changes can effectively be challenging when the person remains in the labor market. For example, regarding physical changes individuals lose visual and hearing acuity, as approached over 30 years ago by Skinner and Vaughan (1985), have their aerobic and cardiovascular capacities reduced, and take longer to recover from stressing situations.

Truxillo et al. (2015) reinforce that cognitive changes impact on selective attention, memory, and speed of information processing. At the same time, older individuals usually have greater emotional regulation and evaluate stressing situations in a less negative way. Moreover, the intrinsic reasons to stay in organizations are related to task performance, to connection with other individuals and autonomy, and to a lesser extent to extrinsic reasons such as benefits and promotions. The volition to help people and contribute to the society is another age-related change.

Previous evidence corroborates the functional or performance-based approach by assuming the variation of individual skills and way of working in all ages. As chronological age advances, individuals undergo a wide range of biological and psychological changes that pass by decline and the increase of experience, wisdom, and ability to judge.

Health status, physical capacity, and cognitive performance are some of the functional approach indicators that should be retained (Kooij, De Lange, Jansen, & Dikkers, 2008).

The organizational age approach reinforces that age and seniority effects are closely related, considering that organization can age as a consequence of the average age of its workers. This brings new challenges to the people management area. However, Teiger (1995) emphasizes that not all professional groups are exposed to identical aging factors or working conditions. A worker of a given age may be considered too old to perform a specific professional activity or too young to perform another function.

The lifespan approach emphasizes the behavioral changes associated to the life cycle that could happen at any time of life and affect the aging process, namely, the interests, preferences, personal life circumstances such as family issues, or socio-economic conditions (Baltes, 1997). Based on the ontogenetic and evolutionary perspectives, Baltes presented one of his most successful theories on life architecture involving the orchestration of three component processes, the SOC—selection, optimization, and compensation. He highlighted three principles that work simultaneously, suggesting that life becomes increasingly incomplete with age. The first one states that evolutionary selection predicts negative age correlation and, therefore, the genomic plasticity and biological potential decrease with age. The second emphasizes that human development growth requires cultural resources in increasingly higher levels. The third one, in turn, highlights that culture efficiency is reduced as age advances due to age-related losses in biological plasticity. To Baltes the positive balance between gains and losses at all age levels is ever harder as human development extents toward advanced elderly.

Other authors used Baltes' SOC theory in organizations, including Sterns and Miklos (1995) and Baltes and Dickson (2001). The last focused on how the SOC could be applied to three organizational issues: (1) work/family conflict, (2) leadership, and (3) organizational operation. The authors introduced a wide range of hypotheses to be tested in future works using the SOC metatheory to promote a model that enables organizational psychologists to define and explain different psychological processes in organizational research, notably related to work/family conflicts, leadership, and organizational operation.

Von Bonsdorff et al. (2016), also inspired by Baltes' (1997) SOC (selection, optimization, and compensation), recommend some practices to minimize losses resulting from aging in organizations. Following the model, the authors describe the strategies that corporations could use to fit their employees to business activities such as selection, optimization, and compensation to handle with limited resources such as time and energy, inherent to the human condition, and the selection of operational realms since some goals are not achievable. Selection concerns the development process, election, and commitment to personal goals. These goals must be organized in a coherent hierarchy that validates actions and gives guidance and meaning to life. In optimization people act on their goals, acquiring and investing in relevant means to achieve their targets to optimize the operational level and promote successful development. Compensation consists of responses to the individuals' lost capacities and includes psychological processes or behavioral efforts to improve functionality, as well as the use of resources to sustain the operational level.

The next sections introduce and discuss studies, interventions, and practices implemented in several countries, in Brazil and in Portugal, as well as the most relevant topics to be incorporated to people management to meet the demands and requirements of such demographic scenario.

5.3   International Studies and Interventions

The international literature about aging in the organizational context has shown that programs to prepare/educate individuals for retirement represent one in a group of many management practices that could be applied to assist organizations and individuals to handle with workers in increasingly age breadth. However, changes on social security sectors and retirement ages all over the world urge thinking over age management and its meaning in the context of each country.

Peiró, Tordera, and Potocnik (2012) attempted to identify the human resources practices adopted by different countries in the world to retain senior workers. To that, they divided the countries in five groups: agreement (the United States, Great Britain, Ireland, Australia, Japan, Singapore, and Hong Kong), social democrats (Norway, Sweden, Denmark, and Finland), central Europeans (Germany, France, Holland, and Belgium), south Europeans (Italy, Portugal, Spain, and Greece), and economies in transition (Brazil, Chile, China, Mexico, and Russia). The liberal countries offer more diversified practices to retain older workers, while in India, Indonesia, Malaysia, Poland, and Russia, less than half of the employers encourage their employees to continue to work. The European countries reported the highest rate of employers that encourage early retirement (19%), while the Latin American countries are ranked the second (17.7%).

A study conducted by the European Foundation for the Improvement of Living and Working Conditions (Eurofound, 2006) points out a range of companies that apply best age management practices such as medical attention, working hours' customization, opportunities to acquire new skills, and personal development. The adoption of age management practices is not only related to economic factors, productivity issues, and workforce offer but is also an important attraction for organizations. As disclosed in the study by Chiesa et al. (2016), the European Banking Federation underscored that programs aimed to older workers' training and career are among their best human resources practice to promote the personnel's employability level.

Despite this, when it comes to the development of policies for older workers, not all countries are sensitized about age management. Conen et al. (2012) and Chiesa et al. (2016) indicated that older workers in Italy—home to one of the oldest populations in the world—seem to receive insufficient investment by their employers. Van Dalen, Henkens, and Schippers (2010) carried out a study in several European countries, named "Activating Senior Potential in Ageing Europe (ASPA)," which approaches the managers' perception about their workers' aging and measures that should and could be adopted to cope with this challenge. According to the

researchers, the reliability, engagement, and social skills were more frequently quoted in the older workers' evaluation, while physical and mental capacity and technology skills prevailed among younger workers.

These characteristics were also observed in a similar study by França et al. (2014) among the Brazilian managers. However, the situation was different referring older workers' management measures, as shown in the next section that presents some studies and interventions made in Brazil and Portugal that face aging process and urge changes to people management.

5.4 Studies and Interventions in Brazil and Portugal

Brazil and Portugal have followed and applied the concept of active aging proposed by the World Health Organization to optimize opportunities for health, participation, and safety in the sense of reinforcing quality of life as people grow older (WHO, 2002). The term "active" refers to the "continued participation in social, economic, cultural, spiritual and civic tasks, being not restricted to the capacity of being physically active to participate in labor activity" (WHO, 2002, p. 12) related to higher levels of autonomy, independence, and quality of life.

This scenario prompted Brazil to outline policies to ensure active aging and successful retirement (Camarano, Kanso, & Fernandes, 2013), such as the National Policy of the Elderly (Brasil, 1994) and the Statute of the Elderly (Brasil, 2003). To ensure healthy transition to retirement to these workers, the policies recommend organizations to adopt retirement preparation programs (*Programas de Preparação para Aposentadoria* or PPAs).

According to the national and international literature, the PPAs are an important measure to prevent and promote workers' health (Glamser, 1981; Hershey, Moewen, & Jacobs-Lawson, 2003; Murta, Leandro-França, & Seidl, 2014; Soares & Costa, 2011; Zanelli, Silva, & Soares, 2010). In Brazil, however, these programs are particularly important because of the Brazilians' difficulty to plan the future, which is partially explained by our short-sighted and collective culture (França, 2012). This reality could be changed by the globalized world and awareness about the importance of measures to reinforce individual's, organization's, and government's responsibilities. However, to the audience that is now 60 years or older, and had few opportunities to foresee such a long-time future, the PPA offers a space where workers acquire information about how to better plan retirement and define their post-career life plans.

The PPAs should be strengthened and expanded in public and private organizations (Murta et al., 2014; Soares & Costa, 2011; Zanelli et al., 2010). However, few Brazilian organizations adopt this people management practice, and most of them are public organizations (França et al., 2014; Leandro-França, 2016). According to França and Soares (2009) and Murta et al. (2014), lifelong education and education throughout the career on factors that enable successful retirement have more impact

than previous planning close to retirement. The authors consider self-knowledge process as a continuous process that should not be started on the eve of retirement.

Except for the retirement preparation programs, few scientific studies have been published in Brazil focusing on aging in the organizational context, mainly on human resources (HR) policies and practices oriented to older workers. One of these has approached 108 corporations in Brazil and showed that (PwC/FGV, 2013):

- Only 37% of the corporations acknowledge that older workers could be an alternative to the shortage of talents, unveiling the low adoption of practices oriented to attract this workforce.
- 94% believe the main benefit of employing older professionals is related to their expertise. However, most of the surveyed organizations do not adopt knowledge management practices (22%), specific training (45%), and mentoring (50%).
- 63% of the corporations believe that older workers are apathetic because they are closer to retirement, and therefore, 73% of the respondent corporations do not provide career opportunities to this audience, while 70% do not allow flextime.
- Although most corporations recognize that older workers are more skilled to make diagnosis (87%) and solve problems (86%) and have more emotional balance (96%), they do not allow these professionals to hold core offices.
- A large part of the corporations believes that costs with older workers are higher. However, organizations should better assess this cost, since most of them recognize that these professionals are more loyal, thus reducing turnover expenses, and only to 32% of the corporations wages are a barrier to hire old employees.

Another Brazilian study carried out by França et al. (2014) adapted some questions of the Van Dalen et al. (2010) study to assess managers' perception in 207 organizations (one manager per organization, 60% of the private sector) on the retirement preparation programs—PPAs and HR management practices toward aging. Regarding the PPAs only half said to be familiar with the Statute of the Elderly (Brasil, 2003), which provides that public and private organizations must carry out the PPA. Consequently, only one fourth of the organizations surveyed performed the PPA, although most managers considered it very important.

Regarding the remaining human resources policies and practices adopted by the Brazilian organizations to deal with workers' aging, the study by França et al. (2014) emphasized the similarities with the European study as to the Brazilian managers' vision on the evaluation of older workers' traits, i.e., more reliable, more loyal to the organization, and more sociable, while younger workers are perceived as physically healthier, more flexible, and with more technology skills than the older ones. Anyhow, there was a huge difference in the results for European and Brazilian managers concerning measures that most of the Brazilian managers adopt (or not) and will (or not) adopt, namely: downsize the hierarchical status for workers to continue to work (84%), offer half-time jobs (78.5%), and reduce workload (72%). The measures that managers intend to implement in the future regard the adjustment of tasks (52.2%), ergonomics measures (50.7%), and age threshold for improper/unhealthy work (44.6%). Finally, regarding the measures already adopted,

the following were most relevant: adoption of ergonomics measures (30.8%) and continuous career progression (40.8%).

França et al. (2014) disclose a contradiction between what Brazilian managers say that should be done, what has been effectively done, and what they propose to do. This resembles the distance between the intention and action by individuals or between attitudes and behavior. This is clear when, for example, most participants agree on the need for reducing older workers' workload and when, in another question, most respondents did not take in consideration implementing this measure in the future. It is as if these managers could not perceive their own authority and/or competence to propose measures in which they believe. This recalls the need not only for awareness raising but for broad and urgent debate on the role of the organizations' human resources manager in this new changing scenario. Cepellos (2013) also observed that the general perception of HR managers—who works in Brazil—about older workers is relatively positive; however, these perceptions have not resulted in the adoption of management practices toward older workers.

The recent governmental proposal of 65 years as the minimum age for retirement (Brasil, 2016) and the consequences of this proposal due to the need for updating and including older workers are likely to enhance age management practices in Brazil. Therefore, there is a pressing need for studies and interventions to foster predictors of well-being at work, as well as to enhance the support to workers that will retire, through the adoption of PPAs.

Although in a slower pace than we could expect, these measures are being put in practice. For example, the retirement preparation programs were proposed in the 1990s and recommended in the Statute of the Elderly. Results were slower than hoped for, and few organizations develop this practice. Over years, the PPAs have been expanded mainly in public institutions (Leandro-França, 2016) and are being cautiously implemented in private institutions.

Recently the retirement planning was inserted as one of the indicators evaluated in organizations by the *Instituto Ethos de Empresas e Responsabilidade Social (2013)*. Large Brazilian organizations adopted this system of indicators conceived by the *Instituto Ethos* that allows to "point out priorities, set goals and joint initiatives, facilitate the monitoring of actions through periodic evaluations, and allow the company and its value chain to grow together toward sustainability" (p. 4). This measure ultimately influences the organizations' value in the stock market and, therefore, boosts the replication of PPAs by a larger number of public and private organizations.

In Portugal, Pinto (2015) showed that most HR managers do not use age management, and this is not expected to happen in the short term. Only two corporations developed formal age management programs. These programs comprise HR practices that range from the redefinition of job descriptions, changes to work positions, job rotation, flextime, and assignment of roles as tutor, mentor, or trainer. Most managers do not acknowledge the urgent need to develop specific HR practices for older workers. Age management is more reactive than proactive. The practices more valuable for workers were rewards, recognitions, participation, and flexible work.

In an attempt to analyze the phenomenon in Portugal in the light of institutionalization to reach higher autonomy levels, as proposed by the concept of active aging,

four investigations were selected: Silva (2009) described the impact of peoples' life story on the reorganization of time by the time of retirement; few years later, Silva (2012) approached the perspective of elderly affection in the institutional context, Branco (2012) tried to study how the transition to retirement happens and is explained, and Catanho (2011) resumed active aging in a population different from the previous investigation, in the insular context.

In the first approach, Silva (2009) analyzes the impact of peoples' life story on the reorganization of the retirement time and, considering the emerging influences of the active aging ideology, emphasizes two aspects: (1) the analysis of life stories is crucial to understand the decisions, opportunities, and interests of people by the time of retirement, and (2) stronger or weaker incorporation of active aging ideology in time organization, out of the labor market, is closely related to the life pathways adopted by the subjects. Silva also refers to the different occupational pathways between women and men. Women reorganize time more easily when they retire because of their continuous investment in domestic chores and caregiving. Therefore, retired workers are not a homogeneous group, although they share a range of references and historical, cultural, and social episodes.

In the second paper, Silva (2012) suggests that idealized active aging presents an incomplete vision of old age. Active aging is mainly based on the primacy of activation, independence, and productivity in tune with the new generation of social policies. The social participation idealized by these policies concerns not only public incentives promoted by employability but also by the individuals' capacity building, increased participation in matters of public interest, and defense of their own interests.

When reviewing the importance of older people's affection in the institutional context, Silva's (2012) study shows that aging is related to change and wisdom but is also associated to decadence among the elderly population in general. The old people investigated in this study regret to miss their past lives and had a feeling of having lost former references of life.

Interested to understand if retired older workers continued to participate in the formal and informal economy, sociability, and how they coped with the feeling of solitude, Branco (2012) found that people experience the transition to retirement in different ways. The author emphasized the heterogeneity of this group resulting from their social and economic capital, which should be maximized by the civil society or specifically in the human resources management scope. The functional intervention demands to raise workers' awareness about their skills, improve their satisfaction, encourage them to remain in the world of work, and lead them to personal and social reorganization in times of transition or change.

Catanho (2011) studied an insular population and found a different reality, where active aging is a challenge for the elderly because, although they consider themselves active because of their physical autonomy and leisure activities, they do not fit into the definition of active aging. Despite the positive education offer to the elderly, their participation remains negligible because it also "depends on people's closeness to education in their lifetime" (Catanho, 2011, p. 115).

5.5   Recommendations Related to Age Management

5.5.1   *Ageism*

Ageism was often overlooked by the communication means and the academy, differently from other forms of prejudice present in our society such as sexism, racism, and homophobia (Nelson, 2005; Palmore, 2004). The first step to reduce ageism is to explain to the population that people of more than 60 years make up a more heterogeneous age group. Old people are a highly differentiated category, being the wisest and the most dement in the society (Neto, 2004).

At which age is the worker considered older? Literature divides this group in three ranges: young-old (65–74 years), middle-old (75–84 years), and old-old (aged 85+). Based on two censuses in Portugal in 1991 and 2001, the old-old group grows most in relation to the other groups (Simões, 2005). To Truxillo et al. (2015), the definition of older worker is troublesome when we analyze the workforce aging. The authors argue that the concept widely varies between contexts and cultures and factors that define who is considered older. There are different stereotypes of age associated to different works, and that vary all over the world including because of the legal age for retirement and laws to protect workers. In the United States, for example, this protection starts at the age of 40 years, although the concept of older worker and rules are changing. If we consider professional training, socioeconomic and education levels, physical profile, social relationships, and access to goods and services that a 60-year-old person has today, he/she is comparable to a 40-year-old individual in the past.

Baby boomer aging has drastically changed the concept of who is considered an old worker. Truxillo et al. (2015) used the term older worker for those getting closer to the retirement age and those working a little beyond the standard retirement age. In the United States, for example, this could include individuals aged 50–60 years old, although many remain working when they are 70 years or older. The authors emphasize that aging is an individual process, and comparing individuals of different age groups could be less useful than the considerations about physiological and psychological factors of life.

Despite the gradual increase in the number of surveys and studies about ageism in the international literature, including Brazilian and Portuguese texts, there is great shortage of studies about ageism and its specificities. Whitbourne and Hulicka (1990) surveyed ageism using 139 psychological texts published over 40 years. The texts disclosed strong traits of ageism, mainly regarding biological decline, reduction of psychological function, and social detachment. Childhood and adolescence were five times more frequent than adulthood or old age. Nelson (2002) shows it in his survey about types of stereotypes investigated about racism, sexism, and ageism in the abstract of articles on the PsycINFO database. By that time Nelson found 2215 articles about racism, 1085 about sexism, and only 215 articles about ageism. According to the author, this pattern of lack of interest in the psychology literature shows that one of the reasons, and maybe the most obvious, is that ageism is the best

tolerated and more institutionalized form of prejudice in the world, notably in the United States. According to Nelson it has to do with the message conveyed by the consumption industry that aging is not desirable. This fact, per se, shows the need for researching ageism.

Although ageism and age-based discrimination are usually used as synonyms, ageism mainly refers to attitudes, i.e., evaluations of a person in relation to another based on age. Thus, age-based prejudice could be used as synonym to ageism. On the other hand, age-based discrimination corresponds to behaviors that express this attitude, generally negative, in relation to the other and based on age. Put in another way, age-based discrimination refers to the behavioral expression of ageism (Goldani, 2010). França et al. (2016) defined organizational ageism as a set of negative or positive attitudes toward aging, favoring or disfavoring the older workforce and favoring or disfavoring its inclusion/exclusion and permanence and, therefore, the well-being of those who want or need to remain in the labor market.

In order to fight ageism in organizations, researchers and organizations should measure these attitudes of prejudice against older workers to recommend interventions based on their findings. Neto (2004) validated the Portuguese version of the Fraboni Scale of Ageism (FS) proposed by Fraboni, Saltstone, and Hugues. The Portuguese version presented 25 items (instead of the 29 in the original scale) divided in the same factors: antilocution (hostile talk and slander), avoidance (avoid group members they do not like), and discrimination (exclusion from civil rights, employment, from access to some forms of accommodation, and from education and leisure opportunities).

Researching stereotypes of 796 managers of older workers and the influence of these stereotypes on the tendency to retain them in the labor market, Henkens (2005) elaborated a 15-item (or opinions) scale about older workers. The factorial analysis generated three stereotype dimensions: (1) productivity of older staff members, (2) reliability, and (3) adaptability. The results showed that stereotyped ideas about older workers influenced the managers' attitudes in relation to employees' retirement. Older managers more frequently in contact with older employees tend to hold more positive opinions.

Chiesa et al. (2016) validated and used Henkens' (2005) stereotypes scale to relate it to the occupational self-efficacy scale of Di Fabio and Taralla (2006, in Chiesa et al., 2016). The authors intended to investigate the relationship between age stereotypes and professional self-efficacy of older workers following the proposal that older workers with more negative attitudes about their aging are less confident about their skills to perform tasks. Researchers tested 4667 Italian bankers of different ages and pooled them in two groups—younger than 50 years and 50 years or older. The exploratory and confirmatory analyses of Henkens' original instrument (one single item changed) gave rise to the final 13-item Italian version, confirming the structure proposed by Henkens for prejudices against older workers in three dimensions: productivity, reliability, and adaptability. The results found by Chiesa confirmed the relationship between stereotypes about older workers and occupational self-efficiency, and this relationship is moderated by age. Therefore, the organization's positive beliefs in relation to adaptability and reliability of older

workers improved occupational self-efficiency for the 50 years or older group but had no effect on the productivity of those younger than 50 years.

In Brazil, França et al. (2016) carried out a survey among 600 workers of 18–75 years old all over the country. The original scale of ageism in organizational context (EACO) had 28 items. The parallel analysis and exploratory factorial analyses resulted in a final scale of 14 items divided into two dimensions. The first dimension represented the negative attitudes mainly defined by cognitive and health aspects. It revealed excellent internal consistence ($\alpha = 0.83$) and load factors above 0.53. An example of an item is "Older workers fall ill more easily." The second dimension represented the positive attitudes mainly defined by positive aspects, with good internal consistence ($\alpha = 0.77$) and load factors above 0.57. An example of item is "Older workers are more committed to work than younger workers."

When the EACO (França et al., 2016) results were compared for the two age groups (younger and older workers), they showed significant differences regarding positive and negative attitudes toward organizational aging. The group of younger workers was more negative in relation to aging than the older workers. On the other hand, the older group presented more positive attitudes than the younger ones. The predictor variables of sex, age, and education level confirmed the statistical significance in multiple linear regressions, in which younger and less educated workers showed more negative attitudes in the face of aging in the organizational environment.

The results of this survey make two practical suggestions: the adoption of actions and strategies that contribute to minimize uncertainty and the perception of insecurity caused by age. The second one suggests that, in addition to organizational factors, the psychological factors could explain individuals' positive viewpoint in relation to older workers and, therefore, the regular contact of managers with those workers should be encouraged, as previously suggested by Henkens (2005). Regarding the academia, the research should be replicated with other specific professional groups using the simplified version (after removing the items) or the original 28-item version.

Siqueira-Brito, França, and Valentini (2016) performed confirmatory analyses of the Ageing Scale in the Organizational Context (EACO) with 383 workers of all ages in the state of Rio de Janeiro. The confirmatory analyses generated 13 items with good results and goodness of fit. Only one item was removed, and the remaining items were grouped in two dimensions: positive attitudes and negative attitudes, confirming the previous scale structure presented by França, removing one single item from the previous exploratory scale. Example of positive attitude item: Older workers are more committed to work than the younger workers. Example of negative attitude item: Older workers use to fall ill more easily.

To deal with ageism, Kray and Shirako (2009) identified three categories of strategies that organizations could implement: (1) recognize the stereotypes enhancing the positive and discouraging the negative ones (prejudice management); (2) match opportunities for younger and older workers, including equal representation of age in hiring and professional training; and (3) change organizational culture fostering the promotion of identity confidence and appraising personal effort.

Thinking along the same line, Chiesa et al. (2016) agree on the need to emphasize old workers' positive traits to reduce the presence of negative stereotypes in the workplace and promote their self-efficacy. About awareness raising, França et al. (2014) consider crucial to inform managers about damages caused by ageism in organizations that prevent the inclusion and greater participation in intergenerational teams. They should also be trained and discussed with expert aspects related to workforce aging and the required changes in the organizational environment.

Chiesa et al. (2016) reinforce that training programs should be oriented to the participation of workers of all ages to encourage professional partnerships and support formal and informal learning among older and younger workers, as well as mutual exchange of knowledge. In addition to this strategy, the improvement of all generations' knowledge fosters cooperation between age groups. As pointed out by França, Silva, and Barreto (2010), knowledge and intergenerational experience disrupt the possibilities of prejudice against aging.

5.5.2   Flextime and Job Control

Retirement is a process through which older workers gradually reduce their psychological attachment to work and labor activities until the full retirement. That is why works with shorter workload or flextime are recommended prior to full retirement, so that workers can gradually withdraw from tasks developed in the course of their career and start performing new activities. In addition to flextime, job control seems equally relevant for older workers. When people have greater control on their routines, they are more prone to continue to work even after the legal age to retire (Charles & Decicca, 2007; Gielen, 2007; Truxillo et al., 2015).

Investigating the factors that could influence 148 civil servants of a technology organization to decide for retirement or to continue to work, Menezes and França (2012) found that the main reasons to retain older workers in the organizations are age, job control, and flextime. The results also pointed out that if an older worker has a negative perception on his/her work (less satisfaction and engagement) and, at the same time, little flextime, he/she would tend to adopt the bridge employment which means to use job as a bridge between work and retirement, usually half-time or contract-based works (Feldman, 1994; Shultz, 2003). However, if the worker is facing health problems, he/she is more likely to retire definitely, regardless of any other predictor.

In the United States, studies and interventions on the topic are so advanced that Morelock, McNamara, and James (2016) published a survey that analyzed the effect of an intervention on the workers' workability. Workability refers to the skills, health, and other physical and mental characteristics demanded by work activities. Workability tends to decrease with age. Morelock et al. (2016) have accessed 473 health professionals and found that an intervention aimed to help workers to better manage time to perform a work could benefit older workers.

5.5.3   Training for Older Workers

Learning starts but does not end in the first decades of life. Even when work-based learning starts early, qualification is continued on the job. The tendency of longer professional life is likely to persist, and more people will retire in a more gradual and individual way (Ramey & Francis, 2009). Studies show that in advanced age old people perform as well as the young people in tasks demanding wisdom, i.e., discernment in important but uncertain issues of life (Sternberg & Grigorenko, 2005), and could perform better than younger workers in areas where both have expertise (Staudinger, Marsiske, & Baltes, 1993). However they must be consistently updated like a continuous education process.

Lifelong education meets the principles of active aging (2015) that reinforces that better educated people live longer and healthier than the less educated ones. Learning in adulthood has positive impact on self-esteem, self-confidence, social participation, levels of physical activity and tobacco use, skills, and chances of getting a job or even a promotion. Moreover, some cognitive skills peak during youth and decline over years, such as mental speed, solution of new problems, spatial reasoning, and capacity of performing many tasks simultaneously.

However, the skills that depend on accumulation of knowledge increase with age such as vocabulary, general knowledge, specific knowledge, and skills acquired by means of different roles, occupations, and interests over years. The intellectual skills, for example, widely vary in all ages, and some old people have better or equivalent skills as younger individuals (Centro Internacional de Longevidade Brasil, 2015). The core elements of culture that favor knowledge transfer process in an organization include appraisal of older workers for their knowledge, mutual respect between the parties, and due importance attached to the knowledge transfer process (França et al., 2010; Rau & Adams, 2012).

The concern that older workers are less productive can be solved emphasizing continued or lifelong education, mainly regarding knowledge updating. With the fast-paced technology advances and less youngsters in the workforce, learning becomes a continuous variable in productive life. The active participation of the elderly in all areas of human activity is increasingly needed (Centro Internacional de Longevidade Brasil, 2015). Some best practices pointed out in literature on training are equal access to training, continued monitoring of learning level, and opportunity for older workers to take on the role of trainers or mentors of younger workers (Naegele & Walker, 2006; Sterns & Miklos, 1995).

Some countries like Canada have adopted the performance evaluation with useful and unbiased feedback, specific benefits to older workers, and practices of appraisal and respect. Armstrong-Stassen (2008) performed a study comprising 426 human resources managers and 284 older Canadian workers (of which 171 were still in the career and 113 in bridge employment). The results identified seven human resources strategies: flexible work options, job design, training to older workers, training to managers, performance evaluation, remuneration, and recognition and respect. The practices that express appraisal and respect for seasoned workers are

the most influent on these people's decision to remain in the organization. Nonetheless, about 75% of the workers said that organizations do not adopt these practices just because they do not consider these as a priority. These last findings corroborate those found in the research by França et al. (2014).

Measures should be proposed not only to update and develop workers over life but to support those who are separating and train those who will replace them encouraging planning for the future at any age. However, these demands depend on the political willingness of the organizations and, above all, on the entrepreneurial spirit, leadership, and creativity of managers toward a pro-human attitude.

5.5.4   Ergonomics

The work activity representation that largely prevails today was formalized early in the twentieth century—the Taylorism. In this workplace, the organization reduces knowledge about the activity to the minimum required, and people management is no longer in charge of what is done in the job post but of the selection and administration of problems formalized in the service contract (Guérin, Laville, Daniellou, Duraffourg, & Kerguelen, 2004). It is in support to this context that authors evidenced the arousal in the 1970s of ergonomics as a science concerned about work conditions and work organization and its relation to workers' health, safety, and quality of life.

Ergonomics refers to a subject matter that studies work and its transformation. It refers to the transformation of devices by building knowledge on human being in activity (Falzon, 2007; Guérin et al., 2004). To effectively build knowledge based on the work activity, it is essential to know beyond the ergonomics fundamentals, learning the viewpoints of managers and workers of all ages, including the old ones, regarding the differentiation between task and activity, definition of operational strategies, operational modes, regulation, workload, variability, and confrontation (Nunes, 2015). The development process enabled the change of a wide range of concepts, parameters, goals, objectives, and ways of looking to and doing work. The work was gradually shaped to the new configurations of reality and society, fitting into the tasks and their requirements (Abrahão & Torres, 2004).

According to Wisner (1994), those who are less capable to develop their intellectual skills in childhood and youth will probably suffer prematurely the effects of age. And who benefited from proper education preserved capacities for much longer time. These results evidence the importance of formal education and as education during work life, so that workers remain skilled and trained in line with their needs and activities' requirements.

The importance of striving for improvements aimed at the ability to work at all stages of the worker's active life was suggested by Tuomi, Ilmarinem, Jahkola, Katajatinne, and Tulkki (2005), since the factors that reduce these skills start being accumulated in the so-called midlife and are found in workers of around 45 years old. Surely, the investment to maintain work capacity and functional capacity

produces results in a few years, and improved functional capacity remains with workers when they retire and enter the third phase of life. They may find meaning to this productive, independent, and active life for up to 10 or 20 years after the retirement age (Tuomi et al., 2005).

However, the implementation of programs to maintain working skills in companies also depends on the organizational willingness and integrated actions of worker's health. The discussion should not be restricted to chronological aging but should also approach issues related to functional aging that usually arises earlier. These facts depend on prioritizing lifelong learning and human capital that is constructed and allows active aging in organizations. As such, support measures oriented to low-skilled workers should be implemented, considering that a large share of these workers could be unskilled in a few years if these measures are not properly adopted (Tuomi et al., 2005).

5.6   Conclusion

The expanded life expectancy generated gains to the population that now lives longer with more quality, thanks to the new technologies, better health care, and greater access to information and education. However, living longer also poses challenges such as continued payment of pensions, offer of services that meet aged population's demands, ageism, and intergenerational conflicts in organizations.

Added to this, the world economic crisis demands measures involving policies and legislation, education and professional development, managerial practices that could bring about changes to the relationships between workers, and more sustainable and friendly organizational environment. Literature points out the fight to ageism, opportunities to update, changes on labor laws to comprise flextime, stronger job control by older worker, and ergonomic working environment as crucial changes. All these measures could facilitate the continuity of senior workers in the labor market, if they with so.

To attract and retain older professionals in the public and private sectors, the government, organizations, and the society should work together to reduce ageism, allow flextime and reduce workload, update skills, and perform ergonomic interventions to adapt the working conditions for this audience. These measures have already been pointed out by literature and approached in this chapter.

Investments in capacity building and training of workers over the course of their labor lives are another option justified by the expected increased participation of old people in the workforce. There is an increasing awareness that continuity of older workers' professional lives is crucial to the economic development of the country and to the sustainability of different social programs aimed to such growth. There is significant proven potential gain in this area.

Therefore, we believe that the research and practices of people management presented here could contribute to a work environment that is challenging and inspiring to older workers. Institutions that are proactive in the adoption of these measures

will be better positioned to remain competitive in the market and promote the well-being and recognition of those who represent the organizations' differential: the persons. Not only individuals should be responsible, as frequently happens, but also the organizations and state and federal governments should take care of a society that is more and more diverse and made up by generations whose values and ways of thinking, working, and living are different and, therefore, should be known and understood.

References

Abrahão, J. I., & Torres, C. C. (2004). Entre a organização do trabalho e o sofrimento: O papel de mediação da atividade. *Revista Produção, 14*(3), 67–76.

Armstrong-Stassen, M. (2008). Human resource practices for mature workers – And why aren't employers using them? *Asia Pacific Journal of Human Resources, 46*(3), 334–352.

Armstrong-Stassen, M., & Schlosser, F. (2011). Perceived organizational membership and the retention of older workers. *Journal of Organizational Behavior, 32*, 319–344.

Baltes, P. B. (1997). On the incomplete architecture of human ontogeny: Selection, optimization, and compensation as foundation of developmental theory. *American Psychologist, 52*(4), 366–380. doi:10.1037/0003-066X.52.4.366.

Baltes, B. B., & Dickson, M. (2001). Using life-span models in industrial-organizational psychology: The theory of selective optimization with compensation. *Applied Developmental Science, 5*(1), 51–62.

Branco, C. M. B. (2012). *Envelhecer…Embelecer…Envilecer: Comprometimento ou desvinculação com a vida? Atividade e sociabilidade dos idosos da Alta de Coimbra.* Master's thesis. Instituto Superior Miguel Torga, Coimbra, Portugal.

Brasil. (1994). *Lei n° 8.842, Política Nacional do Idoso.* Retrieved from http://www.planalto.gov.br/ccivil_03/Leis/L8842.htm

Brasil. (2003). *Lei n° 10.741 de 1 de outubro de 2003, Estatuto do Idoso*. Retrieved from http://www.planalto.gov.br/ccivil_03/leis/2003/l10.741.htm

Calo, T., Patterson, M., & Decker, W. (2014). Age-related work motivation declines: Myth or reality. *Journal of Organizational Psychology, 14*(1), 96–110.

Camarano, A. A. (2014). Perspectivas de crescimento da população brasileira e algumas implicações. Em A. A. Camarano (Org.). *Novo regime demográfico: Uma nova relação entre população e desenvolvimento?* (pp. 177–210). Rio de Janeiro: IPEA.

Camarano, A. A., Kanso, S., & Fernandes, D. (2013). Envelhecimento populacional, perda de capacidade laborativa e políticas públicas. *Mercado de Trabalho (IPEA), 54*, 21–29.

Catanho, A. P. F. (2011). *Envelhecimento activo: um desafio para os idosos não institucionalizados*. Master's thesis. Universidade da Madeira, Funchal, Ilha da Madeira, Portugal.

Centro Internacional de Longevidade Brasil. (2015). *Envelhecimento ativo: um marco político em resposta à revolução da longevidade*. Rio de Janeiro, RJ.

Cepellos, V. M. (2013). *O envelhecimento nas organizações: Das percepções de gestores de recursos humanos às práticas de gestão da idade.* Master's thesis. Fundação Getúlio Vargas, São Paulo-SP, Brazil.

Charles, K. K., & Decicca, P. (2007). Hours flexibility and retirement. *Economy Inquiry, 45*(2), 251–267. doi:10.1111/j.1465-7295.2006.00009.

Chiesa, R., Stefano, T., Dordono, P., Henkens, K., Fiabane, E., & Setti, P. (2016). Older workers: Stereotypes and occupational self-efficacy. *Journal of Managerial Psychology, 31*(7), 1152–1166.

Conen, W., Henkens, K., & Schippers, J. (2012). Employers' attitudes and actions towards the extension of working lives in Europe. *International Journal of Manpower, 33*(6), 648–665.

Eurofound. (2006). *Gestão da idade nas organizações europeias*. Retrieved from http://www.euro-found.europa.eu/pubdocs/2006/08/pt/1/ef0608pt.pdf

Falzon, P. (2007). Natureza, objetivos e conhecimentos da ergonomia. In P. Falzon (Org.), *Ergonomia* (pp. 3–18). Rio de Janeiro, RJ: Edgard Blucher.

Feldman, D. C. (1994). The decision to retire early: A review and conceptualization. *Academy of Management Review, 19*, 285–311.

França, L. H. F. P. (2012). Envelhecimento dos trabalhadores nas organizações: Estamos prepara-dos? In L. H. F. França, & D. V. Stepansky (Orgs.), *Propostas multidisciplinares para o bem-estar na aposentadoria* (pp. 25–52). Rio de Janeiro, RJ: FAPERJ and Quartet.

França, L. H. F. P., & Soares, D. H. P. (2009). Preparação para a aposentadoria como parte da educação ao longo da vida. *Psicologia Ciência e Profissão, 29*(4), 738–751.

França, L. H. F. P., Silva, A. M. T. B., & Barreto, M. S. L. (2010). Programas intergeracionais: Quão relevantes eles podem ser para a realidade brasileira? *Revista Brasileira de Geriatria e Gerontologia, 13*(3), 519–531.

França, L. H. F. P., Menezes, G. S., Bendassolli, P. F., & Macedo, L. S. S. (2013). Aposentar-se ou con-tinuar trabalhando? O que influencia essa decisão? *Psicologia: Ciência e Profissão, 33*(3), 548–563.

França, L. H. F. P., Nalin, C. P., Siqueira-Brito, A. R., Amorim, S. M., Rangel, T., & Ekman, N. C. (2014). A percepção dos gestores brasileiros sobre os programas de preparação para a aposen-tadoria. *Estudos Interdisciplinares sobre o Envelhecimento, 19*(3), 879–898.

França, L. H. F. P., Siqueira-Brito, A. R., Torres, C., Valentini, F., Torres-Vaz I., & Mafra, S. C. (2016). *Ageismo no contexto organizacional – Uma investigação com trabalhadores brasileiros.* Unpublished manuscript.

Gielen, A. C. (2007). *Working hours flexibility and older workers labor supply.* Iza Discussion Paper n° 2946. Department of Economics, Tilburg University, Netherlands.

Glamser, F. D. (1981). The impact of preretirement programs on the retirement experience. *The Journal of Gerontology, 36*(2), 244–250.

Goldani, A. M. (2010). "Ageism" in Brazil: What is it? Who does it? What to do with it? *Revista Brasileira de Estudos de População, 27*(2), 385–405.

Guérin, F., Laville, A., Daniellou, F., Duraffourg, J., & Kerguelen, A. (2004). *Compreender o trab-alhador para transformá-lo: A prática da ergonomia*. São Paulo, SP: Edgard Blücher.

Henkens, K. (2005). Stereotyping older workers and retirement: The managers point of view. *Canadian Journal on Aging-Revue Canadienne Du Vieillissement, 24*(4), 353–366.

Hershey, D. A., Moewen, J. C., & Jacobs-Lawson, J. M. (2003). An experimental comparison of retirement planning intervention seminars. *Educational Gerontology, 29*, 339–359.

Hult, C., & Stattin, M. (2009). Age, policy changes and work orientation: Comparing changes in commitment to paid work in four European countries. *Population Ageing, 2*, 101–120.

Instituto ETHOS de Empresas e Responsabilidade Social. (2013). *Indicadores Ethos de Responsabilidade Social Empresarial.* Retrieved from http://www3.ethos.org.br/wp-content/uploads/2013/07/IndicadoresEthos_2013_PORT.pdf

Instituto Nacional de Estatística – INE. (2009). *Projecções de população residente em Portugal 2008–2060*. Lisboa, Portugal: Instituto Nacional de Estatística.

Instituto Nacional de Estatística – INE. (2011). *Censos de 2011 – Resultados Provisórios.* Lisboa, Portugal: Instituto Nacional de Estatística.

Instituto Nacional de Estatística – INE. (2014). *XV Recenseamento Geral da População – Censos 2011*. Lisboa, Portugal: Instituto Nacional de Estatística.

Kooij, D., De Lange, A., Jansen, P., & Dikkers, J. (2008). Older workers' motivation to continue to work: Five meanings of age. A conceptual review. *Journal of Managerial Psychology, 23*(4), 364–394.

Kray, L. J., & Shirako, A. (2009). Stereotype threat in organizations. An examination of its scope, trig-gers and possible interventions. In M. Inzlicht, & T. Schmader (Eds), *Stereotype threat: Theory, process, and application* (pp. 173–187). New York: Oxford University Press. Retrieved from www.haas.berkeley.edu/groups/online_marketing/facultyCV/papers/kray_paper2011_3.pdf

Leandro-França, C. (2016). *Efeito de programas de preparação para aposentadoria: um estudo experimental*. Doctoral thesis. Universidade de Brasília, Brasília, DF, Brazil.

Menezes, G. S., & França, L. H. F. (2012). Preditores da decisão da aposentadoria em servidores públicos federais. *Revista Psicologia: Organizações e Trabalho, 12*(3), 315–328.

Morelock, J. C., McNamara, T. K., & James, J. B. (2016). Workability and requests for flexible work arrangements among older adults: The role of a time and place management intervention. *Journal of Applied Gerontology, 14*, 1–23.

Murta, S. G., Leandro-França, C., & Seidl, J. (Orgs.). (2014). *Programas de educação para aposentadoria: como planejar, implementar e avaliar.* Novo Hamburgo: Sinopsys.

Naegele, G., & Walker, A. (2006). *A guide to good practice in age management.* European Foundation for the Improvement of Living and Working Conditions. Retrieved from http://www.eurofound.europa.eu/pubdocs/2005/137/en/1/ef05137en.pdf

Nelson, T. D. (2002). *Ageism: Stereotyping and prejudice against older persons.* Massachusetts Institute of Technology, US: Bradford Book.

Nelson, T. D. (2005). Ageism: Prejudice against our feared future self. *Journal of Social Issues, 61*(2), 207–221.

Neto, F. (2004). Idadismo. In M. E. O. Lima & M. E. Pereira (Eds.), *Estereótipos, preconceitos e discriminação: Perspectivas teóricas e metodológicas* (pp. 279–300). Salvador: EDUFBA.

Ng, T., & Feldman, D. (2012). Evaluating six common stereotypes about older workers with meta-analytical data. *Personnel Psychology, 65*(4), 821–858.

Noronha, N. (4 de Janeiro de 2017). *7 em cada 100 reformados compram os medicamentos por falta de dinheiro.* Retrieved from https://lifestyle.sapo.pt/saude/noticias-saude/artigos/7-em-cada-100-reformados-nao-compra-medicamentos-por-falta-de-dinheiro

Nunes, G. S. (2015). *Envelhecimento, experiência e competência – Uma abordagem ergonômica.* Master's thesis. Universidade Federal de São Carlos, São Carlos, SP, Brazil.

Palmore, E. B. (2004). Research note: Ageism in Canada and the United States. *Journal of Cross-Cultural Gerontology, 19*, 41–46.

Peiró, J. M., Tordera, N., & Potocnik, K. (2012). Retirement practices in different countries. In M. Wang (Ed.), *The Oxford handbook of retirement* (pp. 510–540). Oxford: Oxford Library of Psychology.

Pinto, A. M. (2015). *Envelhecimento, trabalho e práticas de gestão de recursos humanos.* Master's thesis. ISCTE Business School. Lisboa, Portugal.

Portal Brasil. (2016). *Expectativa de vida no Brasil sobe para 75,5 anos em 2015.* Retrieved from goo.gl/qAotla

Posthuma, R., & Campion, M. (2009). Age stereotypes in the workplace: Common stereotypes, moderators, and future research directions. *Journal of Management, 35*(1), 158–188.

PwC/FGV. (2013). *Envelhecimento da força de trabalho no Brasil.* Retrieved from https://goo.gl/l728pc

Ramey, V. A., & Francis, N. (2009). A century of work and leisure. *American Economic Journal: Macroeconomics, 1*(2), 189–224.

Rau, B. L., & Adams, G. A. (2012). Retirement and human resources management: A strategic approach. In M. Wang (Ed.), *The Oxford handbook of retirement* (pp. 117–135). Oxford: Oxford Library of Psychology.

Scherbov, S., & Sanderson, W. (2016). New approaches to the conceptualization and measurement of age and aging. *Journal of Aging and Health, 28*(7), 1159–1177.

Seidl, J. (2017). Caminhos para promoção do envelhecimento ativo e da aposentadoria bem-sucedida no Brasil: a perspectiva da Psicologia Social e do Trabalho. In Gustavo Teixeira Ramos et al. (coords.). *O Golpe 2016 e a Reforma da Previdência: Narrativas de Resistência* (pp. 247–254). Bauru: Projeto Editorial Praxis.

Shultz, K. (2003). Bridge employment: Work after retirement. In G. Adams & T. A. Beehr (Eds.), *Retirement: Reasons, processes and results* (pp. 214–241). New York: Springer.

Silva, S. M. (2009). *Envelhecimento activo trajetórias de vida e ocupações na reforma.* Master's thesis. Universidade de Coimbra, Coimbra, Portugal.

Silva, R. F. R. (2012). *Vivências afetivas na terceira idade num contexto institucional*. Master's thesis. Universidade Católica Portuguesa, Lisboa, Portugal.

Simões, A. (2005). Envelhecer bem? – Um modelo. *Revista Portuguesa de Pedagogia, 39*(1), 217–227.

Siqueira-Brito, A. R., França, L. H. F. P., & Valentini, F. (2016). Análise fatorial confirmatória (AFC) da Escala de Ageismo no Contexto Organizacional. *Avaliação Psicológica, 15*(3), 333–345.

Skinner, B. F., & Vaughan, M. E. (1985). *Enjoy old: A program of self-management*. Summus Editorial: São Paulo.

Soares, D. H. P., & Costa, A. B. (2011). *Aposent-Ação: Aposentadoria para Ação*. São Paulo: Vetor.

Staudinger, U. M., Marsiske, M., & Baltes, P. B. (1993). Resilience and levels of reserve capacity in later adulthood: Perspectives from life-span theory. *Development and Psychopathology, 5*(4), 541–566.

Sternberg, R. J., & Grigorenko, E. L. (2005). Intelligence and wisdom. In M. L. Johnson (Ed.), *The Cambridge handbook of age and ageing* (pp. 209–215). Cambridge: Cambridge University Press.

Sterns, H., & Miklos, S. (1995). The aging worker in a changing environment: Organizational and individual issues. *Journal of Vocational Behavior, 47*, 248–268.

Tafner, P., Botelho, C., & Erbisti, R. (2014). Transição demográfica e o impacto fiscal na previdência brasileira. In A. A. Camarano (Org.). *Novo regime demográfico: Uma nova relação entre população e desenvolvimento?* (pp. 539–570). Rio de Janeiro: IPEA.

Teiger, C. (1995). Penser les relations âge/travail au cours du temps. In J. Marquié, D. Paumès, & S. Volkoff (Eds.), *Le travail au fil de l'âge* (pp. 15–72). Toulouse: Octares Éditions.

Truxillo, D. M., Cadiz, D. M., & Hammer, L. B. (2015). Supporting the aging workforce: A review and recommendations for workplace intervention research. *Annual Review of Organizational Psychology and Organizational Behavior, 2*, 351–381.

Tuomi, K., Ilmarinem, J., Jahkola, A., Katajatinne, L., & Tulkki, A. (2005). *Índice de capacidade para o trabalho*. São Carlos: EdUFSCar.

U.S. Department of Health and Human Services. (2015). *A profile of older americans: 2015. Administration on aging. Administration for community living.* Retrieved from https://aoa.acl.gov/Aging_Statistics/Profile/2015/docs/2015-Profile.pdf

Van Dalen, H., Henkens, K., & Schippers, J. (2010). Productivity of older workers: Perceptions of employers and eEmployees. *Population and Development Review, 36*(2), 309–330.

Von Bonsdorff, M. E., Zhou, L., Wang, M., Vanhala, S., Von Bonsdorff, M. B., & Rantanen, T. (2016). Employee age and company performance: An integrated model of aging and human resource management practices. *Journal of Management, 20*(10), 1–27.

Whitbourne, S. K., & Hulicka, I. M. (1990). Ageism in undergraduate psychology texts. *American Psychologist, 45*, 1127–1136.

WHO. (2002). *Active ageing, A policy framework. A contribution of the WHO to the Second United Nations World Assembly on Ageing,* Madrid, Spain. Retrieved from https://www.dgs.pt/saude-no-ciclo-de-vida/envelhecimento-activo.aspx

Wisner, A. (1994). *A inteligência no trabalho: Textos selecionados de ergonomia*. São Paulo: Fundacentro.

Zanelli, J. C., Silva, N., & Soares, D. H. P. (2010). *Orientação para aposentadoria nas organizações de trabalho: Construção de projetos para o pós-carreira*. Porto Alegre: Artmed.

Chapter 6
Life and Career Planning: Current Challenges

Sônia Regina Pereira Fernandes, Maria das Graças Torres da Paz, Laila Leite Carneiro, and Telma Fernandes Mascarenhas

6.1 Introduction

In the last decades, careers have been reviewed in the light of their management in organizations and in the light of individual career development. The interest on this issue came about from changes in the labor world resulting from globalization, productive restructuring, new microelectronic technologies, flexible labor links, and the emergence of new labor modalities and changes on organizations.

This labor reality has boosted several changes in professional careers, expanding its meaning and scope to comprise new organizational arrangements and labor links. In this sense, there are transitions from the so-called traditional careers and the emergence of new career-related concepts. The literature comprises countless notions of career, from organizational, individual, traditional careers to the contemporary notions of protean career and boundaryless career (Arthur & Rousseau, 1996; Baruch, 2003; Garavan & Coolahan, 1996; Hall, 2004; Hall & Moss, 1998; Super, 1980).

To approach the topic, this chapter was organized to present the main concepts of career, discussing careers focused on organizations, mainly those linked to scientific administration, and the contemporary tendencies of individual-focused careers, known by the models of the so-called protean career and boundaryless career (Arthur & Rousseau, 1996; Garavan & Coolahan, 1996; Hall, 2004; Hall & Moss, 1998).

S.R.P. Fernandes (✉) • L.L. Carneiro
Universidade Federal da Bahia, Salvador, BA, Brazil
e-mail: sonregina@gmail.com; laila_carneiro@hotmail.com

M. das Graças Torres da Paz
Universidade de Brasília, Brasilia, DF, Brazil
e-mail: torrespaz@uol.com

T.F. Mascarenhas
Faculdade Ruy Barbosa, Salvador, BA, Brazil
e-mail: telmafm30@gmail.com

Next, it presents the theoretical and conceptual contributions of psychology resulting from the study of careers, notably Schein's (1990) approach of career anchors that allows the identification of personal and professional changes throughout the individuals' lives, Holland's (1997) typology of vocational interests/personalities, and the positive psychology movement that, according to Dick and collaborators (2015), allows orienting the study and intervention in the scope of careers considering the human capabilities. This section also stresses the contributions of Moreno's (1975) psychodrama approach that, despite having not been designed specifically in the field of career studies, interacts with the area through the concept of role and professional relationship network. Finally, it summarizes the methodological possibilities of applying these fundamentals to the life and career planning, using psychometric instruments to subsidize the construction of indicators that will be part of the evidence of effectiveness of the plan (Hartman & Betz, 2007; Nunes, Hultz, & Nunes, 2010; Oliveira & Gomes, 2014; Ourique & Teixeira, 2012).

6.2 Evolution of Career Concepts: From Traditional to Contemporary

The issues involving careers—concepts, development, and mobility—are not recent and have been analyzed over history. However, changes and transformations of the axes of labor and organizations have highlighted the discussion since the end of the twentieth century. Therefore, in 1996, Garavan already pointed out the unclear notion of mobility in career, expressed in two perspectives: (a) the individualist that considers that career mobility mainly ensues from factors related to individual competences, education, motivations, and working experience and (b) the organizational, according to which career mobility mainly depends on the internal labor market structures and organizational policies.

In this direction, Garavan and Coolahan (1996) considers that organizational structures and labor links will define and set the type and scope of the employee's career. The author adds that the individuals' chances of mobility are related to the existence of a career management policy, rather than depending only on the employee's competences and motivations. On the other hand, Garavan states that the individual perspective in the career approach has focused on aspects related to career mobility such as professional training, self-concept, career selection, need of growth, family members' influence, and age, gender, and race. It is worth mentioning that the organizational perspective of career considers the organizational variables as founding variables and conceives career mobility of ascending perspective, structured as a ladder (Garavan & Coolahan, 1996). It can be observed that these perspectives are not complementary and sometimes antagonize each other and that the so-called individual perspective elects specially the role of the individual in the decisions and the investment in the career, while the organizational perspective values the performance against its goals and objectives.

This perspective comprises the concept of traditional careers outlined in the organizations and linked to the scientific administration and to Taylorist-Fordist work processes in a context in which values such as standardization, stability, and predictability prevail (de Vasconcellos, 2015; Ribeiro, 2015; Sullivan, 1999). Also called organizational careers, they are defined as the path run by the worker in a predefined structure of positions and functions within a company (Ribeiro, 2015). Therefore, the career presupposed the existence of an employment relationship with an organization, except for the development of works highly appraised by the society that gave rise to expressions such as "medical career" and "political career" (Ribeiro, 2015). The contemporary careers, in turn, which are more focused on the individual perspective, appear at the end of the twentieth century, resulting from the breach of the Taylor-Ford organization principles; from the emergence of new working modalities, merging processes, and corporative acquisitions; and from the economy globalization. In order words, new career configurations emerge from a nonlinear and discontinuous reality of labor world.

Baruch (2003) points out that changes in modern organizations have led to major implications in the individual/organization relationship, notably in career planning and management. It is worth mentioning that the ruptures in the labor world have fostered the development of professional paths with little connection with a given organization, since professional mobility through the hierarchic structure has not been sustained in the long term. In this way, the career development tends to focus more on the individual through the career self-management but keeping the links with the labor market demands and tendencies.

According to Bastos (2000), when it comes to organization's changes, there is a strong paradox in the discussions about careers. On one hand, there is the indication that the careers are dead and, on the other, that the careers are still alive. In this sense, the author considers that the ongoing organizational changes are leading to the extinction of traditional careers and stimulating the construction of new links between individuals and their jobs and employing organizations that could lead to the "death" of careers within the organization, that is, of the traditional careers.

According to Baruch (2003), the careers considered to be traditional have historically been designed on the assumption that careers were selected early in the professional life, implying stability in the same organization. Loyalty and commitment to the organization were core aspects to ensure job stability, while the career was linear with mobility and progress depending on the qualification and experience acquired. The contemporary career perspective, in turn, assumes the possibility of changes in the different stages of an individual's life. It is quite dynamic, accepting the possibility that individuals develop the career incorporating jobs of different nature and scope, besides carrying out simultaneous activities in different organizations. In this sense, the responsibility of developing the career is mainly assigned to the individual, especially through the updating of skills and performance toward strengthening the so-called employability.

Regarding the career concepts today, academics have not reached consensus about their scope. Concepts range from understanding that a professional career results from a set of experiences gained through a sequence of jobs in the market

labor to concepts linked to the idea of *protean career*, developed by Hall (1996), in which behavioral and psychological dimensions are central. Hall and Moss (1998) and Hall (2004) state that a career is built by attitudes and behavior associated with the working experiences, moving according to the individual's life cycle.

Although many designations and career models have emerged since in the end of the twentieth century, two of those models hold very specific traits and an already consolidated literature. They are called the "protean career" and the "boundaryless career" (Arthur & Rousseau, 1996; Hall, 2004; Hall & Moss, 1998).

Hall (1996) developed the concept of protean career according to which the career is oriented by the individual and no longer by the organization. This type of career emerged as a way for individuals to cope with the decentralization of organizations and the lack of job stability, among other aspects (Hall, 2004). It emphasizes the personal values and the decision-making process to select the professional path, with success criteria considered through the individual's self-fulfillment. Here, the required and demanded self-development and search for skills are crucial to build the career, understood as a consequence of achievements throughout life in which the individual is responsible for the career development. On the other hand, this new configuration of career demands new structures, different organizational arrangements, and even different working relations.

The concept of "boundaryless career" (Arthur & Rousseau, 1996) emerged in the 1990s focused on self-management and understanding that career development's priority axes are the development of professional skills and self-fulfillment, and performance could be simultaneous in different contexts and projects. Thus, the individual's field of action is no longer delimited by a specific organization: individuals can work in different organizations simultaneously. In this perspective, individuals are responsible for keeping their skills updated, to be motivated, and to have personal traits that allow flexibility, adaptation to changes, and mobility in different working contexts, in addition to interpersonal skills to keep professional relationship networks. According to Arthur and Rousseau (1996), boundaryless career implies that throughout their professional path, individuals should manage their careers, seeking opportunities to sustain their employability. In this model individuals do not appraise stability; they adopt a transactional perspective and may work on performance-based contracts, i.e., the so-called activity-based contract.

In short, the term "boundaryless" describes professionals not committed to one single working line or motivated by the stability of a given organization. Even with their employability ensured, these professionals consistently pursue job opportunities that bring about important changes, accumulate experiences, and enhance the development and improvement of their present and future performances (Sullivan, 1999).

Despite some similarities between the protean career and the boundaryless career regarding the need for self-knowledge and the role played by past experience, there is a strong difference between the two models when it comes to the decision-making process. While in the protean model the process is guided by personal values, in the boundaryless career model, it has to do with the belief in the possibility of making changes based on their real capacities and external demands.

	Traditional	**Boundaryless**
Employment Relationships	Loyalty-based work stability	Performance and flexibility-based employability
Boundaries	One or two organizations	Several organizations
Skills	Specific to the organization	Transferrable
Success measured through	Payment, promotions, status	Psychological meaning of the work
Responsible for the career management	Organization	Individual
Training	Formal programs	On-the-job
Milestones	Age-related	Learning-related

Source: Adapted from Sullivan (1999).

Fig. 6.1 Comparison of traditional and boundaryless careers. Source: Adapted from Sullivan (1999)

Both the "protean career" and the "boundaryless career" present difficulties. Sullivan and Baruch (2009) point out, among others, the limitation to measuring the protean careers, although they incorporate in their concept subjective dimensions that comprise personal values; in practice these can only be measured by indicators that evaluate the success in the career. The authors also list other limitations and disadvantages of both career models, which can be summarized as follows: (a) the individual is more committed to build his/her career than to the organization(s); (b) the individual career development cannot be bound exclusively to his/her competences and decision-making capacity but also to other factors such as existing demands and opportunities; and (c) these career models cannot be generalized, since these are not applicable to every work nature and personal profiles (Sullivan & Baruch, 2009).

Figure 6.1 shows a brief comparison between the traditional and the boundaryless careers.

It is important to emphasize, especially in Brazilian reality, that the models considered as "traditional careers" have not been replaced by the "contemporary careers." In other words, the coexistence of both models causes some paradoxes that depend, among others, on the market segment, labor nature, and personal profile.

The career concept developed by Super (1980) already suggested the career construction implied in a combination and sequence of roles played by the individual over life, such as social and familiar roles and personality traits. According to the author, the career building follows the stages of life development, starting by the initial career exploration, passing through the stabilization/permanence, and ending up in the weakening/retirement. Super (1980) points to the existence of determinants associated with the stages that follow up the career development, including psychological (skills, values, needs), economic (economy, technology development), and social (socioeconomic level, age, family, race, and sex).

As Bastos (2000) observed, work has been gradually associated with other spheres of the individual's life such as family and leisure, in a movement attuned to the increasing valuation of the human being in its integral dimension.

Considering the scope of careers that are increasingly focused on the individuals' profile, their competences, and the relationship network, we should think of the human potential and the capacity of resilience and construction of roles in view of the need for matching the personal and professional dimensions.

6.3 Psychology Contributions to Life and Career Planning

The evolution in the concept and scope of career has gradually demanded more from psychology in terms of production and application of knowledge about the phenomena involved. If in the past the career used to be associated with a specific group of workers highly committed to the job, professional status, quick ascending mobility, and professional stability in a given office, it is now perceived in a broader way, as a standard or sequence of working experiences developed over people's lives (Greenhaus & Kossek, 2014), which is also translated as the development or psychosocial path of people at work (Ribeiro, 2015).

Therefore, any individual engaged in working activities can be considered to have a career (Schein, 1990). This generates an impact not only on organizational aspects such as performance but also on several personal aspects such as identity, health. and well-being (Greenhaus & Kossek, 2014). Today, even after the period of transition from adolescence to adult life where individuals tend to naturally decide for a career, everyone will have to take a stand on the decisions about the labor world, regardless if these are rushed by changes on job or by changes at other levels such as health and closer personal relationships (Duarte et al., 2010; Lassance, Melo-silva, Bardagi, & Paradiso, 2007).

These decisions are even more evident if we consider groups of work historically left aside by studies on careers, such as women and disabled individuals. Sullivan's (1999) literature review on the change of career nature, for example, shows that the traditional concepts of career were designed and tested based on the group of male workers. When tested among women, the theories on career development found no supporting evidence, or the existing evidence was only partial. These results unveil the influence of the extra-career social roles on decisions related to the professional world. This made the classic theories reinvent themselves, making room for new theories to cope with these new forms of career.

Being aware that workers have increasingly been faced with more realities in which work and other aspects are random, independent, temporary, external, and partial, Duarte and collaborators (2010) advocate that the career development demands a reformulation of concepts. Therefore, the career construction in the twentieth century is closer to the concept of life construction. The consistent changes and uncertainties related to the labor work frequently demand individuals to make decisions about their work activities that bring consequences to other spheres of their lives (Greenhaus & Kossek, 2014). As such, managing the interactions between different life domains is a core concern in workers' lives (Duarte et al., 2010).

At the same time, these interactions should be managed in a very fluent context where parameters to evaluate what is proper or right depend much more on indi-

viduals than on indicators that are homogeneously valued by the society as a whole. Considering this, workers are consistently invited to think over the purpose of their lives (and of work in their lives) and over the risks inherent to the lifestyle they adopted (Duarte et al., 2010).

As summarized by Dik and collaborators (2015), all theories about career development are tangent to the need to identify purpose and the meaning of work for individuals, regardless if these are theories of person-environment fit (e.g., Holland), development (e.g., Super), socio-cognitive (e.g., Lent), or career construction (e.g., Hartung and Taber). In this line, the authors (Dik et al., 2015) find that phenomena especially studied in the positive psychology light were somehow considered relevant factors to be considered in the context of career planning and development since early in the twentieth century, since, in that context, the vocational guidance started being outlined based on the identification of human strengths to enable people to search for work opportunities that corresponded to their potentials and values.

Likewise, by recognizing that work performance can be inherently positive and that work is a life domain that allows individuals to show their strengths, produce meaning, and pursue a life purpose, one could say that career guidance goes beyond the work context, facilitating advances and improvements on the well-being of the individuals and of the society at large (Dik et al., 2015).

However, the classical theories on career pay only indirect attention to those positive aspects. Therefore, efforts are need to make psychology work directly on the maximization of positive factors in the relation between individual and his/her work and life project. Therefore, pursuant to the contemporary concept of careers, psychology is now investing in building and applying knowledge to the planning and development of careers with central axis on the individual and his/her peculiar way of being in the world.

Just like psychology trying to develop methods of diagnosis and intervention on the scope of traditional careers, based on the identification of factors of personality and skills more closely associated with given fields of work, today this science is urged to answer to issues of contemporary careers in a more holistic view. In other words, psychology now contributes to the investigation and guidance of careers in practice carrying out contextualized evaluations that regard the dynamic scenario in which workers are inserted. In addition, it unveils the workers' singularities, values, desires, and aspirations, considering not only the work world but also all the other aspects of life relevant to the worker.

According to Schein (1990), the concept of "career anchor" allows, to some extent, to follow up this need for more contextualized evaluation, since the career anchor is defined as the self-concept that the individual builds from the identification of his competencies, needs and motivations, and of what values head his work-related choices. Therefore the author understands that the career anchor is developed after a time period devoted to the work world, which enabled the worker to accumulate relevant feedback about his/her work experiences. Considering the different types of career, it is worth mentioning that situations involving more flexible work, which are increasingly the rule in the contemporary

world, are better understood in the perspective of career anchors since they demand more constant decisions by the worker.

Schein (1990) proposes a typology that comprises eight types of anchors, as follows: search for stability and security, search for autonomy, development of technical and functional competences, development of general management competences, entrepreneurial creativity, service or devotion to a cause, pure challenge, and lifestyle. In this way, this concept can help workers to increase their awareness about what they praise more and, then, better plan and develop their careers.

Also important in the scope of the psychology contributions to life and career planning is the typology of interests or vocational personalities proposed by Holland (1996). This typology, known as RIASEC, conceives vocational interests as an expression of personality, pooling individuals in six main profiles (realistic (R), investigative (I), artistic (A), social (S), entrepreneur (E), and conventional (C)) as detailed in Fig. 6.2. According to the author, the identification of the workers' personality types and their fitting to congruent working environments allows people to better develop in their jobs. This congruence is associated with factors such as good performance, high level of satisfaction, and stability on the paths run during the career (Holland, 1996).

Literature has progressed in regard to the career decisions among individuals with different types of vocational personality. Magalhães and Gomes (2007), for example, state that in some studies the realist (R) was one of the most boggled when making career decisions; the artistic (A) and investigative (I) types tended to perceive more opportunities, changing jobs more frequently than the other types and being more prone to indecision and change career in midlife; the entrepreneur (E) and the social (S) were more skilled in decision-making and career planning, resorting to social networks to explore possibilities; and the conventional (C) and the entrepreneur (E) showed higher level of employability after they graduated.

Despite the proven benefits of seeking for congruence or "person-environment" fit in the process of planning life and career, it is worth considering that in a scenario that assumes the mutability originated by the environment but also by the individual, to some extent, finding strategies to complement this view and cope with the unforeseen is crucial. In this light, Lent's (2013) socio-cognitive theory proposes that life and career counseling should also be added to the planning or development of the competence known as "life/career readiness." According to the author, the concept refers to "healthy state of vigilance regarding threats to one's career well-being as well as alertness to resources and opportunities on which one can capitalize" (Lent, 2013, p. 7). Therefore, this concept resembles the notions of agency, prevention, resilience, and fit (Lent, 2013).

So, when assisting in life and career planning, mentors/counselors should not only be concerned with the achievement of goals and objectives (like selecting a field of work or ascending to a given position in the company) but also with the individuals' ability to think and effectively adapt to events not scheduled in the original plan. As previously mentioned, interventions in the career scope may target different audiences like children, adolescents, adults inserted or not in the productive world, preretirees, individuals with special needs, and at-risk youth with spe-

REALIST (R)	• Preference for activities involving concrete and rational manipulation of objects, tools and machines; aversion for educational and therapeutic activities.
INVESTIGATIVE (I)	• Preference for activities of theoretical, systematic and creative investigation of natural and human phenomena; aversion to persuasive, social and repetitive activities.
ARTISTIC (A)	• Preference for ambiguous, free and non-systematized activities to create forms of art; aversion to methodic activities.
SOCIAL (S)	• Seeks contact with others to inform, train, develop, cure or educate; avoids highly intellectualized situations and those demanding the use of physical strength.
ENTREPRENEUR(E)	• Seeks interpersonal contact to lead, persuade and have economic gains; avoids reflexive and theoretical activities.
CONVENTIONAL (C)	• Prefers the controlled and systematic manipulation of data and avoids free and exploratory situations. Tends to conform to rules and cultural values in force.

Source: Summarized from Holland (1996)

Fig. 6.2 Description of types of personality/vocational interests conceived by Holland (1996). Source: Summarized from Holland (1996)

cific professional groups, among others. The more instable and unpredictable the scenario becomes, the more counselors need to contemplate the dynamic process established among individuals, works, and other roles played in life (Lassance et al., 2007; Lent, 2013).

Authors such as Lassance and collaborators (2007) highlight that psychology (and other sub-areas that are dedicated to the process of professional guidance and career planning) should focus on delimiting and fostering the competences of professionals that effectively perform the activity of career guidance. In this sense, the authors point out that the concern with this topic, mainly in the international context, exists since the 1950s in recommendations addressed to the training and performance of the counselor profession (Lassance et al., 2007).

However, some systematic efforts have been recently employed to better think about the counselor's training. For example, Lassance and collaborators (Lassance et al., 2007) consider that professionals devoted to career counseling should have specific theoretical training covering from specific knowledge—such as career theories, techniques, and labor laws, among others—to more general aspects, such as theories on human development and individual differences. At the same time, the professional should have practical training that develops intervention skills, ranging from the evaluation process to the problem contextualization, intervention planning, and its effective implementation (Lassance et al., 2007). In more personal terms, the professional should also pay attention to his/her development by, for example, search-

ing for consistent theoretical updating, knowledge and application of the code of ethics, and the identification of his/her limitations in the process of assisting clients.

Finally, considering the theoretical developments of psychology for life and career planning, it is interesting to note how this knowledge is transferred into practice in the process of intervention by the professional who guides the career planning and development, as further shown in the next section.

6.4 Applications of Psychology to Life and Career Planning: Some Possibilities and Evidence

The theoretical-conceptual contribution of psychology is countless, just like the possibilities of methodological applications to the development of programs to support life and professional career planning. These contributions comprise from more specific aspects, such as the construction of instruments for the identification and evaluation of individual traits (like personality and competence) and relational traits (such as roles) to broader aspects, such as the development of methodological strategies to train and prepare the mentor/counselor to cope with challenges posed by life and career planning.

One of the individual traits most frequently associated with contemporary career models is self-management of the career, based on self-knowledge. In other words, it is the knowledge about the self and about one's personal traits, competences, and identification of required adjustments to changes in the environment. Both in the protean career concept (Hall, 2004) and in the concept of the boundaryless career (Sullivan, 1999), the flexibility to adapt knowledge and skills to the work context is considered a positive feature to maintain the employability. Moreover, the concepts attach relevance to the continuous learning and the search for rewards intrinsic to the work activities, which grant autonomy and freedom to take responsibility for their own careers.

The protean style refers to a career style in which subjective success could be achieved through self-managed behavior oriented by the individual's values (Hall, 1996). In this perspective, satisfaction with past experiences could have positive impacts on career planning, since they would reinforce self-efficacy and self-esteem behaviors. In this way, career decisions would be made by the professionals themselves, who would do their self-management to get relevant work rewards, according to their personal values. Still according to Hall (1996), professionals with protean attitudes have better understanding about life and would be more prone to the developmental progress. In the theoretical perspective of positive psychology, in turn, that trend could lead to satisfaction and well-being in the present, as well as to an optimistic view about the future, since professional decisions and attitudes would be subject to reconfigurations boosted by the change processes. This way, the previous positive experiences that generate satisfaction would play a role in this reconfiguration process.

Regarding the boundaryless career model, in addition to the aforementioned considerations about the positive dimensions of past experiences, need for self-knowledge, and market analysis, some other aspects should be put forward like flexibility, which is a remarkable trait of boundaryless career individuals that allows adapting to different scenarios. In short, in the protean model, decisions are motivated by personal values, while in the boundaryless model, decisions are based on the belief in the capacity and the intention to undertake change (Oliveira & Gomes, 2014).

The variable "reflexive style," understood as the universal skill of internal deliberation about the external reality, served as baseline to a research performed by Oliveira and Gomes (2014) to answer a core question: how do reflexive styles relate with protean and boundaryless attitudes adopted by professionals when developing their careers. In this light, the authors adopted the following definitions of reflexive types: (a) communicative reflexives (individuals' talks to self, which are further shared through communication with persons reliable to the player), (b) autonomous reflexives (inner talks restricted to the player, with no sharing, and considered to be sufficient), (c) meta-reflexives (a type of conversation with a questioning format about what is thought, with much criticism about oneself and society), and (d) the fractured (characterized by internal conversations that do not influence the player's actions, like as if there were no internal conversations establishing the self/society relationship).

To evaluate the reflexive types, the authors used psychometrically validated scales: (a) scale of boundaryless career attitudes with the factors physical mobility and psychological mobility, (b) scale of protean career attitude with factors of career self-management and value-based career decisions, and (c) scale of reflexive styles, with the four factors corresponding to the autonomous, communicative, meta-reflexive, and fractured reflexive styles. Results showed positive relations between psychological mobility (boundaryless) and self-management (protean career) with the autonomous reflexive style, while self-management presented negative relations with the fractured reflexive style.

Considering that the research was carried out in public and private organizations, the authors (Oliveira & Gomes, 2014) reinforced that the means of self-management, value-orientation, and psychological mobility were higher among professionals in private corporations than those in public ones; however, there was no difference in reflexive styles between these segments of professionals. When it comes to demographic aspects, men, more than women, tended to present an autonomous reflexive style. Finally, the research emphasizes the importance of reflexive styles as a resource used in the development of careers.

In this sense, some research has been carried out in the field of career development related to personality traits (Hartman & Betz, 2007; Ourique & Teixeira, 2012) to link personality traits from the *five big factors* and *professional self-efficacy* model to the career planning behavior. The authors also emphasize two constructs they consider important in career planning: career decision in relation to a professional project comprising clear objectives, definition of goals, and strategies to reach the objectives and exploratory behaviors such as self-reflection on skills and interests, monitoring of the career path, actively pursuing vocationally relevant

information, and networking. The career development scale was applied to university students. The scale comprises five dimensions, career decision, vocational exploration, professional self-efficacy, professional locus of control, and career identity, in addition to the personality factorial battery (Nunes et al., 2010) to evaluate the five big factors. The results showed that self-efficacy was a better predictor of career planning than the five personality factors, despite the correlation among factors. In the scope of factors, the fulfillment and openness to experience were predictors of the vocational exploration variable.

Although insufficient, research shows that personality traits and subjective experiences that are considered positive play a role in career development, in different contexts, including in organizations (Dries, 2011; Oliveira & Gomes, 2014). The development of these studies is important because they provide inputs to identify traits that provide more well-being, happiness, satisfaction, contentment, and pride of the profession, among others, which could be the baseline for adjustments promoted by the organizational management, since the organization performance depends on the individual performances that, in turn, are a function of the workers' career development. These studies are also important to subsidize the practice of professionals who mentor vocations and careers, contributing to the promotion of adjustments in the professional career of people who are able to awaken to the positive experiences likely to result from the self-management of their careers.

Additionally to the aspects referred above, the evaluation and intervention on careers in the contemporary world demand a better understanding of the importance of the roles and relationship networks for the development of a life and career path. In this perspective, the notion of roles in Moreno's (1975) approach should be incorporated, considering that the model experiences over life and the identity matrix shape how roles will be performed. According to the author, when a person performs the professional role, she/he incorporates the elements of her/his identity matrix and other social relationships, playing the role in a singular way that differentiates her/him from the others.

In Moreno's approach, performing a role is an interpersonal experience and, as such, depends on the performance of complementary roles taken on by the other part of the social interaction. In other words, professional roles exist in the sphere of relationships, in which social players and their relationships will influence how the individual performs a given role. Therefore the same professional role may be performed differently depending on the context, considering the changes in the relationship network, i.e., in the complementary roles. The so-called boundaryless career model, on one hand, is guided by self-management of actions, self-knowledge, and market analyses and, on the other hand, imposes to the individual sharp changes in the relationship networks. The professional is then required to have a flexible profile that allows not only adapting to new realities and demands but also the reconstruction of professional roles in each different context. Therefore, the role evaluation proposed by Moreno (1975) is a strategy that highly contributes to the counseling and planning of life and career.

The concept of social relationship network is crucial to the understanding of career development and could be understood as an ever-changing system built and

rebuilt in different contexts throughout life. It is in this web of relationships that the feeling of identity, the learning processes, and the emotional support for professional development arise. So, this dynamic enables the use of group resources and self-reflection ensuing from interaction, comparison, and analysis, which may imply change and personal and professional development (Moreno, 1975).

The professional career presents the possibility and the necessity of the performance of a set of roles in the working context, regardless of the career model adopted. These roles may not be compatible, among others, with the skills, interests, and technical and behavioral competences of the person. This is the reason for focusing the decision process and planning the career future to build the conditions to establish new professional challenges in order to outline an action plan to overcome incompatibilities.

In line with the aspects previously mentioned, Lent (2013) briefly states that the career mentor/counselor's role may find six main obstacles that arise both from the client's personal traits and from extrinsic aspects related to the surrounding environment. These obstacles require that the mentors/counselors conduct the life and career planning process in order to assist the client in overcoming them, as summarized in Fig. 6.3.

The strategies for life and career planning should be grounded on theoretical constructions and methodological developments, including (a) concepts related to the career and the outline of the models known as contemporary careers (Arthur & Rousseau, 1996; Garavan & Coolahan, 1996; Hall, 2004; Hall & Moss, 1998; Sullivan, 1999; Super, 1980); (b) career anchors (Schein, 1990) and the theoretical concepts coming from positive psychology understood as the psychology of human potentials, mainly considering the relevance of past and present experiences for future actions focused on well-being, satisfaction, contentment, growth, hope, and optimism (Seligman & Csikszentmihalyi, 2000); (c) the socio-psychodrama with notions of roles and relationship networks (Moreno, 1975); and (d) the outcomes and methodological strategies derived from research on personality traits as well as the validation of psychometric scales and instruments in the national reality (Hartman & Betz, 2007; Nunes et al., 2010; Oliveira & Gomes, 2014; Ourique & Teixeira, 2012).

In this sense, incorporating the aforementioned contributions, life and career planning involves both the professional dimension and the personal dimension around the future project. This demands the evaluation of likelihoods and interests and an analysis of the scenario composed of circumstances, opportunities, relationship networks and the environment in which the professional career occurs or where it is intended to be developed. Initially, the strategies involve analysis of options and scenario, evaluation of likelihood, and processing of decisions in both personal and professional dimensions. Figures 6.4 and 6.5 show an illustration summary of the methodological strategies and procedures to support the career planning.

Evidence and the respective indicators should be built to provide the mentor and the pupil with elements to evaluate the career planning effectiveness and the opportunity to realign the program to new objectives, goals, and actions. The notion of competence based on Sandberg's (2000) interpretative approach should be consid-

Obstacles	Actions by the mentor/counselor
Plans or profiles of interest	Assist to expand the vocational interests
Low self-efficacy or limited skills	Promote positive and realistic self-efficacy believes that, for example, match the client's skills.
Negative or unreal expectations about outcomes (including unclear or conflicting values)	Clarify the expectations about outcomes
Problems in the articulation or framing of the objectives of the decision	Evaluate how the career objectives fit into the dimensions of clarity, specificity and the possibility of implementing the actions.
Existence of environmental barriers in the process of the selected career	Help clients manage barriers by identifying potential situations and probability of occurrence. Choice of strategies to deal with identified barriers.
Lack of environmental support to the process of the selected career	Provide support to clients to build strategies of action, identifying who or what can assist in reaching the proposed objectives.

Source: Adapted from Lent (2013)

Fig. 6.3 Obstacles X solutions in life and career planning. Source: Adapted from Lent (2013)

ered. This is an alternative to the traditional approaches and elects as a core aspect the meaning of work for workers and their experiences, rather than considering competences just like a set of attributes (knowledge and skills) required to perform a given work. When the interpretative approach is incorporated, the subjects (pupils) are agents in the construction and evaluation of the indicators that will be part of the evidence of the development of their professional careers.

In this sense, the follow-up moments of the career planning programs should be used to evaluate the evidence. The follow-up should fulfill two interconnected objectives: (a) adjustment to the program in the sphere of objectives, goals, and actions and (b) establishment of indicators that will make up the evidence to be followed up and evaluated during the proposed period of time. Therefore, the follow-up period should be part of the contract of the career planning program.

In relation to the career planning focused on the first option, indicators should be established and evaluated in the first three or four semesters after the decision is made. These indicators should incorporate evidence, for example, on satisfaction with the course selected and the respective disciplines and fulfillment of the objectives proposed in the technical, relational, and attitudinal dimensions. In this way, this information also allows the evaluation of required adjustments in the previously proposed program.

Regarding the career replanning, the follow-up moments are also necessary for monitoring and evaluation. Here, however, the range of evidence should be wider. Evidence should then be built based on indicators that allow the evaluation of six axes: (a) fulfillment of the objectives proposed in the initial planning; (b) narrowing of the gaps identified in behavioral/attitudinal aspects, technical and relational skills, and specific knowledge; (c) development of decision-making competences;
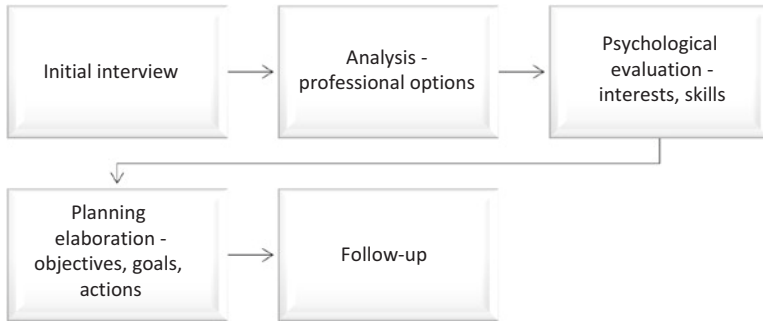
Source: Own Elaboration

Fig. 6.4 Career planning focused on the first option. Source: Own Elaboration
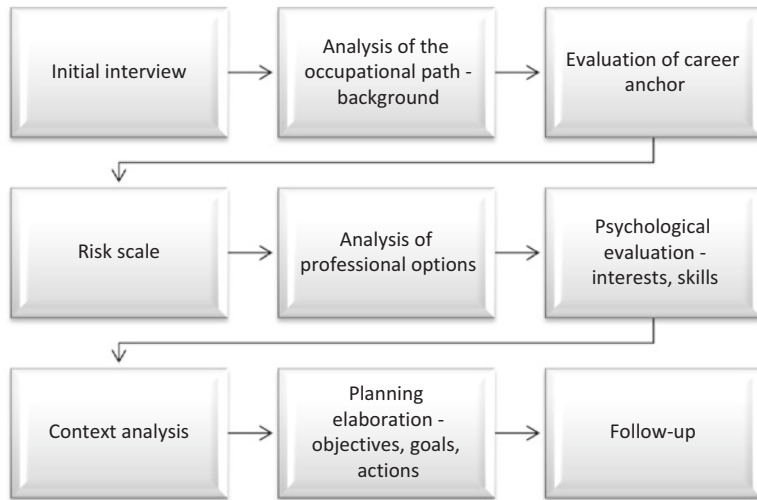
Source : Own Elaboration

Fig. 6.5 Career replanning. Source: Own Elaboration

(d) career self-management skills; (e) element part of the career anchors (Schein, 1990) (technical/professional competence, challenge, person management, service and dedication, safety, autonomy, entrepreneurship, lifestyle); and (f) personal well-being and optimistic view of the future. Figure 6.5 illustrates the career replanning stages.

Finally, despite the tendency toward focusing on the new career models, the traditional careers of linear scope still coexist in organizations. However, autonomy starts gaining room in the development of careers that, in turn, start pushing the organizations to take a different position regarding the relationships with their components to understand that promoting the professional development and, thus, the

personal development of its members is necessary. Although the linear standards of career development are the keynotes in organizations, some of them have already understood that some members will remain as long as balanced exchange relationships exist—the organization enabling the members' professional development and members investing to deliver the best performance to achieve the organizational objectives.

6.5   Final Remarks

The existing work world has led to great implications in the individual/organization relationships, fostering a set of transformations in the professional careers. In the past the tendency was careers with organizations-bound scope, with vertical mobility linked to the organizational structure. However, to meet the current characteristics of the work, organizations, and new working relationships, these new demands have given a rise to new career alternatives. In this sense, a strong tendency these days is that of career models centered on individuals such as the "protean career" and "boundaryless career" (Arthur & Rousseau, 1996; Hall, 2004; Hall & Moss, 1998). However, these are not the only career models. Especially in the Brazilian reality, we find the coexistence of traditional and contemporary career models, depending on the work nature, market segment, and worker's profile.

These new career configurations pose to individuals the need for self-development and the pursuit of the skills needed to build their careers. Therefore, the responsibility for the career development is transferred from the organization to the individual. As such, the individual must keep his/her competences updated, be motivated, and have personal traits that allow for flexibility and adaptation to change. On the other hand, in addition to the responsibility of technical and behavioral competences, the individuals are also responsible for their health and well-being.

Some theoretical/conceptual developments of psychology have contributed to a better understanding of the phenomena involved in the career planning and development, including the contributions of Super (1980), Moreno (1975), and Schein (1990). As pointed out by Dik and collaborators (2015), the theories on career development lead to the need to identify purposes and the meaning of work for individuals. Moreover, the authors emphasize the important role played by positive psychology in career planning and development since, besides incorporating the human potentials, it also focuses on the possibilities of development.

Research has presented some contributions to the professional career counselors, mainly regarding self-evaluations and development and validation of psychometric instruments to evaluate the interests, skills, and personality (Hartman & Betz, 2007; Nunes et al., 2010; Oliveira & Gomes, 2014; Ourique & Teixeira, 2012). However, the counselors are warned about the importance of, in addition to using the research findings and instruments to identify strengths and weaknesses that will contribute to the decision-making process, being also attentive to the need to identify which successful performances those seeking counseling have achieved. Becoming self-

efficacious does not necessarily imply having proper competences to play some professional roles. Research supports the evidence-based career self-management. However, the existing gaps could foster new research agendas on the topic. One of these gaps is the need to refine the definitions of protean and boundaryless careers so that they can be better understood. Some research results found no link between values and protean careers. Among others, Volmer and Spurk (2011) found no significant positive correlation between values and satisfaction with the career nor between values and success in comparison to other colleagues.

The future research agenda should give special attention to the construction of research models with context variables as mediators between personality traits and types of career, in addition to empirical studies that identify the main career models adopted in the Brazilian reality.

References

Arthur, M., & Rousseau, D. (1996). A new career lexicon for the 21st century. *The Academy of Management Executive, 10*(4), 28–39.

Baruch, Y. (2003). Transforming careers: From linear to multidictional career paths: Organizational and individual perspectives. *Career Development International, 9*(1), 58–73.

Bastos, A. V. B. (2000). Carreira Ocupacional: Um fenômeno a desafiar as pesquisas sobre as relações entre indivíduo, trabalho e organização. *Organizações e Sociedade, 7*(17), 113–115.

Dik, B. J., Duffy, R. D., Allan, B. A., Donnell, M. B. O., Shim, Y., & Steger, M. F. (2015). Purpose and meaning in career development applications. *The Counseling Psychologist, 43*(4), 558–585. doi:10.1177/0011000014546872.

Dries, N. (2011). The meaning of career success: Avoiding reification through a closer inspection of historical, cultural and ideological contexts. *Career Developmental International, 16*(4), 3364–3384.

Duarte, M. E., Lassance, M. C., Savickas, M. L., Nota, L., Rossier, J., Dauwalder, J.-P., et al. (2010). A Construção da Vida: Um Novo Paradigma para Entender a Carreira no Século XXI. *Revista Interamericana Psicología, 44*(2), 392–406.

Garavan, T. N., & Coolahan, M. (1996). Career mobility in organizations: Implications for career development. Part I. *Journal of European Industrial Training, 4*(20), 30–40.

Greenhaus, J. H., & Kossek, E. E. (2014). The contemporary career: A work – home perspective. *Annual Review of Organizational Psychology and Organizational Behavior, 1*, 361–388. doi:10.1146/annurev-orgpsych-031413-091324.

Hall, D. T. (1996). *The career is dead-long live the career*. San Francisco: Jossey-Bass Publishers.

Hall, D. T. (2004). The protean career: A quarter-century journey. *Vocational Behavior, 65*, 1–13.

Hall, D. T., & Moss, J. E. (1998). The new Protean career contract: Helping organizations and employees adapt. *Organizational Dynamics, 26*(3), 22–37.

Hartman, R., & Betz, N. (2007). The five factor model and career self-efficacy. General and domain specific relationships. *Journal of Career Assessment, 15*(2), 145–161.

Holland, J. L. (1996). Exploring careers with a typology. What we have learned and some new directions. *American Psychologist, 51*, 397–406.

Holland, J. L. (1997). *Making vocational choices: A theory of vocational personalities and work environments*. Odessa: PAR.

Lassance, M. C. P., Melo-silva, L. L., Bardagi, M. P., & Paradiso, Â. C. (2007). Competências do orientador profissional: Uma proposta brasileira com vistas à formação e certificação. *Revista Brasileira de Orientação Profissional, 8*(1), 87–93.

Lent, R. W. (2013). Career-life preparedness: Revisiting career planning and adjustment in the new workplace. *Career Development Quarterly, 61*(1), 2–14. doi:10.1002/j.2161-0045.2013.00031.x.

Magalhães, M. de O., & Gomes, W. B. (2007). Personalidades Vocacionais e Processos. *Psicologia Em Estudo, Maringá*, *12*(1), 95–103.

Moreno, J. L. (1975). *Psicodrama*. São Paulo: Cultrix.

Nunes, C. H., Hultz, C., & Nunes, M. (2010). *Bateria Fatorial de Personalidade – BFP – manual técnico*. São Paulo: Casa do Psicólogo.

Oliveira, M. Z., & Gomes, W. B. (2014). Estilos reflexivos e atitudes de carreira proteana e sem fronteiras nas organizações contemporâneas brasileiras. *Revista de Psicologia, Organizações e Trabalho, 14*(1), 105–118.

Ourique, L. R., & Teixeira, M. A. P. (2012). Auto-eficácia e personalidade no planejamento de carreira de universitários. *Psico-USF, Bragança Paulista, 17*(2), 311–321.

Ribeiro, M. A. (2015). Carreira. In: P. F. Bendassolli e J. E. B. Andrade (Orgs.). *Dicionário de psicologia do trabalho e das organizações* (pp. 155–161). São Paulo: Casa do Psicólogo.

Sandberg, J. (2000). Understanding human competence at work: An interpretative approach. *The Academy of Management, 43*(1), 9–25.

Schein, E. H. (1990). Career anchors and job/role planning: The links between career pathing and career development, *Working papers*, Massachusetts Institute of Technology (MIT), Sloan School of Management, 3192-90.

Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist, 55*, 5–14.

Sullivan, S. E. (1999). The changing nature of careers: A review and research agenda. *Journal of Management, 25*(3), 457–484.

Sullivan, S. E., & Baruch, Y. (2009). Advances in career theory and research: A critical review and agenda for future exploration. *Journal of Management, 35*(6), 1542–1571.

Super, E. D. (1980). A life-span, life-space approach to career development. *Journal of Vocational Behavior, 16*(3), 282–298.

Vasconcellos, V. C. de. (2015). *Antecedentes e consequentes de expectativas de carreira e de futuro organizacional*. Doctoral thesis. Universidade de Brasília.

Volmer, J., & Spurk, D. (2011). Protean and boundaryless career attitudes: Relationship with subjective and objective career success. *ZAP, 43*, 207–218.

Chapter 7

Work-Life Balance in a Scenario of Brazilian Change: Theoretical Aspects and Possibilities of Interventions

Lucia Helena de Freitas Pinho França, Daizy Stepansky, and Silvia Amorim

7.1 Introduction

The existing working structure in the present world is the result of a series of modifications of the model built during the Industrial Revolution. Capital appreciation empowered the organizations which, along with the technology revolution, echoed in the working relationships until the 1970s. Careers development, for example, which was defined by the organization and awarded with salary adjustments and promotions, became much less organized and flexible (Oliveira & Gomes, 2014).

In an environment increasingly unstable for the worker, with greater need for consumption and social inequalities and instabilities, workers must reinvent strategies to cope with the domination and overcome challenges that are imposed (Flach, Grisci, Silva, & Manfredini, 2009). Taking care of themselves and of their relationships, even in the short term, constantly migrating jobs and spaces, being talented, developing and discovering capabilities that fit the demands, investing in permanent qualification, and combining all of this without being stuck in the past events are the main challenges that are posed to the contemporary worker, according to Sennet (2006).

In this line of reasoning, the work-life balance provides opportunity for the individuals to work and have time for leisure at the same time, developing activities of their interest, such as a personal and social project, and time for their social, affective, and family relationships (França, 2008). This way, the urgent need for balancing life and work—a crucial aspect to the development of human and social development—demands broad discussion with all actors involved, from academy, organization, and government to the workers.

L.H.F.P. França (✉) • S. Amorim
Universidade Salgado de Oliveira, Niterói, Rio de Janeiro, Brazil
e-mail: lucia.franca@gmail.com; silvia.miranda.amorim@gmail.com

D. Stepansky
Universidade Federal Fluminense, Niterói, Rio de Janeiro, Brazil
e-mail: daizystepansky@gmail.com

The balance between family life and work is directly related to the priorities of the modern society that is marked by urbanization, consumption standards, and new family and work arrangements. The psychological and sociological approaches previously described will be used to support the main aspects of reflection and recommendations in the light of the government's, academy's, and organizations' action.

7.2   Context

Considering that the psychosocial, cultural, and geopolitical structures influence personal needs and change the existing family arrangements and work relations, we should discuss the main characteristics, influences, and consequences of work-life balance. In Brazil and in many peripheral countries, urbanization built big cities with unsolvable infrastructure and mobility problems. This is the uncontrolled and problematic setting of most of the urban population. The large metropolises have expanded in an uncontrolled way, with no planning or organized interventions, placing most of the worker population on the geographic and socioeconomic margins with scarce or nonexistent urban equipment. The low quality of life in the Brazilian metropolises comprises long hours that workers spend in their way between home and work and does not offer them urban services crucial to the reproduction of the labor force such as daycare centers, schools, basic health services, sanitation, and cultural assets, among others.

Postmodernity is also characterized by the hegemony of communication and consumption, with more individual projects than in the recent past. Another relevant aspect is the anxiety with body care, which is an endless source of profit as highlighted by Bauman (2007). Body care, appraisal of sexuality, and affection are part of the individualization of current projects and values. Still according to Bauman (2007, p. 121), "consumer markets feed on the anxiety of potential consumers that these markets foster and do all it takes to intensify." The aestheticization of everyday life, body worship, and individualization of life projects make up the social identities today for all social segments, in apparent conflict with the life conditions of workers from peripheral social segments.

Personal and professional fulfillment and greater consumption replace the projects of starting a family, raising children, and keeping long-lasting marriage relationships. This trend is observed in every demographic census, with increasing number of couples with no kids and single-person households. In Brazil, the information provided by the PNAD surveys (IBGE, 2004, 2014), between 2004 and 2014, reports an increase from 13.5% to 18.8% in the number of couples who decided not to have children, while couples with children fall from 54.8% to 44.8%. In that period, single-person households also changed in meaningful ways: men from 6.8% to 9.1% and women from 7.8% to 10.4%. The fecundity rate continues to fall, in line with the tendency for the last 50 years: in 1960, 6 children per woman, and in 2010, 1.9 children, with projection of 1.7 children in 2020 (IBGE, 2010). This reduction is greater in the southeast and lower in the north and northeast states.

Despite the new arrangements, a recent study by the IPEA (Camarano & Fernandes, 2016), based on the 2014 PNAD data, points out more specifically the female social identity change. Today the complex female identities are changing but are still marked by differences of social classes and education.

The main evidence of that movement is the greater participation of women in the work market that, in turn, caused a reduction in the number of men as the providers of the family (Munn & Chaudhuri, 2015). Despite that, patriarchal and sexist culture still exists and maintains gender inequality in private and family spaces: professional women tend to be responsible for taking care of the remainder family members and manage the domestic chores.

It is worth mentioning that in the professional scope, the female remuneration is almost always lower than the male remuneration for the same functions (IBGE, 2014). In other words, gender inequalities survive structural changes in Brazilian society, and most professional activities still hold old values.

The sharp increase in the elderly population also raises the shortage of supporting services and worsens the situation of the traditional family caregivers: caring for parents, children, sick people, and, frequently, grandchildren. The elderly population growth in the last decades changes the main focus of the analyses on the links between demographic composition and the work and employment structure: from population growth to growth and changes on the age pyramid.

As Camarano (2014) pointed out, while some studies consider that population growth is a beneficial factor to the economic development, other studies emphasize the benefits of reduced population growth to the environment. Population aging has been the object of technical, academic, and political discussions on the age for retirement. The loss of the working capacity among the elderly population depends on indicators that consider professional qualification, possibility of re-qualification, adoption of new technologies, type of activity, individual health conditions, and the need for earning additional income.

7.3 Theoretical and Empirical Aspects of the Work-Life Balance

At the end of the last century, we witnessed a change in decision-making on the career path, and new types of career have emerged. Today, there are careers where the individual manages his/her own professional life, waiving the stability that was so longed in the past and bringing about countless transitions during the professional life (Hall, 1996; Oliveira & Gomes, 2014; Sullivan & Arthur, 2006).

Instability in the professional life, the consistent recreation of skills and qualifications required to join new social networks, and the reinvention of social identities are some of the great challenges of postmodernity. The new relationship networks— the Internet communities—are volatile and promptly connect with countless and distant "friends." The new technologies build and rebuild new social relations, new

work relations, and new power relations very quickly, hastening social and structural changes.

These social changes affect the attitudes and behaviors of employees, generating a new configuration in the organizations, which are generally positive from the point of view of productivity. However, there is imbalance between time devoted to work and time devoted to other life activities because of the work overload (Bloom, Kretschmer, & Van Reenen, 2009). This is a pressing issue, since the adult's relationship with work organizes their time for social and individual lives, while unpredictability leads to less defined relationships (Frone, 2003).

There are different viewpoints, as some authors argue, that time should be equally divided between work and private life (Keeton, Fenner, Johnson, & Hayward, 2007), while others state that this balance is not always a must (Eikhof, Warhurst, & Haunschild, 2007). The point of view that advocates for equal time devoted to work and private life argues that the imbalance can be identified through the feeling of division between work's and personal life's demands, absence in social obligations because of the work, concerns about work problems when the worker is physically at home, interruption of domestic chores due to telephone calls from work, and experiences of family complaints about the time spent in the workplace (Keeton et al., 2007).

Eikhof et al. (2007) emphasize that the thesis of negative impact of work on the other aspects of life is simplistic. The authors argue that satisfaction with work is better evaluated through the contact with work colleagues than by the work hours and the economic aspect, i.e., few people want to work more flexibly and choose to work longer hours to earn better wages.

Still according to Eikhof et al. (2007), the new technologies globalize the productive process and can increase production cost but, in turn, dialectically reconnect work and the working process and its products, problematizing the exiting concept of detachment. Preindustrial experiences of homemaking can somehow be resumed with the fragmentation of some of the current productive forms, typically in the services sector.

The results of research in the field of work and organizational psychology unveil the interdependence between roles played at work and in the family. They emphasize the importance of analyzing these domains as determinants of career success and global satisfaction with life (Parasuraman, Purohit, Godshalk, & Beutell, 1996). This vision developed from the idea that workers take emotions, attitudes, skills, and behaviors from work to the family and vice versa (Lambert, 1990), and this could be either positive or negative.

Regarding the social relationships, the lack of time for dialogues and the Internet development have created an easy and practical substitute: the digital social networks. In an interview with the newspaper *El Pais*, Zygmunt Bauman (2016, January 9) argued that people are easily included or excluded from these social networks and social skills are not so necessary. For the sociologist, the skills are used to find people with whom one must interact, where the person will have to talk with other persons that think differently from him/her. However, in the digital social

networks, people use dialogue to be in their comfort zones, avoiding disputes and listening to the echo of their own voices.

Real, traditional communities control and oppress, but offer security. The freedom provided by network communities is part of the construction of individual freedom as well as insecurity, making even more challenging the search for balance between the solidarity of communitarianism and the individual freedom. In other words, workers can manage their time, but lose the protection of a project of permanence and of a stable social network, usually migrating to different occupations throughout their work life.

Still, research on the interrelationship between work and family focused on the negative aspects, i.e., the existing conflicts between these two domains, disregarding the idea of mutual benefit (Greenhaus & Parasuraman, 1999). The positive psychology is a study approach that began in the late 1990s, which chose to emphasize the positive processes at subjective, individual, and group levels, rebutting the previous tendency to mainly study the negative phenomena (Seligman & Csikszentmihalyi, 2000). The subjective level appraises the positive experiences; the individual level approaches the positive individual traits; and the group level appraises the civic virtues and positive institutions. Opposite to what used to be the focus of psychological studies, here what matters is to understand the potentials and healthy aspects of human behavior (Sheldon & King, 2001). At different levels, the positive psychology approach aims to promote well-being and prevent psychological disorders (Cardoso & Castañon, 2015).

The positive psychology elected setting priority to positive processes favorable to the work environment (Cameron, Dutton, & Quinn, 2003), leaving behind issues such as burnout and stress in the working place, among others. The positive view considers that the balance between work and family not only brings benefits but also works as an individual resource of social and economic nature (Walsh, 1999). In this context, phenomena such as work-family facilitation, positive work-family spillover, and work-family enhancement arouse the interest of researchers. These concepts refer to the ways in which experiences from one domain positively interfere with each other, i.e., when resources achieved in one domain promote better performance in the other domain (Frone, 2003; Gabardo-Martins, Ferreira, & Valentini, 2016).

Regarding the well-being in the workplace perceived by the individual, Ryff (1989) created a model of psychological well-being according to which the individual's self-fulfillment passes through the acceptance of their limitations, trust in relationships, personal authority, control of their environment, and addressing their challenges by making use of their capacities. These dimensions are closely related to the challenges posed by the work environment on a daily basis.

More recently, the studies on work-life balance started recognizing that the combination of work and family functions can entail positive effects for the individual (Greenhaus & Powell, 2006). To extract the positive potential of this relationship, however, it is fundamental to carry out practices in line with the needs raised.

Among the determinants of conflict between the time of commitment to work and with the family, a highlight is the need for autonomy, time flexibility, overload,

engagement with the work, demands, and family support. Even the workers' time going to and from work can be a relevant aspect that deserves consideration. The study on predictors of decision by older markets regarding the retirement or permanence in the labor work discloses the importance of these variables. Work-life balance is one of the main predictors to retain those willing to remain in the organization (França, Menezes, Bendassolli, & Macedo, 2013; Menezes & França, 2012). Kossek, Pichler, Bodner, and Hammer (2011) found similar results. They point out that workers who feel they have control over the work routine, mainly time flexibility, are less susceptible to separate from the organizations and have fewer conflicts in relation to work-life.

The organizations that promote a family and friendly environment, where life and work are balanced, build a positive organizational climate, particularly for workers with many household responsibilities and their children (Grover & Crooker, 1995). In addition, people want to work in different ways, and organizations should adjust to the work demands to achieve the values of heterogeneous workers and their needs (Kossek & Lautsch, 2012).

Women in the work market seem to need more interventions related to work-life balance, because of their double or triple work shifts. They are also the majority in the contingent of deliverers of remunerated services as caregivers to diseased persons, elderly, children, and for domestic chores in general (Soares, 2016). However, the distribution of domestic chores and family care does not always bother the male private world.

A study by França (2004), comprising Brazilian and New Zealanders executive officers, illustrates Brazilian men's general lack of the culture of equally sharing domestic chores. When the 517 participants were asked about the sharing of time and were invited to prioritize the activities they performed in a list of 45 items, the New Zealanders (82%) were more prone to perform domestic chores than the Brazilians (27%). In terms of priority of activities performed, the Brazilian men ranked domestic chores as 36th. The New Zealanders, in turn, ranked those activities as the 13th priority. Another tendency is the change of domestic participation among younger individuals, although the obligation remains more associated to women. The results by gender and age, with no difference of nationality, women, and younger participants, were more prone to perform domestic chores than men and older participants.

On top of all of this, the work-life balance is crucial for the workers' physical and mental health. Kivimäki et al. (2015) performed a meta-analysis with 25 studies involving about 600,000 participants. Results point out that people that work long hours per week (55 h or longer) have higher risk (one third more) of coronary diseases, such as cerebrovascular accident, than the ones that work regular hours (35–40 h).

In terms of governmental policies, which countries would most value the work and life balance? The relevance of the work and personal life balance is indisputable in many developed countries (Australia, the United States, Great Britain, and New Zealand) that have not only adopted these programs but also mainstreamed their initiatives that are disseminated on governmental websites, among other channels.

The seriousness of these governments when dealing with work-life balance is one of the key points of the discussion.

The Organization for Economic Co-operation and Development (OECD, 2016; 2016a) commissioned a survey on life quality among its country members. The results showed that, summing up 11 indicators, Australia was the country with highest degree of life satisfaction. Scores were up to ten (10) and the following were the indicators assessed: housing, income, work, society, education, environment, civil engagement, health, satisfaction with life, security, and balance between personal and work life. Interestingly, among the best-evaluated countries, those scoring higher (above 9) in the personal and work-life balance aspect were New Zealand (9.4) and the Netherlands (9.4), Belgium (9.1), and Spain (9.0). Despite the high indicators, in this aspect, Australia scored only 6.5.

Regarding Brazil, despite the advances in the last decade, the country still has low indexes in education, income, and health, for example. Brazil performed well in only a few measures, even though the Brazilians' degree of satisfaction with life is 6.5. One of the best-evaluated indicators in Brazil regards community sense and civic participation, where 99% of the respondents said to have someone to count on in hardship; this is above the 88% average of the OECD countries. Life expectancy is 5 years lower than the OECD average (80 years) (OECD, 2016a).

Evidence suggests that long working hours can damage personal health, compromise safety, and increase stress. The percentage of workers working 50 h or longer a week is not that high in the OECD countries. According to the organization (2016b), around 10% of the workers work very long hours (50 h or more), below the OECD average of 13%. However, we should consider that these hours are even longer when we analyze the demographic density and transportation system in the big Brazilian urban centers such as Rio and São Paulo, where many workers spend more than 2 h only in their way to and from work.

Based on literature and empiricism, to foster the discussion about the relevance of life and work balance in the public policies of peripheral countries, which elements should be analyzed as pointed out in the websites of the governments of central countries? In 2015, Sweden, for example, promoted a movement for the 6-h work shift to increase productivity and make people happier. According to the Science Alert (2015), workers in Sweden have made this change to gain the maximum productivity in a short period of work time. The director of a Swedish organization argued that keeping workers working on a specific task for 8 h is a huge challenge. Therefore, they included breaks and mixed tasks, making the day more productive. Other Swedish manager interviewed said that last week they changed the work hours to 6 h a day and did not regret that. According to this manager, workers wanted to spend more time with their families, learn new things, and engage in more exercise. Moreover, the Science Alert states that an international organization with several centers in Gothenburg reduced the working time more than one decade ago, revealing that its human resources were happier, there is more efficiency in the use of machinery, costs were reduced, and company profits increased by 25%.

The manager's support in conflicts over the work-life balance is crucial for workers. Liu, Li, Liu, and Chen (2016), in a study with 558 Chinese workers in small-

and medium-sized corporations, have explored the influence of work-family conflicts on engagement at work and organizational commitment. The results showed that the perceived supervisor's support has moderated the effect of work-family conflicts on job satisfaction. When the supervisor's support was low, the work-family conflicts negatively predicted satisfaction at the workplace. However, when the supervisor's support was high, the work-family conflict had no effect on the satisfaction at workplace. Satisfaction at the workplace mediated the interaction of conflicts between work and family and the perceived supervisor's support to engagement in work and in the organization.

O'Brien, Martinez, Ruggs, Rinehart, and Hebl (2015) emphasize that interventions and policies make a difference in the links between gender equity and shortage of studies about family and work. Using the experiences and quantitative data, they evaluated the successful initiatives that improved work-life balance and the organizational climate within an academic space. The authors selected the situations in which the organizations could implement policies of positive impact on workers' lives.

The Rice University developed one of the interventions mentioned by O'Brien et al. In it, they promoted several initiatives to benefit the teaching staff with a policy on flexible work at the university such as deciding the class time or selecting the subject matters they wanted to deliver in the next semesters. Rice University started the work late in the 1990s with a qualitative survey with the faculty members, which pointed out important directions. They were asked the following question: *Do you have any idea/recommendation about how Rice could become a better institution*?

The commitment to family-friendly environment should include resources such as the primary care license for fathers and mothers at the daycare site, flexible work routine, and communication by the organization about the existence of such policies (O'Brien et al. 2015). The authors refer to the relevance of these actions at three levels: individual, organizational, and community.

O'Brien et al. state that for actions developed at individual level, the organizations can provide family-friendly policies to their employees so that men and women can better balance between work and nonwork. The organizational level demands systematic efforts to identify barriers and ways to remove or restructure them. At the community level, the organizations have the opportunity and responsibility of impacting the neighborhood, sharing their culture and benefits with the others. O'Brien et al. (2015) also pointed out that Rice University has promoted the replication of its practice in other organizations. In the partnership it works to obtain institutional support to enhance the academic community. Further information on the Rice Project is available in King and Renehart (2010).

7.4   Recommendations from the Governmental, Academic, and Organizational Point of View

The term work-life balance is usually associated to the options of flexible work and work support for personal and family care (Estes & Michael, 2005). These practices include domestic chores, job divided by two employees, programs of relationship with the family, financial assistance, assistance with children care, and sheltering of the elderly (Beauregard & Henry, 2009).

The increasing participation of women in the workforce, for example, demands that public or corporate organizations implement programs to promote and foster the work-life balance, since when we add the domestic chores and family care, women work for longer hours than male workers. The offer of cultural activities, leisure, and physical activities, compatible with working hours, would ensure a better quality of life, more balance in the professional performance, and better health conditions. However, the poor life conditions of female workers in Brazilian society that is, at the same time, archaic and modern unveil a long path to run before reaching that balance.

Considering the analysis of the demand generated by all the issues above, the organizations are urged to adopt flexible working hours. Positive psychology recommends special attention to how employers link the personal strengths of each employee to the needs of the company and how employees align their tasks to what they believe to be more than their careers—their vocation (Seligman, 2002). Emphasis should also be given to the manager's support in personal and family work-life conflicts.

Despite the needs of older workers and their permanence in the work market, the reduction and relaxation of working hours favor the work-life balance and bring benefits of more time to personal life and of reduced impacts of retirement, mainly when work is their main identity. That is because the permanence or separation from the work market, how it happens, and the possibilities of individual interference on the process are key elements to the worker's quality of life and to the generation or maintenance of the work-life balance because many times the permanence at work is an assurance of permanence in the social network and of strengthening the appraised social identity and the introduction to new technologies. Studies point out that the best transition to retirement should be gradual, making room for the individual—who used to have a busy routine at work—to add new activities into his/her life so that retirement is not such a drastic rupture (Stepansky & França, 2008).

As suggested by França (2012), at government level, the labor and education ministries and secretariats should promote the inclusion of new work methods, policies, practices, and instruments to enable the relaxation of working hours and the establishment of a bank of hours. Also crucial is to promote broad discussion with different governmental, organizational, and academic spheres, workers' representatives, professional associations, executive officers, and trade unions to consolidate proposals into new laws to foster better working conditions including work-life balance. In other words, to effectively propose actions on work-life balance, we must

approach Brazilian labor laws that should be updated in the face of the new scenario of demographic, economic, social, and political changes.

In the academic scope, although work-life balance is a new topic, there is a large front of quantitative and qualitative research about the perceptions of managers and employees regarding the work-personal life balance. The organizations should adopt an agenda of studies and research that brings about their realities, their intention of supporting or not a work-personal life program, and the workers' desires.

One way to discuss and expand studies on work-life balance is to organize round-tables and symposia incorporated to congresses and other events of the positive psychology, social psychology, organizational and work psychology, sociology, work sociology, and, above all, about human resources management. The dissemination of studies and research, interventions, and best practices can foster important changes in organizations, bringing opportunities mainly for women wanting to be reinserted in the labor market, for youth that needs to work part-time to afford their studies, or for older workers not to be withheld (França, 2012).

In organizations, best practices and their results should be monitored and established, even if gradually, including flexible working hours. This will surely boost the development of a culture of social responsibility, based on the well-being of the community and the company's collaborators. Just like what has been done at the Rice University (O'Brien et al., 2015), a strategic question to be asked to workers is what the organization could do to be improved. By offering the work-life balance program, the company becomes more competitive in terms of recruitment because it attracts the best professionals in the market, improves its performance, and can reduce the absenteeism rates, not to mention the impact of these on the organization's external image (Beauregard & Henry, 2009; Guerreiro, Lourenço, & Pereira, 2006). The product it sells can be associated with the way the company cares for its employees, fulfilling its social role of investing in the well-being of its human capital (França, 2008).

Another suggestion to confirm the benefits of adopting a work-life balance program in organizations would be to measure the level of satisfaction with work and life within a period of 1 year before and after the program adoption. Moreover, it should be systematically followed up so that workers can identify what is priority in the program and how they describe the benefits to their well-being. This could contribute to an accumulative evaluation of the program, optimizing its contents, methods, and the realignment of eventual biases between the objectives and the results presented.

The work-life balance provides support to family life by offering time to study; follow medical appointments of children and elder parents; attend school meetings; participate more intensively in family life and children's academic life; volunteer in community services; and engage in physical activities and/or sports, among others. Although studies and research evidence is relevant, many remain reluctant to accept that we increase our and our collaborator's working time in detriment of the benefits of greater free time to enjoy the personal and family lives that cannot wait. Personnel management should consider the human resources' personal and social lives at the time of proposing an agenda to balance work and life, because workers' satisfaction with the organization is a core element to the success of smart organizations.

References

Bauman, Z. (2007). *Vida líquida*. Rio de Janeiro: Zahar Editora.

Bauman, Z. (2016, January 9). *Zygmunt Bauman: As redes sociais são uma armadilha.* El País. Retrieved from http://brasil.elpais.com/brasil/2015/12/30/cultura/1451504427_675885.html

Beauregard, T. A., & Henry, L. C. (2009). Making the link between work-life balance practices and organizational performance. *Human Resource Management Review, 19*, 9–22. doi:10.1016/j.hrmr.2008.09.001.

Bloom, N., Kretschmer, T., & Van Reenen, J. (2009). Work-life balance, management practices, and productivity. In R. B. Freeman & K. L. Shaw (Eds.), *International Differences in the Business Practices and Productivity of Firms* (pp. 15–54). Chicago: University of Chicago Press.

Camarano, A. A. (2014). *Novo Regime Demográfico: Uma nova relação entre população e desenvolvimento*. Rio de Janeiro: IPEA.

Camarano, A. A., & Fernandes, D. (2016, February 8). *Participação da Mulher no mercado de trabalho; mudança no padrão de consumo*. Rio de Janeiro: Jornal O Globo.

Cameron, K. S., Dutton, J. E., & Quinn, R. E. (2003). *Positive organizational scholarship*. San Francisco: Barrett-Koehler.

Cardoso, J. A. R., & Castañon, G. A. (2015). Qual é a virtude da Psicologia Positiva? In S. F. Araujo & F. Caropreso (Eds.), *Temas atuais em história e filosofia da Psicologia* (pp. 255–290). Juiz de Fora: Editora UFJF.

Eikhof, D. R., Warhurst, C., & Haunschild, A. (2007). Introduction: What work? What life? What balance? Critical reflections on the work-life balance debate. *Employee Relations, 29*(4), 325–333. doi:10.1108/01425450710839452.

Estes, S. B., & Michael, J. (2005). *Work-family policies and gender inequality at work: Sloan work and family:* Encyclopedia entry. Accessible at http://wfnetwork.bc.edu/encyclopedia_entry.php?id=1230&area=All

Flach, L., Grisci, C. L. I., Silva, F. M., & Manfredini, V. (2009). Sofrimento psíquico no trabalho contemporâneo: Analisando uma revista de negócios. *Psicologia & Sociedade, 21*(2), 193–202. doi:10.1590/S0102-71822009000200006.

França, L. H. F. P. (2004). *Attitudes towards retirement: A cross-cultural study between New Zealand and Brazilian executives.* PhD thesis. Psychology Department. The University of Auckland.

França, L. H. F. P. (2008). *O desafio da aposentadoria*. Rio de Janeiro: Editora Rocco.

França, L. H. F. P. (2012). Envelhecimento populacional: Estamos preparados? In França, L. & Stepansky, D. V. (Orgs.) *Propostas multidisciplinares para o bem-estar na aposentadoria* (pp. 25–52). Rio de Janeiro: Quartet-Faperj.

França, L. H. F. P., Menezes, G. S., Bendassolli, P. F., & Macedo, L. S. S. (2013). Aposentar-se ou continuar trabalhando? O que influencia essa decisão? *Psicologia Ciência e Profissão, 33*(3), 548–563. doi:10.1590/S1414-98932013000300004.

Frone, M. R. (2003). Work-family balance. In J. C. Quick & L. E. Tetrick (Eds.), *Handbook of occupational health psychology* (pp. 143–162). Washington, DC: APA.

Gabardo-Martins, L. M. D., Ferreira, M. C., & Valentini, F. (2016). Evidências de validade da Escala de Enriquecimento Trabalho-Família em amostras brasileiras. *Revista Psicologia: Teoria e Prática, 18*(*1*), 100–112.

Greenhaus, J. H., & Parasuraman, S. (1999). Research on work, family, and gender: Current status and future directions. In G. N. Powell (Ed.), *Handbook of gender and work* (pp. 291–412). Newbury Park: Sage.

Greenhaus, J. H., & Powell, G. N. (2006). When work and family are allies: A theory of work–family enrichment. *Academy of Management Review, 31*(1), 72–92. doi:10.5465/AMR.2006.19379625.

Grover, S., & Crooker, K. J. (1995). Who appreciates family-responsive human resource policies: The impact of family-friendly policies on the organizational attachment of parents and non-parents. *Personnel Psychology, 48*, 271–288. doi:10.1111/j.1744-6570.1995.tb01757.x.

Guerreiro, M. D., Lourenço, V., & Pereira, I. (2006). *Boas Práticas de Conciliação entre Vida Profissional e Vida Familiar: Manual para as Empresa*. Lisbon: Editorial of the Ministry of Educação.

Hall, D. T. (1996). *The career is dead – long live the career: A relational approach to careers*. San Francisco: Jossey-Bass Publishers.

IBGE – Instituto Brasileiro de Geografia e Estatística. (2004). *Síntese de Indicadores Sociais*. Rio de Janeiro: IBGE.

IBGE – Instituto Brasileiro de Geografia e Estatística. (2010). *Pesquisa de Informações Básicas Municipais. Suplemento Assistência Social 2009*. Rio de Janeiro: IBGE.

IBGE – Instituto Brasileiro de Geografia e Estatística. (2014). *Síntese de indicadores sociais: Uma análise das condições da vida da população brasileira 2013*. Rio de Janeiro: IBGE.

Keeton, K., Fenner, D. E., Johnson, T. R. B., & Hayward, R. A. (2007). Predictors of physician career satisfaction, work-life balance, and burnout. *Obstetrics & Gynecology, 109*(4), 949–955. doi:10.1097/01.AOG.0000258299.45979.37.

King, E., & Renehart, J. (2010). *Rice University ADVANCE Program: Report from 2010 Focus Groups, Rice University, Houston, TX*. Accessible at http://advance.rice.edu/

Kivimäki, M., Jokela, M., Nyberg, S., Singh-Manoux, A., Fransson, E., Alfredsson, L., Bjorner, J. V., et al. (2015). Long working hours and risk of coronary heart disease and stroke: A systematic review and meta-analysis of published and unpublished data for 603 838 individuals. *The Lancet, 10005*(386), 1739–1746. doi:10.1016/S0140-6736(15)60295-1.

Kossek, E. E., & Lautsch, B. A. (2012). Work-family boundary management styles in organizations: A cross-level model. *Organizational Psychology Review, 2*(2), 152–171. doi:10.1177/2041386611436264.

Kossek, E. E., Pichler, S., Bodner, T., & Hammer, L. B. (2011). Workplace social support and work-family conflict: A meta-analysis clarifying the influence of general and work-family-specific supervisor and organizational support. *Personnel Psychology, 64*, 289–313. doi:10.1111/j.1744-6570.2011.01211.x.

Lambert, S. J. (1990). Processes linking work and family: A critical review and research agenda. *Human Relations, 43*(3), 239–257. doi:10.1177/001872679004300303.

Liu, C. C., Li, X., Liu, T., & Chen, Y. W. (2016, December). Influence of work-family conflict on job involvement and organizational commitment: The moderating effect of perceived supervisor support and the mediating effect of job satisfaction. *Conference delivered at the International Conference on Industrial Engineering and Engineering Management.* doi: 10.1109/IEEM.2016.7798174.

Menezes, G. S., & França, L. H. (2012). Preditores da decisão da aposentadoria por servidores públicos federais. *Revista Psicologia Organizações e Trabalho, 12*(3), 315–328.

Munn, S. L., & Chaudhuri, S. (2015). Work–life balance: A cross-cultural review of dual-earner couples in India and the United States. *Advances in Development Human Resources, 18*(1), 54–68. doi:10.1177/1523422315616342.

O'Brien, K. R., Martinez, L. R., Ruggs, E. N., Rinehart, J. M., & Hebl, M. R. (2015). Policies that make a difference: Bridging the gender equity and work-family gap in academia. *Gender in Management: An International Journal, 30*(5), 414–426. doi:10.1108/GM-02-2014-0013.

OECD, Stat. (2016a). *OECD inventory of survey questions on the quality of the work environment*. Available from http://stats.oecd.org/Index.aspx?DataSetCode=BLI

OECD, Stat. (2016b). *Better life index*. Available from http://www.oecdbetterlifeindex.org/#/11111111111

OECD, Stats. (2016) *Work-life balance. Better life index*. Available from http://www.oecdbetterlifeindex.org/topics/work-life-balance/

Oliveira, M. Z., & Gomes, W. B. (2014). Estilos Reflexivos e Atitudes de Carreira Proteana e Sem Fronteiras nas Organizações Contemporâneas Brasileiras. *Revista Psicologia: Organizações e Trabalho, 14*(*1*), 105–118.

Parasuraman, S., Purohit, Y. S., Godshalk, V. M., & Beutell, N. J. (1996). Work and family variables, entrepreneurial career success, and psychological well-being. *Journal of Vocational Behavior, 48*, 275–300. doi:10.1006/jvbe.1996.0025.

Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology, 57*, 1069–1081. doi:10.1037/0022-3514.57.6.1069.

Science Alert. (2015, September 30). *Sweden is shifting to a 6-hour work day.* Retrieved January 18, 2017, from http://www.sciencealert.com/sweden-is-shifting-to-a-6-hour-workday

Seligman, M. (2002). *Felicidade autêntica*. Rio de Janeiro: Editora objetiva.

Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist, 55*, 5–14. doi:10.1037/0003-066X.55.1.5.

Sennet, R. (2006). *A cultura do novo capitalismo*. Rio de Janeiro: Record.

Sheldon, K. M., & King, L. (2001). Why positive psychology is necessary. *American Psychologist, 56*, *5–14*. doi:10.1037/0003-066X.56.3.216.

Soares, C. (2016, 21 de fevereiro). *"Dupla Jornada". O Globo,* p. 26.

Stepansky, D. V., & França, L. H. P. F. (2008). Trabalho e vida pessoal: O equilíbrio necessário. *Boletim Técnico do SENAC, 34*(1), 65–71.

Sullivan, S. E., & Arthur, M. B. (2006). The evolution of the boundaryless career concept: Examining physical and psychological mobility. *Journal of Vocational Behavior, 69*, 19–29. doi:10.1016/j.jvb.2005.09.001.

Walsh, F. (1999). *Spiritual resources in family therapy*. New York/London: The Guilford Press.

Chapter 8
The Psychology of Entrepreneurship

Heila Magali da Silva Veiga, Gisela Demo, and Elaine Rabelo Neiva

8.1 Introduction and Definition

Entrepreneurship is relevant to the economic development of a country, to generate jobs and for innovation (Filion, 2003; Frese & Gielnik, 2014; Van Praag & Versloot, 2007). In Brazil, the economic crisis has not affected the entrepreneurial figures, since the total number of entrepreneurs in 2014 was 2% higher than in the previous year (GEM, 2014). Moreover, research shows that 71% of the entrepreneurs have started their businesses driven by opportunity and 28% by need (GEM, 2013). Opportunity-driven entrepreneurship is more beneficial for the economy because ventures are started based on the identification of a market gap rather than by the need and lack of options. These studies treat entrepreneurship as "any attempt to create a new enterprise such as, for example, an autonomous activity, a new company or the expansion of an existing enterprise" (GEM, 2014, p. 7).

Cantillon (1755, 2010 edition) and Jean-Baptiste Say (1816) are pioneers in the study of entrepreneurship. According to Cantillon (2002, 2010), entrepreneurs are individuals that manage their own capital or labor force. In this sense, entrepreneurs and farmers, as well as artisans and salespeople, can be considered entrepreneurs. The farmer who leases a farm will manage the land and the work and will commit to the landowner to pay a given amount, with no guarantee of earnings. There is no guarantee about climate conditions, prices paid for the crop, and market variations; finally, there is a high degree of uncertainty, and this is a sore point in Cantillon's (2002) concept about what it means to be an entrepreneur. Therefore, an entrepreneur is

H.M. da Silva Veiga (✉)
Universidade Federal de Uberlândia, Uberlândia, MG, Brazil
e-mail: heila.veiga@gmail.com

G. Demo • E.R. Neiva
Universidade de Brasília, Brasília, DF, Brazil
e-mail: giselademo@gmail.com; elaine_neiva@uol.com.br

someone highly committed to risk, willing to buy production items at a given amount with the expectation of selling them at higher prices in the future (Cantillon, 2010).

Despite its long-living research tradition, entrepreneurship still requires a consensual definition and a consistent theoretical framework (Audretsch, 2012; Baum, Frese, Baron, & Katz, 2007; Shane & Venkataraman, 2000; Wiklund, Davidsson, Audretsch, & Karlsson, 2011). Gartner (1989) says that entrepreneurship comprises the process of starting a business. According to him, the research papers should focus on the behaviors of entrepreneurs and not on who the entrepreneur is. This classic conceptualization that defines the entrepreneur as someone who starts his/ her own venture is criticized because it disregards the capacity of identifying opportunities (Shane & Venkataraman, 2000). Because of that, Shane and Venkataraman (2000, p. 218) define entrepreneurship as "the field of study that investigates how, by whom and with what new opportunities of goods and services are identified, assessed and explored." In the same sense, the construct is defined as the process involving the discovery, assessment, and exploitation of opportunities to introduce new products, services, processes, or markets (Venkataraman, 1997). In this concept, entrepreneurship is a process of at least three stages: (a) identification of opportunities; (b) development and execution—this is the moment when entrepreneurs search for the required resources to start the venture; and (c) management of the venture that survives and grows (Frese & Gielnik, 2014). The individual variables (experience, skills, motivations, cognitive aspects), group variables (related to the interpersonal relationships and networking), and context variables (environmental, economic, political aspects) have different influences on each stage of the entrepreneurial process (Baron, 2007).

Recognizing opportunities is a subjective process; however, opportunities per se are an objective datum that is not known by all. Opportunities may refer to new products, services, processes, and use of resources, among many other possibilities (Shane & Venkataraman, 2000). There are two explanations to the variation of the degree of identification of opportunities among individuals: (a) possession of relevant information for the identification and (b) cognitive skills to evaluate opportunities. In addition, individuals vary in their capacity of matching concepts and available information and "successful entrepreneurs tend to see opportunities in situations where other individuals tend to perceive risk" (Shane & Venkataraman, 2000, p. 222).

According to Reynolds (2005), entrepreneurship may be conceptualized as the search for opportunities and further creation of a new economic activity, usually through a new organization. This view on entrepreneurship has two core aspects, namely, the capability of recognizing and/or creating opportunities and their exploration and trading (Audretsch, 2012). In this light, entrepreneurial behaviors can come up in startups, small or big ventures, existing or new organizations, as well as in nongovernmental organizations (NGOs) or even in public organizations. The heart of entrepreneurship is the search for opportunities (Audretsch, 2012).

The analysis of the aforementioned definitions shows that to some theorists, entrepreneurship is limited to starting a new business (Gartner, 1989), while other authors expand this concept and refer to the process of searching opportunities (Shane & Venkataraman, 2000; Venkataraman, 1997) and that entrepreneurs can be

found in other places than newly created organizations (Audretsch, 2012). In this broader view, entrepreneurs can be found in all professions. "Entrepreneurship is the process of create something different with value by devoting the necessary time and effort, assuming the accompanying financial, psychic and social risks, and receiving the resulting rewards of monetary and personal satisfaction" (Hisrich, 1990, p. 222). Therefore, Hisrich (1990) proposes two different concepts: the entrepreneur and the intrapreneur. The intrapreneur is an entrepreneur working in a consolidated venture. After conceptualizing entrepreneurship, we should approach the main theoretical perspectives related to the phenomenon.

8.2   Theoretical Approaches

The main theoretical approaches in the study about entrepreneurship come from the fields of economics, psychology, and sociology (Frese & Gielnik, 2014; Vale, 2014). Figure 8.1 shows a summary of the main theoretical perspectives, their main exponents, and linkages. Despite the effective contribution of psychology to enhance and popularize entrepreneurship, the study of this variable comes from economics (Baum et al., 2007; Frese & Gielnik, 2014). The economic approach assumes that entrepreneurs are in the heart of economy, since they are responsible for managing scarce resources. According to Vale (2014), some of the main economists of the modern age are Knight (1921), Kirzner (1986), and Baumol (2010).

Knight (1921) believes that risk is taken as a measurable probability, while uncertainty refers to something that is not measurable.

> Differently from risk, uncertainty is associated to some kind of likelihood that is impossible to be classified because it concerns the results of one single event. Nonetheless, it demands judgment in the sense of estimating its value. When acting in the context of uncertainty, the entrepreneur introduces improvements to the businesses' technology and organization, paving the way for the economic progress.
>   (Vale, 2014, p. 878)

For Kirzner (1986), alertness is a core trait of entrepreneurs since it allows identifying opportunities neglected by the market. According to him, the identification of new market opportunities will result in balance. Baumol (2010), in turn, believes that entrepreneurs play a core role in the economic development, since they expand the possibilities of production through their innovation capacity. Regarding innovation/economics, the contribution by Schumpeter (1997, p. 76) is outstanding with the idea of creative destruction, i.e., the replacement of something old for something new. Such replacement may refer to (a) introduction of new goods, (b) introduction of new production methods, (c) opening of new markets, (d) obtaining new sources of raw materials and other inputs, and (e) creation of new organizations in any industry.

Schumpeter (1997) emphasizes the core role of innovation in the entrepreneurial activity, as well as its impact on economic growth. He differentiates inventions (new
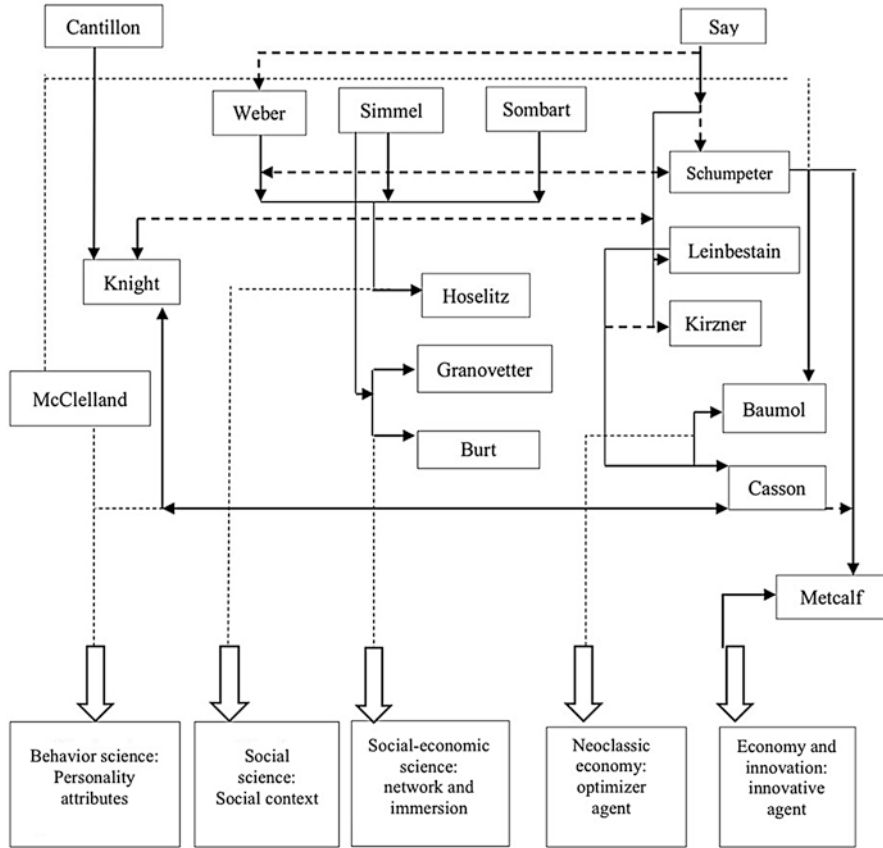
Fig. 8.1 Main theoretical perspectives about the entrepreneur and its connections. Source: Vale (2014, p. 885)

ideas and concepts) from innovations (a new matching of productive resources). According to the author, innovation enables economic development.

Considering the economic link between entrepreneurship and development proposed by Schumpeter, entrepreneurs quintessentially own the change mechanisms and have the capacity of exploring new opportunities, by combining different resources or through different combinations of the same resource. Innovations can counterbalance or compensate the tendency toward decreasing return rates in the industry or in the economy at large. The capacity of identifying and pursuing new ways to associate resources and new market opportunities is quintessentially the entrepreneurial activity. This activity permanently generates social unbalances, enabling transformation and growth. According to the author, enterprises mean the implementation of new combinations, while entrepreneurs are those in charge of making them viable. The entrepreneur is someone "capable of doing new things or doing things that are already being done in a new way" (Schumpeter, 1939, p. 56).

McClelland (1972) is outstanding among the supporters of the psychological strand that overturns the logics of placing emphasis on the economic dimension. McClelland (1972) advocates that inner aspects and human motivations are the road map to seek opportunities. Based on several empirical studies, he sustains that entrepreneurs have high needs for accomplishment. The need for accomplishment refers to the desire of doing something difficult, overcoming obstacles, and reaching high standards. In McClelland's (1972) view, starting a business is not a condition for being an entrepreneur because they can work for already established organizations.

To Weber (quoted by Baum and collaborators, 2007, p. 6), entrepreneurship means "taking over and organizing some part of an economy in which people's needs are satisfied through exchange for the sake of making a profit and at one's economic risk."

Further discussing the individual, organizational, and economic aspects of entrepreneurship, it is worth mentioning that the social and relational aspects establish a link between the individual characteristics and the economic results derived from this activity. Entrepreneurial skill also includes the capacity of "engineering agreement and cooperation among the different actors of the production and distribution processes, i.e., inventors, partners, the capitalist, suppliers, distributors […], keeping successful relationships with workers and the public" (Hirschman, 1958, p. 17). According to Barth (1996), the capacity of overcoming or breaking barriers and going beyond the spheres of interchange is in the heart of the entrepreneur activity.

Leibenstein (1968) argues that the entrepreneur is an agent capable of overcoming the market gaps and enjoying the resulting advantages. The entrepreneur is gifted with a capacity of associating and complementing the set of inputs required by a given productive process. Entrepreneurs work toward freeing or clearing some paths, filling in the existing disruptions in the networks that compose the productive process. Therefore, they open new paths and expand the market.

Considering the theory of transaction costs (Coase, 1937; Williamson, 1975, 1992, 1996, 2006), entrepreneurs serve as an element of coordination and connection. The entrepreneur is the one that seeks the best combination of different productive resources in or out of the venture, building a productive unit in better conditions to negotiate and expand in the market.

Granovetter's (1973) analyses on social networks and learning and creation process identify with those of Leibenstein's (1968). Granovetter (1973) distinguishes strong and weak links and specifies their roles in the transaction of resources in social groups. Strong links suggest cohesive and interconnected networks (communities or sets), while weak links suggest eventual and superficial contacts and relationships established between different networks. Granovetter (1973) resorts to the concept of bridge as a link between actors and knots of the network, and highlights its importance as a means to connect two sectors or sets that otherwise would be disconnected. He associates those bridges to the presence of weak links.

According to Chell (2000), the entrepreneur is the agent capable of bridging and building links, gathering and adding valuable productive resources. To that, s/he needs skills to mobilize social resources through networks of collaboration and obligations (Granovetter, 2005), among others. From the differentiation within the social structure, the emergence of the entrepreneur who can capture and connect

socially dispersed productive resources is possible. The economic activity is not implemented by isolated individuals but by groups that the entrepreneur manages to cooperate with in larger entities such as corporations, industries, and interindustry clusters (Granovetter, 1973, 1985, 1994, 2005).

Burt (1992a, 1992b) expands Granovetter's (1973) considerations and conceives a model of economic competition based on the structure of social relationship and the concept of "structural hole." The structural hole is the lack of links between actors in a network with opportunities for the entrepreneur to link groups and individuals with differentiated and useful resources. Ties and contacts ensure information, open access, and bring about different opportunities. To the author, social relationships are a "social capital," a sort of core asset for an actor's competitiveness, since competition is imperfect and information is not circulated in a free and full way.

According to Burt (1992a, 1992b), what really matters in a network is the structural hole that the entrepreneur is able to cross (2001) and the number of nonredundant contacts. Still according to him, the entrepreneur is a person capable of adding value to the productive activity by mediating the connections between the others. At the core of entrepreneurship lies the ability to put together pieces that are otherwise disconnected. In this conception, the entrepreneur's competitive advantages would be associated with his/her ability to perceive, access, and transpose such holes in the market, guaranteed by a network of well-used ties and connections.

Economy and psychology approaches focus on the individual, while the sociological and economic sociology's approaches emphasize the context or social structure. Despite the conceptual differences, there are convergences (Vale, 2014). For the advancement of the area, the different approaches should be associated. In this light, Vale (2014) analyzes Burt's (1992) entrepreneur case.

> In order to identify and explore the structural holes s/he needs not only to be well-positioned in the market—as the author sustains—but should also be attentive to opportunities (Kirzner, 1979) or be capable of working with uncertainty (Knight, 1921)—or have differentiated individual attributes—which is McClelland's (1971) concern. Now, let's see Granovetter's (1973) entrepreneur case. S/he needs not only to be inserted in a heterogeneous society, with connections between different groups/networks—as the author suggests—but should also have some personal attributes that makes him/her prone to entrepreneurship. In opposition to what McClelland (1971) said, external or exogenous factors are as important as internal or endogenous factors. Differently from Burt's (1992) concept, competition is not a mere issue of relationship, but also involves the players' attributes.
>
> (Vale, 2014, p. 886).

In the past, the focus was on identifying the entrepreneurs' traits of personality considering the psychology's contribution to entrepreneurship, which is the focus of this work. However, the investigations were severely criticized because they were insufficient to explain entrepreneurship and, also, had low power of explanation (Baum, Locke, & Smith, 2001; Rauch & Frese, 2007). Later studies show weak to moderate link between traits of personality and business creation and success in undertakings (Brandstatter, 2010). A meta-analysis (Zhao & Seibert, 2006) found differences between entrepreneurs and managers regarding personality (five big factors, Big 5).

The first scored higher in conscientiousness and openness to experience and lower in neuroticism and agreeableness. The set of predictors explained 37% of the variance.

A few years later, Brandstatter (2010) analyzed the meta-analyses produced in two decades of research about the links between personality and entrepreneurship. Based on the five analyses found, including that by Zhao and Seibert (2006), the author states that the Big 5 model has proven to be a predictor of entrepreneur intent (willingness to open a business) and entrepreneur performance (profit, investment return, business survival, subjective performance appraisal), with positive relation for conscientiousness, openness to experience and extroversion, and negative for neuroticism (Brandstatter, 2010).

When it comes to the psychological variables input, it is worth mentioning that none of these alone can predict success. On the contrary, the research should also comprise other variables (Baum et al., 2001; Rauch & Frese, 2007). The latest works anchored in psychological science have moved away from the focus on traits to prioritize the investigation of competences, motivations, cognitions, and behavior. This way, the investigation models have become more complex, showing that some variables have distal effect, while others have proximal effect (Baum & Locke, 2004).

Baum et al. (2001) have tested a model and found that the organizational strategy, specific competences, and motivation (vision, objectives, and self-efficacy) have a direct effect on the organizational growth (annual percentage of increase in sales, percentage of increase in the staff, and percentage of increase in earnings), while traits (tenacity, proactivity, passion), general competences, and environmental aspects indirectly influence the organizational growth.

Other studies found that variables such as need for achievement, acceptance of risks, innovativeness, autonomy, locus of control, and self-efficacy are associated to success in businesses (Rauch & Frese, 2007). Among these, a highlight is the self-efficacy influence (Baron, 2007; Baum & Locke, 2004). Among variables at group level that affect entrepreneurship, one could mention family's influence, support by fellows and family members, and networks (Baron, 2007).

8.3   Levels of Analysis

Entrepreneurship can be investigated at individual, group, organizational, or national (societal) levels. The individual level of analysis briefly describes the concepts of entrepreneurial intent and entrepreneurial alertness.

Several authors (Thompson, 2009; Zhao & Seibert, 2006; Zhao, Seibert, & Hills, 2005) refer to the entrepreneurial intent construct; however, despite being largely used, there is no agreement on its conceptual limits. Such a theoretical inconsistency has impacts on how the concept has been assessed in different studies, notably due to the inexistence of a robust measure used in different works (Thompson, 2009). Entrepreneurial intent can be defined as "a deep conviction that one intends to open a new business in the near future" (Thompson, 2009, p. 274).

To mitigate the theoretical issues about the construct, Liñán and Chen (2009) used Fishbein and Ajzen's (1975) theory of planned behavior to measure the entrepreneurial intent. The theory of planned behavior tries to understand the behavior based on a short number of variables, and intent is the main determinant of the behavior. According to this approach, the attitudes toward a given object, subjective rules, and perceived behavioral control are antecedents of behavioral intent that, in turn, is the main predictor of behavior.

In the development of the measure of entrepreneurial intention, Liñán and Chen (2009) consider as motivational antecedents of entrepreneurial intent:

(a) Personal attitude, which refers to the degree of positive or negative assessment that the person has about being an entrepreneur—among the measuring items, is "becoming an entrepreneur would bring me great satisfaction?"
(b) Subjective norm, which refers to the perception of social pressure to become an entrepreneur and evaluates whether the reference group approves the decision of becoming an entrepreneur—the statement of the item is "… if I decide to create a business, would those close to me (e.g., nuclear family) approve my decision?
(c) Perception of control of behavior, concerning the perception about easiness or difficulty in becoming an entrepreneur—among the items one could mention, "I know all the practical details to set up a business."

An example of item used to assess the entrepreneurial intent is "I intent setting up a business someday." The authors observed that, among the three elements, the subjective norm was the first step in the mental process and would serve as a sort of filter to external stimuli. Then come the influence of personal attitude and perception of behavior control. They found strong empirical support to the model. Moreover, according to the authors, this process is similar in different cultures.

The concept of entrepreneurial alertness was introduced by Kirzner (1979, quoted by Frese & Gielnik, 2014) and regards the capacity of identifying business opportunities without looking for them. For him, the market is in continuous imbalance, and the entrepreneur can identify them when, for example, buying products when prices are low and selling them when values increase. To Kirzner (1986) innovating, being charismatic, or leading financial resources are not a must for entrepreneurs, because they do not necessarily have to set up the undertaking, since the focus is on discovering opportunity. This emphasis on discovery has been criticized because identification is not a sufficient condition to earn profits, because resources must be invested to yield advantages (Klein & Foss, 2009). Recent studies show that behavioral and cognitive aspects should be also considered to explain entrepreneurial alertness. Despite being one of the most studied concepts, the definition of opportunity remains vague (Klein & Foss, 2009).

Differently from what happens at the individual level, the organizational level has clear definitions and validated measures (Thompson, 2009). This study approaches the variable of entrepreneurial orientation (EO). It was selected because theory and research have emphasized the positive relationship between entrepreneurial orientation (EO) and performance (Miller & Friesen, 1983, Wiklund, 1998, Zahra & Covin, 1995). However, the overall effect is positive, but there are elements

that intervene between the EO and performance (Lumpkin & Dess, 1997; Wiklund & Shepherd, 2005) or may overestimate or bias the effect (Lumpkin & Dess, 1996; Lyon, Lumpkin, & Dess, 2000). According to Dess, Lumpkin, and Covin (1997), EO is an extension of entrepreneurship from individual to organizational level, called by Covin and Slevin (1989) as "entrepreneurial posture" and by Lumpkin and Dess (1996) as "entrepreneurial orientation." It is an independent aspect that comprises strong commitment to risk-taking, innovation, and proactivity in the development and implementation of its strategies (Green, Covin, & Slevin, 2008; Keh, Nguyen, & Ng, 2007; Li, Zhang, & Chang, 2005; Miller, 1983).

Li et al. (2005) have studied the entrepreneurial orientations in organizations in relation to performance, usually using measures such as the venture behavior, resources allotment, and management perceptions (Lyon et al., 2000). The use of perceptions of management provides more complex information than the venture behavior and resources allotment. It allows deeper understanding about the linkages between entrepreneurial orientation and other variables.

This variable of entrepreneurship orientation is very unclear because its components should be specified, as well as the linkages with other features of the internal dynamics of the organizations (Wiklund & Shepherd, 2005). The entrepreneurial orientation scope depends on to which extent the external environments provide potential opportunities to be explored by the company, as well as to which extent the internal competences allow the company to capture the opportunities when this kind of strategy is in place.

To expand the understanding about the study on entrepreneurship in Brazil, a systematic review of the literature was performed. It is described in the next topic. The following section also discusses recent studies in the international literature.

8.4   Review of the National Literature

Bibliometrics, as a field of study of the information science, has a relevant role in the analysis of the scientific production in a country, because it depicts the behavior and development of a field of knowledge, by pointing out theoretical and empirical gaps (Araújo & Alvarenga, 2011), quantifying the features of the studies (Pritchard, 1969; Tague-Sutcliffe, 1992).

Therefore, the utmost objective of this review is to present an overview of studies related to the psychology of entrepreneurship, showing the results of a bibliometric review of empirical studies produced at the national level, searching on the portal of journals of CAPES (Coordination for the Improvement of Higher Education), which gathers the national journals classified by the Qualis system. We have also reviewed the main national and international journal databases (Scielo, Science Direct, Gale, Sage, Springer Link, American Psychological Association, PePSIC, Oxford Journals, Wiley, JSTOR, Cambridge Journals, Web of Science, and Emerald, among others).

The analysis was performed from 2001 (January) to 2015 (September) to depict the setting of the Brazilian scientific production about this topic in the new millen-

nium. This analysis allowed identifying gaps in literature and further outlining a research agenda. The search was performed in September 2015 comprising only national journals peer-reviewed, using the expression "psicologia do empreendedorismo" on titles, abstracts, keywords, and content of articles. Six articles were returned. Dissertation papers, theses, monographs, and articles from events minutes are considered in construction to be further published in journals, and, as such, these were not included in this survey that, in turn, privileged the first-line Brazilian scientific production.

To carry out the bibliometric survey, the following categories of article analyses were selected:

1. Journal name.
2. Qualis classification of the journal.
3. Year of publication.
4. Authors' institution of origin.
5. Authors.
6. Study framing (theoretical assay/review or theoretical-empirical). Then, the articles classified as theoretical-empirical were also characterized.
7. Research approach (quantitative, qualitative, or multi-method).
8. Economy sector (first, second, third).
9. Field of work of the corporations investigated.
10. Instruments used for data collection.
11. Data analysis techniques.

In the rush to conclude the analysis of the national production, the six articles found will be summarized according to their objectives and results, category 12 (Purpose/Goal). A laconic comparison with the recent international production on the topic will bring about some reflections to subsidize the proposal of a research agenda, in a further section of the chapter.

Each article was published in a different journal, of which 50% in the field of psychology and 50% in the field of administration. This is evidence that the topic deserves attention of psychologists and administrators.

According to the latest Qualis classification (2013–2014) of those journals, made by CAPES in the fields of psychology and administration, the production about psychology of entrepreneurship was mainly concentrated in journals considered to be first line, i.e., belonging to B2, B1, and A2 layers. Only one journal is classified as B3, but only in the field of administration. Therefore, it is assumed that this topic raises interest of important national publishing rooms. Table 8.1 summarizes the information about journals and their respective Qualis classifications.

Regarding the publication year, the first study dates back to 2007, and there was another in 2011, two in 2013, and two in 2014. In other words, the number of researchers working on this topic has increased, considering that virtually 67% of the production occurred in the last 2 years.

Regarding the institutions of origin of the authors, the PUC (Pontifícia Universidade Católica) of Rio de Janeiro leads the ranking, with two publications in the analysis period. The other institutions have published only one article in that

Table 8.1 Articles, journals, and Qualis classifications

Articles	Journals	Qualis (2013–2014)
Empreendedorismo feminino: tecendo a trama de demandas conflitantes	Psicologia & Sociedade (Associação Brasileira de Psicologia Social)	A2 (Psico) B2 (Adm)
Mulheres empreendedoras: o desafio da escolha do empreendedorismo e o exercício do poder	Psicologia Clínica (PUC/RJ)	B1 (Psico)
Empreendedorismo: porque alguns estudantes e não outros escolhem ser empreendedores?	Estudos e Pesquisas em Psicologia (UERJ/RJ)	B1(Psico) B3 (Adm)
Fatores motivadores do empreendedorismo e as decisões estratégicas de pequenas empresas	Revista de Ciências da Administração (UFSC/SC)	B2 (Psico e Adm)
Empreendedorismo feminino como sujeito de pesquisa	Revista Brasileira de Gestão de Negócios (FECAP-Fundação Escola de Comércio Álvares Penteado/SP)	B1 (Psico) A2 (Adm)
Motivações para o empreendedorismo: necessidade versus oportunidade?	Revista de Administração Contemporânea (ANPAD-Associação Nacional de Pós-Graduação e Pesquisa em Administração/RJ)	B1 (Psico) A2 (Adm)

Source: Prepared by the authors

period: PUC of Minas Gerais, State University of Minas Gerais, CEFET (Federal Center of Technological Education) of Minas Gerais, University São João Del Rei in Minas Gerais, State University of Sudoeste da Bahia, Federal University of Paraná, and FGV (Getúlio Vargas Foundation) in São Paulo. The studies about psychology of entrepreneurship are concentrated in the southeast region of Brazil, which probably houses research groups that have embraced this topic. Following the same line, two publications by Eva G. Jonathan, PUC RJ, were outstanding. The other authors published one article each in the period of analysis. Only one article was written by one single author, prevailing works written by two, three, or even four authors and, for half of them, with synergy between different institutions.

Regarding the classification of the studies, most (about 85% of five articles) were theoretical-empirical studies, while only one study was classified as theoretical, which was a systematic review on female entrepreneurship. This evidences an important gap in literature about reviews to deeply discuss the topic, its foundations and assumptions, state of the arts, and an agenda showing what is yet to be done in terms of theory and empiric research.

Among the five theoretical-empirical works analyzed, which accounted for about 85% of the articles, since only one work was devoted to a systematic review and was classified as theoretical essay, with regard to the research approach, there is a balance between quantitative and qualitative works with two of each and only one multi-method study that combined qualitative and quantitative approaches. This brings about an opportunity to perform more multi-method surveys, because it

allows the much-vaunted methodological triangulation that, in turn, would allow better understanding of the phenomenon while developing efforts to understand or measure it. This is particularly relevant for phenomena that started being studied recently—just like the psychology of entrepreneurship in Brazil.

The economic sector that prevailed in the research was the second sector, private, approached in four of the six studies. Most of the entrepreneur initiatives naturally take place in the private sector. However, one of the studies focused on the third sector (nongovernmental organizations) in addition to the second sector. It analyzed the relationship between women and power in the context of social entrepreneurship. Moreover a study selected the first sector as the focus of the survey, exploring the degree of interest in entrepreneurship among students of a public university. Since each sector has its own idiosyncrasies and specificities, in addition to different social representations, it is worth noticing that even in the few surveys found the researchers endeavored to approach other sectors than the private, which is the traditional sector in the field of entrepreneurship.

On the other hand, the fields of action of the companies surveyed were quite diversified, comprising sectors such as education, food, construction material, fitness, consultancy, communication services, garment, shoes, leather articles, dairy products, furniture, and steel industry, and no sector prevailed over the others. Still, there is a wide range of industries and services that should be explored in the light of entrepreneurship.

The data collection instruments were questionnaires and interviews, mostly semi-structured and equally divided among studies. Further, the only technical data analysis was that of the thematic category proposed by Barding for qualitative studies and descriptive statistics, correlation analysis, and variance analysis in quantitative studies. The multi-method study elected the content analysis, descriptive statistics, and exploratory factorial analysis as techniques of data analyses. Despite being a visible trend in quantitative studies, up to now the studies on this topic have not adopted more sophisticated statistical methods, such as modeling through structural equations that allow analysis association and prediction and simultaneously confirm measurement models. This is yet another research gap. Likewise, considering the wide range of strategies and techniques of qualitative analysis available, researchers can advance other techniques in addition to or simultaneously with the content analysis, mainly to improve validity and reliability of results.

Table 8.2 summarizes the information about the methodological analyses performed.

Finally, regarding the purpose or main goal of the studies, two of the six studies were devoted to the entrepreneurship/gender relations. First Jonathan and Silva (2007) discussed the conflicting demands experienced by women entrepreneurs and the strategies they use to address them. Three conflicts came out: conflicts in the working space, conflicts between family and professional demands, and conflicts between work and personal demands. Relating to coping strategies, the authors found time self-organization, partnership and closeness, and use of devices to relieve pressure. The authors conclude that, in the light of literature about female entrepreneurship, data showed that woman entrepreneurs innovate to cope with impasses, introducing changes to the family, professional, and personal contexts.

Table 8.2 Summary of the categorization of the theoretical-empirical articles analyzed

Methodological analysis	Classification	Frequency
Research approach	Quantitative	*40%*
	Qualitative	*40%*
	Quali-Quanti	*20%*
Economic sector	Second sector	60%
	First sector	20%
	Second and third sectors	20%
Field of work of the companies analyzed	Education, food, education, construction material, fitness, consultancy, communication services, garment, shoes, leather articles, dairy products, food, furniture, and steel industry	100%
Instruments used for data collection*	Questionnaire interview	*60%* *60%*
Data analysis techniques*	Content analysis (Bardin) Descriptive statistics Correlation analysis Variance analysis Exploratory factorial analysis	*60%* *60%* *20%* *20%* *20%*

Source: Elaborated by the authors

Note. *Percentages do not sum up 100% because some studies employed more than one instrument/technique

Later on Jonathan (2011) studies the relationship between women and power in the context of entrepreneurship. The author rested on a summary of her observations in other studies on female entrepreneurship to analyze the motivations for women to undertake, the consequences and difficulties found, and the strategies they use to cope with the demands related to the multiplicity of women's roles. According to Jonathan, the analysis of leadership traits found in female entrepreneurs showed that they tend to build social networks and exercise power with others rather than over others. Moreover, when heading their social undertakings, women exercise power on behalf of women aiming to empower them and promote their professional and social inclusion.

In order to explore the interest of university students in entrepreneurship and the reason that some students, and not others, choose to be entrepreneurs, Canever, Kohls, Lagemann, and Rigatto (2013) carried out a study with undergraduate students of the Federal University of Pelotas (Rio Grande do Sul). The results showed that despite the high interest of students, only 6% actually plan to become an entrepreneur when they graduate. The role of gender and age has also influenced the research since older men are more inclined to undertake. According to the authors, the candidates to entrepreneurship are motivated by independence and social acknowledgment. The author also concluded that only the management course offers subject matters in the field of business management and entrepreneurship. Therefore, the management and entrepreneurial skills are low among students, triggering a debate about how to improve entrepreneurship in higher education. In this sense, the

authors argue that a promising venue of investigation in this context is the analysis of motivational and cognitive factors that influence the professional decisions, and the impact of the positive bias on the future entrepreneurial action of the students.

In this perspective, two studies aimed to identify the motivations for entrepreneurship. Vicenzi and Bulgacov (2013) sought to understand the motivating factors that influence strategic entrepreneurial actions of small business owners in the south region of Brazil. The results showed the most prominent personal characteristics of the entrepreneurs (need for fulfillment, desire for independence, escape from professional routine, higher responsibility and risks, increased possibility of financial earnings, status, control over life quality, and support/influence of the family and friends); factors that motivate the selection of products, services, and markets (technical knowledge/training in the field, previous experience in the work branch, and partnership with more experienced individuals); factors that motivate the decision of starting a business (market opportunity, professional fulfillment, and desire for independence); and the likely links between motivating factors and changes of products and markets.

Vicenzi and Bulgacov (2013) concluded that the following were the factors that more strongly influenced the entrepreneurs surveyed from the decision of starting a business to the changes of products and markets: theoretical knowledge, knowledge about the sector, entrepreneurs' experiences, technology advances, and the market dynamic in economic and social terms. They also emphasize that despite the Brazilian tradition in female entrepreneurship, male entrepreneurship prevailed in their study.

On the other hand, Vale, Corrêa, and Reis (2014) promoted a discussion about the motives that lead people to undertake, moving beyond the necessity versus opportunity dichotomy. They have also identified the motives that influence the starting of new businesses by proposing a model and validating a measure. The first part of the multi-method study (qualitative) suggested the likelihood of multiple motivations, while the second part (quantitative) that was built from the references ensued by the qualitative stage certified the presence of those motivations. As a main conclusion, the authors suggest that the motivations to undertake effectively extrapolate the binary logic of opportunity versus necessity. In their model, they presented six motivating factors:

Family influence, as also pointed out by Vicenzi and Bulgacov (2013) (reasons: continue or expand the family business, provide occupation to family members, and possibility of taking advantage of the family experience)

Personal attributes/expectations (reasons: easiness or possibility of using relationships in the field, desire to have own business/become independent, time availability, and increase income)

External environment/labor market (reasons: being fired and receiving the FGTS,[1] unemployment, and capital available to invest)

External/third-party influence (reasons: invitation to be a partner in the company, influence/pressure of other persons)

---

[1] Government Severance Indemnity *Fund.*

Dissatisfaction with the current job (reason: dissatisfaction of any nature with the job)

Opportunity (reasons: identification of a business opportunity and enjoyment of a voluntary separation program)

The model was validated through exploratory factorial analysis with 15 items distributed among the six abovementioned factors. It showed good psychometric parameters and is a valid and reliable measure to identify motivations for entrepreneurship.

Finally, the only theoretical essay among the six studies carried out a systematic review of the production on female entrepreneurship, which prevails in Brazil as evidenced in the other surveys. Gomes, Santana, Araújo, and Martins (2014) have scrutinized and refined the scientific discourse about the female entrepreneurs and also investigated the degree of theoretical consolidation in the field. In a critical perspective, the authors evaluated surveys published in Brazilian and international journals from the 1970s.

According to the authors, despite the contribution of each study, most of the work was limited to describing small segments of the population of female entrepreneurs, instead of contacting them, and did not advance in the application and development of theories. Most of the studies were of quantitative and empirical nature, restricted to an attempt of profiling the female entrepreneurs. Few studies elaborated a theoretical analysis specifically on gender. In this review of the national production, only two studies approached this topic in 15 years.

Gomes et al. (2014) conclude that the recurrent concern of many papers was centered on the sexed structure of the organizations and its consequences to the business activities. Therefore, the authors bring about the need to adopt new lenses to study the phenomenon of female entrepreneurship and set new paths for the survey.

A comparison of the review by Gomes et al. (2014) and that described in this chapter shows that Gomes and collaborators have also consulted the CAPES portal of journals, but included the annals of the ANPAD Meetings, but focused on "female entrepreneurship" with a different focus than the one adopted in this chapter to "psychology of entrepreneurship." They found 117 articles, being 21 national and 96 international, including the articles contained in annals of scientific events. If we consider only the articles published in journals, the figures should not be so different from those presented herein, except for the difference in themes.

It was accomplished another review of the international production on the topic, also searching on the CAPES portal of journals using the expression "psychology of entrepreneurship," privileging journals published between 2001 (January) and 2015 (September) providing 85 articles from international reviews on the advances of the psychology of entrepreneurship (Gorgievski & Stephan, 2014, 2016), passing through cross-cultural studies of the comparison of entrepreneurial personality profiles (Obschonka et al., 2013) to relational studies to identify psychological predictors of entrepreneurship (Schoon & Duckworth, 2012).

In a review of the international literature on entrepreneurship from 1981 to 2004, Grégorie, Noel, Déry, and Béchard (2006) found convergence between the researchers of theory-based investigations, so one cannot talk about co-citation networks. However, this is not a linear similitude. There are cycles of confluence and divergence, mainly due to the plurality of subject matters that make up the area and

> Still, the mix of within-group convergence and overall diversity of disciplinary anchors remind us that entrepreneurship research is neither plagued by the conformism of a single paradigm, nor by the anarchy of total fragmentation. If such is the case, what better place then to find rich opportunities for building these conceptual relationships?
>   (Grégorie et al., 2006, p. 361)

Gorgievski and Stephan (2016) carried out a systematic review of the international literature on psychology of entrepreneurship from 2000 to 2015 in journals in the field, with an impact factor equal to or greater than 1.5. They identified 142 papers. When analyzing the articles, they identified five major topics of investigation of the phenomenon: (a) career prospects, (b) personal differences, (c) health and well-being, (d) cognition and behavior, and (e) entrepreneurial leadership. To integrate the findings, they proposed a model (Fig. 8.2) in which dimension "A" refers to the multilevel aspect of the phenomenon that comprises the intraindividual processes, differences, and interactions between individuals and the context, both immediate (team, sector, organization) and broader (region or country). The second dimension, "B," deals with the multiple processes in the different phases of the entrepreneurial process. The dimension "C," in turn, approaches the many kinds of objectives and motivations to start a business such as need and family, among others.

8.5   Final Remarks

The entrepreneurship theme raises the interests of theorists and managers. However, this preference is not reflected in conceptual robustness. The very definition of the term is divergent. Some theorists emphasize the process of starting a business (Gartner, 1989), while others advocate that entrepreneurship may happen in existing organizations (Shane & Venkataraman, 2000). The entrepreneur is the person capable of adding value to the productive activity, mediating the connections between the other activities. In the heart of entrepreneurship is the capacity of gathering together pieces that would be otherwise disconnected (Burt, 2001). Therefore, entrepreneurship is not limited to starting a new business, but it can and should be present in different organizations.

In a broader view, entrepreneurship refers to behaviors of initiative and creative thinking and also economic and social mechanisms that allow converting resources and situations into benefits. Moreover, it involves accepting mistakes, a high degree of proactivity, a high need for fulfillment, acceptance of risks, autonomy, internal locus of control, and leadership skills. In addition, features such as taking calculated

A. Nested levels of analyses
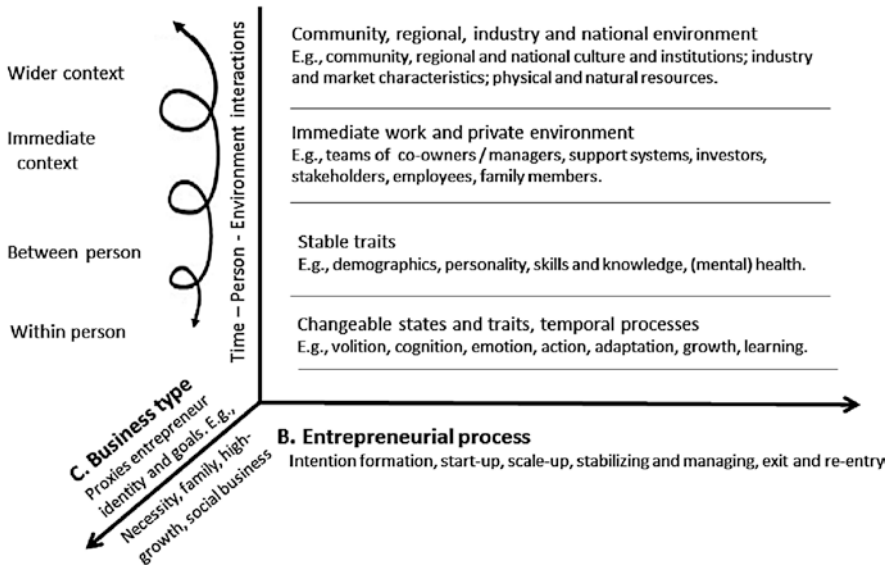
Fig. 8.2 A tentative framework for psychological entrepreneurial research: the entrepreneur and entrepreneurial process viewed in nested levels of analyses (Gorgievski & Stephan 2016, p. 40)

risks, seeking opportunities, and changing ideas into results should be present not only in the owners but also in all of the organization's collaborators.

As Hisrich (1990) states, intraentrepreneurship could be encouraged in already established organizations. According to him, the first step to that is to ensure the managers' commitment to build an organizational culture that fosters these behaviors. Then, the leaders should be selected and trained to identify and develop opportunities in their field of work. The following relevant aspects should be considered as well: (a) an organizational structure, (b) a rewarding system that should be bound to the unit's entrepreneurial performance, and (c) an evaluation system (Hisrich, 1990).

Establishing an entrepreneurship culture demands actions at different levels, i.e., governmental, academic, and organizational (Sousa & Almeida, 2014). At the governmental level, specific policies should be formulated to encourage entrepreneurship, for example, exemption from the fee to start a business for up to 3 years (Filion, 2003). At the academic level, one of the likely strategies to develop an entrepreneurial culture is to incorporate contents on the topic in the three educational levels. Early childhood education is the moment of getting in touch with the topic. Secondary education is the proper stage to carry out competitions of business plans and encourage the business creation, while at the university education level, entrepreneurship should be considered an effective possibility of career (GEM, 2014). At the organizational level, in turn, the organizational culture and managers should encourage creativity and innovation to develop an entrepreneurial organization (Sousa & Almeida, 2014).

Regarding the theoretical approaches, despite the many theoretical concepts, the different views may be used in a complementary way to better understand the complexity of the phenomenon. Considering the wide scope of the phenomenon of entrepreneurship, variables at the individual, group, organization and societal levels should be included in the investigation design to deepen the understanding of the phenomenon (Baron, 2007). Davidsson (2016) points out three research gaps in the field of psychology of entrepreneurship. The first one refers to carrying out experimental studies, very traditional in this science but still scarce on this topic. According to him, a second contribution regards the construct establishment, mainly because this subject has strong tradition in this field. The third advance should be making multilevel investigations, mainly because of the idiosyncrasies of the phenomenon that urges discussing the level of theory and the level of measure (Klein & Kozlowski, 2000). The contributions proposed by the author could be added, for example, to studies on the construct establishment that applies knowledge acquired from psychometric and multilevel analysis.

Entrepreneurship should be encouraged as an effective strategy to expand jobs, mainly in situations of high unemployment levels (Van Praag & Cramer, 2001; Van Praag & Versloot, 2007). Specific groups like youth and women should be envisaged, since according to literature they are a significant share of those starting new businesses. They have specific characteristics that have not yet been duly approached in the existing studies (Van Praag & Cramer, 2001).

Finally, regarding the national reality, the results of the production compiled herein ratify the contemporary character and the incipience of research on the topic. Ultimately, it entails huge opportunities to perform studies that contribute to build a more consistent theoretical framework to gradually advance the theoretical-empirical knowledge about psychology of entrepreneurship in the Brazilian organizations.

References

Araújo, R. F., & Alvarenga, L. (2011). A bibliometria na pesquisa científica da pós-graduação brasileira de 1987 a 2007. *Revista Eletrônica de Biblioteconomia, 16*(31), 51–70.

Audretsch, D. (2012). Entrepreneurship research. *Management Decision, 50*(5), 755–764.

Baron, R. A. (2007). Entrepreneurship: A process perspective. In J. R. Baum, M. Frese, & R. Baron (Eds.), *The psychology of entrepreneurship* (pp. 19–39). New Jersey, EUA: Lawrence Erlbaum Associates.

Barth, F. (1996). Economic spheres in Darfur. In F. Raymond (Ed.), *Themes in economic anthropology* (pp. 149–174). London: Tavistock.

Baum, J. R., & Locke, E. A. (2004). The relationship of entrepreneurial traits, skill, and motivation to subsequent venture growth. *Journal of Applied Psychology, 89*(4), 587–598.

Baum, J. R., Locke, E. A., & Smith, K. G. (2001). A multidimensional model of venture growth. *Academy of Management Journal, 44*(2), 292–303.

Baum, J. R., Frese, M., Baron, R. A., & Katz, J. A. (2007). Entrepreneurship as an area of psychology study: An introduction. In J. R. Baum, M. Frese, & R. Baron (Eds.), *The psychology of entrepreneurship* (pp. 1–18). New Jersey, EUA: Lawrence Erlbaum Associates.

Baumol, W. J. (2010). *The microtheory of entrepreneurship*. Princeton, Oxford: Princeton University Press.

Brandstatter, H. (2010). Personality aspects of entrepreneurship: A look at five meta-analysis. *Personality and Individual Differences, 51*, 222–230.

Burt, S. R. (1992a). *Structural holes: The social structure of competition*. Cambridge, MA, London: Harvard University Press.

Burt, S. R. (1992b). The social structure of competition. In N. Nohria & R. G. Eccles (Eds.), *Networks and organizations: Structure, form and action* (pp. 57–91). Harvard Business School: Massachusetts.

Burt, S. R. (2001). Structural holes versus network closure as social capital. In N. Lin, K. E. Cook, & R. S. Burt (Eds.), *Social capital: Theory and research*. New York: Aldine de Gruyter.

Canever, M. D., Kohls, V. K., Lagemann, M., & Rigatto, P. (2013). Empreendedorismo: Por que alguns estudantes e não outros escolhem ser empreendedores? *Estudos e Pesquisas em Psicologia, 13*(1), 101–124.

Cantillon, R. (2002). *Ensaio sobre a natureza do comércio em geral (1755)*. Curitiba: Segesta editora2.

Cantillon, R. (2010). *An essay on economic theory: An English translation of Richard Cantillon's Essai sur la Nature du Commerce en Général* (1755). Alabama, EUA: Ludwigvon Mises Institute. Translated by *Saucier Chantal*. Edited by *Thornton Mark*.

Chell, E. (2000). Networking entrepreneurship and microbusiness behavior. *Entrepreneurship and Regional Development, 12*(3), 195–214.

Coase, R. H. (1937). The nature of firm. *Economica, 4*, 386–405.

Covin, J. G., & Slevin, D. P. (1989). Empirical relationship among strategic posture environmental context variables, and new venture performance. In *Frontiers Empreendedorismo Research* (pp. 124–133). Wellesley, MA: Babson College.

Davidsson, P. (2016). A "Business Researcher" view on opportunities for psychology in entrepreneurship research. *Applied Psychology: An International Review, 65*(3), 628–636.

Dess, G. G., Lumpkin, G. T., & Covin, J. G. (1997). Entrepreneurial strategy making and firm performance: Tests of contingency and configurational models. *Strategic Management Journal, 18*(9), 677–695.

Filion, L. J. (2003). *Um roteiro para desenvolver o empreendedorismo* – Cadeira de empreendedorismo. Rogers-J. A. Bombardier – HEC Montréal. Disponível em: http://www.oei.es/etp/roteiro_desenvolver_empreendedorismo_filion.pdf. Acesso em: 10/01/2016.

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.

Frese, M., & Gielnik, M. (2014). The psychology of entrepreneurship. *Annual Review of Psychology, 1*, 413–438.

Gartner, W. B. (1989). "Who is an entrepreneur?" Is the wrong question. *Entrepreneurship: Theory and Practice*, 47–68.

Global Entrepreneurship Monitor – GEM. (2013). *Empreendedorismo no Brasil*. Curitiba: Instituto Brasileiro de Qualidade e Pesquisa. Disponível em: http://www.sebrae.com.br/Sebrae/Portal%20Sebrae/Anexos/GEM_2013_Pesquisa_Completa.pdf, acesso em 10/01/2016.

Global Entrepreneurship Monitor – GEM. (2014). *Empreendedorismo no Brasil: Relatório executivo*. Curitiba: Instituto Brasileiro de Qualidade e Pesquisa. Disponível em http://www.sebrae.com.br/Sebrae/Portal%20Sebrae/Estudos%20e%20Pesquisas/gem%202014_relat%C3%B3rio%20executivo.pdf, acesso em 10/01/2016.

Gomes, A. F., Santana, W. G. P., Araújo, U. P., & Martins, C. M. F. (2014). Empreendedorismo feminino como sujeito de pesquisa. *Revista Brasileira de Gestão de Negócios, 16*(51), 319–342.

Gorgievski, M., & Stephan, U. (2014). Advances in the psychology of entrepreneurship. *Journal of Applied Psychology, 63*(1), 219–221.

Gorgievski, M. J., & Stephan, U. (2016). Advancing the psychology of entrepreneurship: A review of the psychological literature and an introduction. *Applied Psychology, 65*(3), 437–468.

Granovetter, M. (1985). Economic action and social structure: The problem of embeddedness. *American Journal of Sociology, 91*(3), 481–510.

Granovetter, M. (1973). The strength of weak ties. *American Journal of Sociology, 78*(6), 1360–1380.

Granovetter, M. (1994). *Handbook of economic sociology*. Princeton, NJ: Princeton University Press.

Granovetter, M. (2005). The impact of social structure on economic. *Journal of Economic Perspectives, 19*(1), 33–50.

Green, K. M., Covin, J. G., & Slevin, D. P. (2008). Exploring the relationship between strategic reactiveness and entrepreneurial orientation: The role of structure – Style fit. *Journal of Business Venturing, 23*(3), 356–383.

Grégorie, D. A., Noel, M. X., Déry, R., & Béchard, J.-P. (2006). Is there conceptual convergence in entrepreneurship research? A co-citation analysis of frontiers of entrepreneurship research, 1981–2004. *Entrepreneurship Theory and Practice, 30*(3), 333–373.

Hirschman, A. O. (1958). *The strategy of economic development*. Connecticut: Yale University Press.

Hisrich, R. (1990). Entrepreneurship/Intrapreneurship. *American Psychologist, 45*(2), 209–222.

Jonathan, E. G. (2011). Mulheres empreendedoras: O desafio da escolha do empreendedorismo e o exercício do poder. *Psicologia Clínica, 23*(1), 65–85.

Jonathan, E. G., & Silva, T. M. R. (2007). Empreendedorismo feminino: Tecendo a trama de demandas conflitantes. *Psicologia & Sociedade, 19*(1), 77–84.

Keh, H. T., Nguyen, T. T. M., & Ng, H. P. (2007). The effects of entrepreneurial orientation and marketing information on the performance of SMEs. *Journal of Business Venturing, 22*(4), 592–611.

Kirzner, I. M. (1979). *Perception, opportunity, and profit: Studies in the theory of entrepreneurship*. Chicago: University of Chicago Press.

Kirzner, I. M. (1986). *Competição e atividade empresarial*. Instituto Liberal: Rio de janeiro.

Klein, P. G., & Foss, N. J. (2009). Entrepreneurial alertness and opportunity discovery: Origins, attributes, critique. In H. Landström & F. Lohrke (Eds.), *The historical foundations of entrepreneurship research* (pp. 1–31). Aldershot: Edward Elgar.

Klein, K. J., & Kozlowski, W. J. (2000). *Multilevel theory, research, and methods in organizations*. San Francisco, CA: Jossey-Bass.

Knight, F. H. (1921). *Risk, uncertainty and profit*. Boston, MA: Hart, Schaffner & Marx; Houghton Mifflin Co. Reprint (2009) Orlando, FL: Signalman Publishing.

Leibenstein, H. (1968). Entrepreneur and development. *The American Economic Review, 58*(2), 72–84.

Li, H., Zhang, Y., & Chang, T. S. (2005). Entrepreneurial strategy making and performance in China's new technology ventures – The contingency effect of environments and firm competences. *Journal of High Technology Management Research, 16*, 37–57.

Liñán, F., & Chen, Y.-W. (2009). Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions. *Entrepreneurship Theory and Practice*, 593–617.

Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review, 21*(1), 135–172.

Lumpkin, G. T., & Dess, G. G. (1997). Proactiveness versus competitive aggressiveness: Teasing apart key dimension of an entrepreneurial orientation. In P. D. Reynolds, W. D. Bygrave, N. M. Carter, P. Davidsson, W. B. Gartner, C. M. Mason, & P. P. McDougall (Eds.), *Frontiers of entrepreneurship research*. Babson College: Wellesley, MA.

Lyon, D. W., Lumpkin, G. T., & Dess, G. G. (2000). Enhancing entrepreneurial orientation research: Operationalizing and measuring a key strategic decision making process. *Journal of Management, 26*(5), 1055–1085.

McClelland, D. C. (1972). *A sociedade competitiva*. Rio de Janeiro: Expressão e Cultura.

Miller, D. (1983). The correlates of empreendedorism in three types of firms. *Management Science, 29*(7), 770–791.

Miller, D., & Friesen, P. H. (1983). Strategy-making and environment: The third link. *Strategic Management Journal, 4*(3), 221–235.

Obschonka, M., Schmitt-Rodermund, E., Silberesein, R. K., Gosling, S. D., & Potter, J. F. (2013). The regional distribution and correlates of an entrepreneurship-prone personality profile in the United States, Germany and the United Kingdom: A socioecological perspective. *Journal of Personality and Social Psychology, 105*(1), 104–122.

Pritchard, A. (1969). Statistical bibliography or bibliometrics? *Journal of Documentation, 25*(4), 348–349.

Rauch, A., & Frese, M. (2007). Born to be an entrepreneur? Revisiting the personality approach to entrepreneurship. In J. R. Baum, M. Frese, & R. Baron (Eds.), *The psychology of entrepreneurship* (pp. 41–65). New Jersey, EUA: Lawrence Erlbaum Associates.

Reynolds, P. D. (2005). Understanding business creation: Serendipity and scope in two decades of business creation studies. *Small Business Economics, 24*, 359–364.

Say, J. B. (1816). *England ant the English people*. Londres: Sherwood.

Schoon, I., & Duckworth, K. (2012). Who becomes an entrepreneur? Early life experience as predictors of entrepreneurship. *Developmental Psychology, 48*(6), 1719–1726.

Schumpeter, J. A. (1939). *Business cycles I*. New York: McGraw-Hill.

Schumpeter, J. A. (1997). *Teoria do Desenvolvimento Econômico: Uma investigação sobre lucros, capital, crédito, juro e o ciclo econômico*. São Paulo: Nova Cultural.

Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management. The Academy of Management Review, 25*(1), 217–226.

Sousa, M. J., & Almeida, M. do R. (2014). Entrepreneurial skills development. *Recent Advances in Applied Economics,* 135–139.

Tague-Sutcliffe, J. (1992). An introduction to informetrics. *Information Processing & Management, 28*(1), 1–3.

Thompson, E. R. (2009). Individual entrepreneurial intent: Construct clarification and development of an internationally reliable metric. *Entrepreneurship Theory and Practice, 33*(3), 669–694.

Vale, G. M. V. (2014). Empreendedor: Origens, Concepções Teóricas, Dispersão e Integração. *Revista de Administração Contemporânea, 18*(6), 874–891.

Van Praag, C. M., & Cramer, J. S. (2001). The roots of entrepreneurship and labour demand: Individual ability and low risk aversion. *Economica, 68*, 45–62.

Van Praag, C. M., & Versloot, P. H. (2007). What is the value of the entrepreneurship? A review of recent research. *Small Business Economy, 29*(4), 351–382.

Venkataraman, S. (1997). The distinctive domain of entrepreneurship domain research: An editor's perspective. In J. Katz & R. Brockhaus (Eds.), *Advances in entrepreneurship, firm emergence, and growth* (pp. 119–138). Greenwich, CT: JAI Press.

Vicenzi, S. E., & Bulgacov, S. (2013). Fatores motivadores do empreendedorismo e as decisões estratégicas de pequenas empresas. *Revista de Ciências da Administração, 15*(35), 208–221.

Wiklund, J. (1998). Entrepreneurial orientation as predictor of performance and entrepreneurial in small firms: Longitudinal evidence. In P. D. Reynolds, W. D. Bygrave, N. M. Carter, P. Davidsson, W. B. Gartner, C. M. Mason, & P. P. McDougall (Eds.), *Frontiers of entrepreneurship research* (pp. 5–21). Babson College: Wellesley, MA.

Wiklund, J., & Shepherd, D. (2005). Entrepreneurial orientation and small business performance: A configuration approach. *Journal of Business Venturing, 20*, 1–91.

Wiklund, L., Davidsson, D., Audretsch, B. D., & Karlsson, C. (2011). The future of entrepreneurship research. *Entrepreneurship Theory and Practice, Special Issue*, 1–9.

Williamson, O. E. (1975). *Markets and hierarchies: Analysis and antitrust implications*. New York: Free Press.

Williamson, O. E. (1992). Markets, hierarchies and the modern corporation. *Journal of Economic Behavior and Organization, 17*(3), 335–352.

Williamson, O. E. (1996). *The mechanisms of governance*. New York: Free Press.

Williamson, O. E. (2006). *The economics of governance*. *The American Economic Review, 95*(2), 1–18.

Zahra, S., & Covin, J. (1995). Contextual influences on the corporate entrepreneurship-performance relationship: A longitudinal analysis. *Journal of Business Venturing, 10*, 43–58.

Zhao, H., & Seibert, S. E. (2006). The big five personality dimensions and entrepreneurial status: A meta-analytical review. *Journal of Applied Psychology, 91*(2), 259–271.

Zhao, H., Seibert, S. E., & Hills, G. (2005). The mediating role of self-efficacy in the development of entrepreneurial intentions. *Journal of Applied Psychology, 90*(6), 1265–1272.

Chapter 9
Innovation in Organizations: Main Research Results and Their Practical Implications

Elaine Rabelo Neiva, Helenides Mendonça, Maria Cristina Ferreira, and Leela Lacerda Francischeto

9.1 Introduction

In 8 years, the number of active companies in Brazil increased from 6,231,525 in 2007 to 16,326,550 in 2015, of those more than 90% are micro and small enterprises (National Confederation of Commerce, 2016). The inclusion of new players in the context renders the environment more competitive. In order to survive, companies are constantly striving for better performance and elements that provide differential to the business.

Innovation has been seen as a source for such a differential. In addition to being characterized as an economic multiplier in industrialized and emerging countries (Montalvo, 2006), the "successful implementation of creative ideas in an organization," as defined by Amabile (1996, p. 1)—innovation—is a concern of countless entrepreneurs around the world. The importance of innovation for organizational success has been widely recognized in the scientific literature because of its fundamental role for corporate success in the increasingly competitive corporate world (Hammond, Neff, Far, & Schwall, 2011).

However, the quest for innovation is not solitary. Associated with it is the investigation of the elements that encourage or inhibit innovation. The literature presents the association of innovation with several variables such as leadership, organizational learning, performance (Aragón-Correa, García-Morales, & Cordón-Pozo, 2007;

E.R. Neiva (✉) • L.L. Francischeto
Universidade de Brasília, Brasília, DF, Brazil
e-mail: elaine_neiva@uol.com.br; leela.francischeto@gmail.com

H. Mendonça
Getulio Vargas Foundation, Rio de Janeiro, RJ, Brazil
e-mail: helenides@gmail.com

M.C. Ferreira
Pontifícia Universidade Católica, Goiânia, GO, Brazil
e-mail: mcris@centroin.com.br

Naranjo-Valencia, Jiménez-Jiménez, & Sanz-Valle, 2011), climate (Anderson, Potocnick, & Zhou, 2014), and culture (Gobara, Rossoni, Kato, Dossa, & Hocayen-da-Silva, 2010; Jaskyte & Dressler, 2005; Sarros, Gray, Densten, & Cooper, 2005), highlighting aspects of organizational culture that influence generation of innovations.

This chapter aims to define innovation and discuss the key attributes associated with it, at the individual, group, and organizational levels. The association between culture and innovation is also discussed based on the results of major research in the field. Finally, the chapter addresses the main factors behind the development of innovation and discusses the implications of such knowledge for the management of the attributes associated with innovation. Implications for managers, as well as future lines of research and the suggestion of an aggregating framework of the main results, are discussed.

9.2   Definition and Typology of Innovation

Innovations at work are processes, outcomes, and products of attempts to develop and introduce new and improved ways of doing things, in which "creativity is the stage of generating ideas while innovation is the subsequent implementation of these into new procedures, practices or products" (Anderson et al., 2014, p. 1299).

For Schumpeter (1935), innovation leads to rupture and discontinuous change, being the driver of economic development. The author recognized the importance of the phenomenon and considered it essentially similar in all sciences but highlighted economics as a safe starting path for the challenge of understanding the concept as a quantitative science (Schumpeter, 1935).

Following the author's efforts to push forward the discussion on the theme, the subject actually began to emerge after World War II, in which large companies played a key role in the evolution of the subject by hiring scientists to collect information on research and development (R&D) of organizations. Most of the area's development studies at the time were stimulated and sponsored by external agencies (Fagerberg, Martin, & Anderson, 2013).

With the subject becoming more important initially in England and the United States in the 1970s, Christopher Freeman started an innovation research center at the University of Sussex with researchers from various fields. Then other centers were started in Manchester and MIT—Massachusetts Institute of Technology—and later, in the 1980s and 1990s, in various parts of the world. New theories and frameworks arose, therefore, with the development of the study of innovation (Fagerberg et al., 2013).

With the development of studies in the field, innovation has also become of interest to business administration and management schools, with one-third of the citations coming from journals in these areas by the turn of the century (Fagerberg et al., 2013). Conducting surveys became more frequent, and the discussion of differences between companies of different sizes, areas, and nations became more present (Fagerberg et al., 2013).

The development of R&D departments is no longer the only solution for innovation, and new approaches have emerged emphasizing knowledge, skills, and resources needed for innovation (Fagerberg et al., 2013). Damanpour (1991) connects the adoption of innovations to the generation, development, and implementation of new ideas and behaviors. Innovation comes from adapting or anticipating environmental changes, with a focus on increasing and sustaining organizational effectiveness and competitiveness (Damanpour & Gopalakrishnan, 2001). In this way, innovations are defined by it as new products or services, a new production process technology, a new management structure or system, or a new plan or program related to members of the organization (Damanpour, 1991).

Product innovations are products or services introduced to reach an external user or market need, and process innovations are new elements introduced into an organizational production or service operation (e.g., raw materials, job specifications, workflow mechanisms and information, and equipment) to produce a product or provide a service (Damanpour & Gopalakrishnan, 2001). Product innovations are introduced primarily by stimuli of market needs and process innovations by factors related to production (Damanpour, 1991).

The organization's focus on particular types of innovation can be influenced by characteristics of the organization and by attributes of innovation (Damanpour & Gopalakrishnan, 2001). While internal factors, such as quality management and reengineering, refer to the development of process innovations, external, market-driven factors such as customer loyalty and increasing market share lead the organization to product innovations (Damanpour & Gopalakrishnan, 2001).

Some theories conceive innovation in service industries from the analysis of the reverse product cycle when adopting new technologies (Barras, 1986). The cycle starts with process innovations, which generate efficiency in service delivery, and then shifts the focus to product innovations, generating new types of service. Thus, product innovation in services is characterized as the constituent of a new service. Although the literature of the time considers this as a process innovation, from the claim that they are just new forms of delivery of an existing service, Barras (1986) argues new applications of the service are so different in nature that they can be described as new service products.

Service innovations are therefore the introduction of new services to existing or new customers, and the provision of existing services to new customers (Damanpour, 2010), and can be described as development of new activities undertaken to deliver service products for many reasons, such as making them more attractive to consumers (Oke, 2007). Process innovations can be classified into technological process innovations and administrative process innovations. The technological ones are those that modify the processes and systems in operation in organizations (Damanpour, 2010), and administrative ones are changes in structure and work processes of the organization, in the administrative systems, in knowledge used in management, and in managerial capacities that allow organization to work and be successful through use of resources efficiently (Damanpour, 2010).

Although manufacturing industry and high-tech fields highlight classifications in innovation types (Hogan, Soutar, McColl-Kennedy, & Sweeney, 2011), in other

business sectors, such as services, these typologies may become mixed, reducing or hindering the perception of the variable in organizational environment. The development of the concept and typology in manufacturing industries and the difficulty in measuring results of new services are two crucial points in study of service innovation (Gallouj & Weinstein, 1997).

9.3 Theoretical Perspectives of Innovation

Considering only psychosocial aspects at group and organizational levels, two important theories that involve the process of innovation are highlighted: ambidexterity theory and the theory of four factors of team climate (Anderson et al., 2014). Ambidexterity definition includes "the ability of a complex and adaptive system to manage and meet conflicting demands by performing fundamentally different activities" (Bledow, Frese, Anderson, Erez, & Farr, 2009a, p. 320). Ambidexterity theory has been widely used to explain the process of managing conflicting demands and innovate at various organizational levels (Bledow et al., 2009a, 2009b). Simultaneous management of both exploration activities (e.g., creation of new products) and exploitation (e.g., production and product implementation) has been included as ambidexterity capacity. There is evidence for the main precepts of the ambidexterity theory (Anderson et al., 2014; Rosing, Frese, & Bausch, 2011), and therefore this perspective has potential for future studies, especially on leadership effects on innovation processes. Four factors of work team's climate are indicated as facilitators of innovation: vision, participatory safety, task orientation, and innovation support (West, 1990). These prepositions have been widely applied in research of innovation in teams and have received empirical support from primary data and meta-analysis studies (Anderson et al., 2014; Hülsheger, Anderson, & Salgado, 2009). Innovation process depends on (a) vision accepted and valued by team members, (b) existence of stimulating debate and discussion of different possible solutions within the team with a detailed examination of possibilities of implementation, (c) team members realizing that they can propose new ideas and solutions without being judged or criticized, and (d) team members perceiving support for innovation (Anderson & Gasteiger, 2008; Anderson & West, 1998; Anderson et al., 2014; West, 1990).

Some theoretical perspectives at individual level include creativity and innovative behavior, although most of them are dedicated to creativity. In general, creativity is associated with generating ideas, and innovative behavior is associated with production and implementation of new ideas, which consolidates innovation. As Chap. 2 will specifically address creativity, this paper will focus on the variables associated with innovative behavior (Anderson et al., 2014).

Innovative behavior is defined by the degree to which individuals generate creative ideas, promote and put into practice the ideas of others, develop plans for implementing these new ideas, and uncover new technologies, processes, techniques, or ideas about a product (Scott & Bruce, 1994). From a proposal of stages, Scott and Bruce (1994) argue that individual innovation begins with the recognition

of the problem and the generation of ideas or solutions, whether new or adapted. During the next phase of the process, an innovative individual seeks support for an idea and attempts to build a coalition of advocates. Finally, during the third stage of the innovation process, the innovating individual completes the idea by producing a prototype or model of innovation that can be palpable or experimental and can be mass disseminated or mass produced and focused on productive or institutionalized use (Kanter, 1988).

Battisti and Stoneman (2010) point to limitations of innovation literature in that most research focuses on technological and managerial innovations separately. From this, they carry out a study considering strategic, organizational, managerial, and market innovations in companies of the United Kingdom. These authors also point out the difficulty of measuring innovation, especially considering the indicators' perspective.

9.4 Measurement of Innovations and Their Indicators

Studies often measure innovation at individual and team levels in terms of self-reported surveys, while at organizational level, studies have used secondary objective data sources, such as Compustat, Eurostat, or organizations' own documents. Recently, at individual level, there has been a simultaneous increase in use of independent assessors or observers, such as supervision ratings, peer evaluation, and expert evaluations (Anderson et al., 2014). A current development in innovation area points to a notable decline in the use of self-report measures as well as to advances in methodological sophistication of study design features concerning to dependent or explanatory variable. However, studies at individual level are still based on self-generated self-report measures, despite evidence that such projects have inherent weaknesses that lead to bias of common method, perceptual inflation, and aspects of construct validity (Anderson et al., 2014; Potočnik & Anderson, 2012). Objective data, such as number of patents or number of new products launched, were mainly used in 36% of all studies in this period to evaluate innovation at organizational level (Anderson et al., 2014).

At individual level, a large number of studies still rely on self-assessments of criterion and/or antecedent variables in innovation research. At individual level, this procedure includes 24% of the studies and at team level about 7%; and for multi-level studies, this procedure included approximately 14% of the research (Anderson et al., 2014). Considering all these studies, instruments created by Janssen (2001; 5% of studies), Burpitt and Bigoness (1997; 4% of studies), and Scott and Bruce (1994; 3% of studies) appear to have been used more frequently (Anderson et al., 2014), although majority of authors developed their own specific measures in the context of innovation research (Anderson et al., 2014).

The proposal for innovation indicators is based on the launching of the OECD Manual of Innovations—Organisation for Economic Co-operation and Development—in 1992 and its versions in 1997 and 2005 (2005 edition in partnership with the

Eurostat—Statistical Office of The European Communities). The OECD Manual (Oslo Manual) basically emphasizes results of innovation process and recognizes technology-push approaches, which define measures for R&D efforts by companies as an indicator of innovation, and demand-pull approaches, which establish measures for consumer interactions, mechanisms for measuring cooperative relationships, and partnership between companies.

On basis of the definitions in the first edition of the Oslo Manual, the CIS—Community Innovation Statistics—emerged in 1993 in effort to establish innovation indicators adapted to European Union context. CIS-4 (2004) collected data on product and process innovations, as well as innovations of non-technological nature such as creation of goods or services, innovations in marketing, introduction of processes, logistical changes, or improvement of distribution methods. In addition, the effects of innovations, information sources mobilized for innovative activities, and spending on innovation are investigated (Eurostat, 2008).

The 2005 edition of the Oslo Manual adds advances to the study of service innovation and extends the concept of innovation. Thus, innovation is conceived as a continuous and dynamic process resulting from the accumulation of knowledge and constant improvements of products and processes carried out by companies, which is why the manual proposes to measure data on general innovation process (e.g., innovative activities, expenditures, and connections), implementation of significant changes in organization, factors influencing innovative activities, and results of innovation (OECD, 2005).

At organizational level, in the last decades, theoretical efforts have focused on proposal of indicators capable of identifying results obtained by organizations—or sectors, countries, etc.—in terms of innovation. Smith (2005) proposes three major indicators associated with innovation measures: research and development actions, patent registration, and data from scientific publications and citations.

In Brazil, the Technological Innovation Survey, PINTEC, carried out by IBGE every two years since 2000 (issued in 2000, 2003, 2005, and 2008), is based on the Oslo Manual and presents conceptual and methodological contents linked to international trends. The 2008 edition of PINTEC focuses on construction of sectoral, national, and regional indicators of technological innovation activities in Brazilian companies and on national indicators of technological innovation activities in service companies and R&D. Among the items measured by PINTEC 2008, the following stand out: implementation of new or substantially improved products or processes; implementation of innovative products or processes, adopted in accordance with the Oslo Manual (2005); description of innovative activities and sources of funding for innovative activities; and description of internal research and development activities, impact of innovations, sources of information, cooperation for innovation, government support, patents and other methods of protection, problems and obstacles to innovation, and organizational and marketing innovations (IBGE, 2010).

Considering definition, typologies, and indicators of innovation, the following text will describe main results of innovation studies considering individual, group, and organizational levels of analysis, highlighting, at the end, a table summarizing the main results.

9.5   Factors Influencing Innovation

Literature reviews have a relevant role in analysis of scientific production of an area, as it portrays an area of knowledge by pointing out theoretical and empirical gaps (Araújo & Alvarenga, 2011), quantifying characteristics existing in studies. The objective of this review is to present an overview of studies related to innovation, presenting results of a review of empirical studies at national and international levels from the search on CAPES (Coordination of Improvement of Higher Education Personnel, Brazil) journal portal, which aggregates national journals classified by the QUALIS system, in addition to the main national and international journals (Scielo, Science Direct, Gale, Sage, Springer Link, American Psychological Association, PePSIC, Oxford Journals, Wiley, JSTOR, Cambridge Journals, Web of Science, and Emerald, among others). These factors were classified by individual, group, and organizational levels of analysis.

9.6   Factors Influencing Innovation at Individual Level of Analysis

Innovation studies have been developed at individual, group, and organizational levels (or a mixture of the three) and are dedicated to analyzing personal, group, and contextual factors associated with such a construct. Few studies have focused on individual or personality factors that influence innovative behavior, most of which are related to creativity (Anderson et al., 2014). By considering only innovative behavior, it is possible to highlight important results that involve individual characteristics such as orientation toward goals, personal values, self-effectiveness, cognitive styles, affective states, and motivation.

There is evidence that goal orientation or objective orientation (control/domain orientation) is associated with innovative behavior (Janssen & Van Yperen, 2004), without discrimination if this influence occurs in generation or implementation phase of ideas. Regarding cognitive styles, Wu, Parker, and De Jong (2014) identified in situations of low autonomy and time pressure that need for cognition presented a strong and positive relationship with innovative behavior. There is a positive relationship between generation and implementation of ideas (innovation), individual open-mindedness (an individual dispositional characteristic), and lack of cultural barriers (Hernández-Mogollon, Cepeda-Carrión, Cegarra-Navarro, & Leal-Millán, 2010). Intuitive thinking was also positively associated with suggestion of ideas, but systematic thinking did not show any association. Both thinking styles have been negatively associated with implementation of ideas (Clegg, Unsworth, Epitropaki, & Parker, 2002), just as individual values are associated with innovative behavior, as Choi and Price (2005) found effects of the congruence of values in commitment with the implementation and in behavior of implementing new work processes.

Regarding components of self, little association of self-effectiveness with innovative behavior has been investigated. Based on the theory of behavioral plasticity and self-monitoring, transformational leadership correlated more strongly and positively with innovation for subordinates with low self-esteem focused on the organization. When subordinates had low levels of propensity for self-presentation, active-corrective transactional leadership was negatively associated, and transformational leadership was positively associated with task innovation and performance (Rank, Nelson, Allen, & Xu, 2009).

Although skills and knowledge are considered as the basis for generation of ideas, studies have done little to explore this relationship (Anderson et al., 2014). As exception, Howell and Boies (2004) described that strategic and relational knowledge was positively associated with ideas promotion, and Baer (2010) showed that generation and implementation of ideas have a strong and negative relation when networking and perceived instrumentality of innovation were low. The presence of learning-oriented goals and psychological climate of innovation explains innovative behavior at work (Montani, Odoardi, & Battistelli, 2014). There is evidence that people seeking to achieve their learning goals may consider innovation challenging, but rich in acquiring new knowledge and developing/enhancing skills at work.

Regarding to affective and psychological states and motivation, Yuan and Woodman (2010) found positive expectations of performance results were positively associated with innovative behavior and expectations of image risks were negatively associated with innovative behavior. When employees trust, they share the benefits of creativity, and they make more suggestions, but trust has no effect on implementing new ideas. On the other hand, when employees believe organization will listen to their suggestions, they present more idea implementation behaviors (Clegg et al., 2002). Ng, Feldman, and Lam (2010) reported that breaking psychological contract reduced innovative behaviors.

Task context strongly influences generation and implementation of ideas, both directly and through interaction with individual difference variables. The complexity of work—measured as a variety of skills required, task significance, task identity, autonomy, and feedback—has often been associated with creativity, idea generation, and idea implementation (Shalley, Gilson, & Blum, 2009; Tierney & Farmer, 2004, 2011), although few studies have been carried out with the implementation of ideas. The degree of work routinization has also been associated with creativity and implementation of ideas (Ohly, Sonnentag, & Pluntke, 2006). Considering effects of rewards, little has been investigated and concluded about their influence on innovative behavior (Anderson et al., 2014; Zhou & Shalley, 2003).

Social context evaluated by influences of leadership and peers is one of critical factors in innovation process. Many authors (Tierney, 2008; Damanpour & Aravind, 2011) have pointed out that supervisor behavior, such as positive and realistic feedback and task orientation, improves self-efficacy and creativity of subordinates. Transformational leadership is positively associated, while transactional leadership is negatively associated with innovative behavior only when empowerment of followers is high (Pieterse, Van Knippenberg, Schippers, & Stam, 2010). Some research has also examined the effect of supervisor support and influence-based

leadership on innovative behavior (Krause, 2004). Transformational leadership was strongly related to innovation implementation behavior, and the nature of this relationship was tempered by followers with high levels of climate perception in support of employee initiatives (Michaelis, Stegmaier, & Sonntag, 2009). In addition, commitment to change mediated the relationship between transformational leadership and follower innovation behavior.

The literature points out leaders significantly influence capacity for change and innovation (Damanpour & Schneider, 2006). Responsibilities assigned to them such as environmental analysis, policy formulation, and resource control make leaders a potential force against or in favor of innovation, especially if decision-making is concentrated in their hands (Damanpour & Schneider, 2006). Empirical research has concluded that leaders who take a position as agents of change in their organizations positively affect adoption of innovations (Fernandez & Wise, 2010; Hansen, 2011). Based on interactionist approach, Battistelli, Montani, and Odoardi (2013) have found evidence that under conditions in which leadership gives feedback toward work the dispositional resistance to change does not halt innovative performance at work.

When individuals have a good relationship toward their work groups, they end up having additional resources in form of ideas and feedback, factors that determine innovative behavior (Scot & Bruce). Like leaders, working groups can also influence climate perceptions. According to Schneider, Ehrhart, and Macey (2013), climate perceptions emerge from interactions members of a working group have with one another. Therefore, Scott and Bruce (1994) suggest when a working group supports an individual in a way that allows innovations to arise, offering, for example, cooperation and collaboration, individual is more likely to see organization in general as being favorable to innovation.

Janssen (2003) has shown that when employees are highly involved in work, innovative behavior has been positively associated with conflict with co-workers and negatively related to satisfaction with colleagues, underscoring potential costs of innovative behavior. The position of individuals in social network also affects their creativity and innovative behavior (Baer, 2010; Obstfield, 2005; Perry-Smith, 2006, Perry-Smith & Shalley, 2003, Zhou, Shin, Brass, Choi, & Zhang, 2009). This has shown a growing body of research that involves structural features of actor's network and personality traits of the actors.

9.7   Factors Influencing Innovation at Group Level of Analysis

Currently research on innovation at group level presents a considerable growth, and two meta-analyses (Anderson et al., 2014; Hülsheger et al., 2009; Rosing et al., 2011) corroborating variables on the degree of group innovation are consistent and can be grouped into structures and composition of team, task context characteristics, climate, and team style and leadership style.

Hülsheger et al. (2009) found that team vision, safety to participate in team, support for innovation, and task orientation were correlated with innovation within team. Other factors show up such as cohesion, internal communication, and external communication that will also show effect on group innovation, highlighting the role of team climate for innovation and internal group processes (Choi, Sung, Lee, & Cho, 2011, Han & Tjosvold, 2007). The team's innovation climate is seen as crucial for innovation results at team level (Anderson & Gasteiger, 2008). Empirical evidence corroborates effect of organizational encouragement of innovation and support for innovation (support for innovative climate in the team) as significant predictors of individual creativity (Pirola-Merlo & Mann, 2004). The results of Hirst, Van Knippenberg, and Zhou (2009) corroborate a curvilinear relationship between learning orientation and creativity, moderated by team learning behavior. At high levels of team learning behavior, positive relationship between learning orientation and creativity was stronger at moderate levels of learning orientation than at lower and higher levels.

Considering results of group conflict, studies indicate that this relationship does not exist or this relationship with innovation is curvilinear (Jehn, Rispens, & Thatcher, 2010). Another important finding relates to previously mentioned factors influencing innovation in different stages of the process (Schippers, West, & Dawson, 2015; Somech & Drach-Zahavy, 2013; West & Richter, 2008). Effects of diversity and level of conflict in teams seem to be associated with transformational leadership and organizational innovation (Chen, Liu, & Tjosvold, 2005), showing that conflict management can contribute to improve the efficiency of top management teams. Analysis of structural equation suggests that management of cooperative conflict promotes productive conflict and effectiveness of management team which in turn results in organizational innovation (Anderson & Gasteiger, 2008). It is important to separate more productive cognitive tension and personal not productive tension. Through a summary of several studies, at various levels of analysis, there is evidence that high levels of debate and lower levels of conflict are more conducive to creativity and organizational innovation (Isaksen & Ekvall, 2010). Cognitive diversity in teams was significantly (and positively) related to individual member creativity only when self-effectiveness was high and in presence of high levels of transformational leadership within team (Shin, Kim, Lee, & Bian, 2012).

Regarding to environmental characteristics of tasks at team level, Van der Vegt and Janssen (2003) found no effect interdependence between task and objectives of innovative behavior in homogeneous teams, whereas in heterogeneous teams, interdependence of task positively predicted innovative behavior for those individuals who also noted high levels of objectives of interdependence. Support for autonomy (at department level) has offset the effect of supporting autonomy of a lower organizational level (team) or individual autonomy guidance on innovative behavior. And innovative behavior mediated the effects of support to unit's autonomy on guidance for team member autonomy (Liu, Chen, & Yao, 2011). Hirst, Van Knippenberg, Chen, and Sacramento (2011) found that learning orientation was positively related to individual creativity when there is low centralization and

formalization of work within team. Results of Thatcher and Greer (2008) show that identity at team level (i.e., at what level the relative importance of individual identities is recognized by significant others) positively influences individual innovation.

A great deal of studies highlights the role of leadership in innovation at team level. Transformational leadership was more strongly related to individual creativity when high identification with the leader and high innovation climate were present (Wang & Rode, 2010). Studies of Gajendran and Joshi (2012) added that quality of leader-member exchange influenced decisions of team members, which generated a positive effect on team innovation. The innovation climate within team mediated the relationship between transformational leadership and team innovation, but individual motivational states mediated relationship between proactive personality and innovation at individual level (Chen, Farh, Campbell-Bush, Wu, & Wu, 2013). Team's leadership style has direct and strong effects on team innovation (Bledow et al., 2009a). Rosing et al. (2011) identified that transformational leadership and participative leadership have strong effect on innovation in the team in early stages, while transactional leadership and policy have effect in the implementation of ideas (Wang & Rode, 2010). In another direction, Liao, Liu, and Loi (2010) proposed that self-effectiveness mediates the relationship between quality of member-leader exchange and individual creativity, as well as establishing a moderating effect of differentiation in leader-member exchange on the relationship between quality of member-leader exchange and individual creativity. Their results showed that differentiation in leader-member exchange attenuated indirect effect of quality of leader-member exchange on individual creativity.

9.8 Factors Influencing Innovation at Organizational Level of Analysis

Research on innovation at organizational level adds enough effort, but some aspects are more relevant according to Anderson et al. (2014). These factors are related to management and use of knowledge, the structure of social networks, organizational structure and strategy, size, resources, culture, climate, external environment, diffusion of innovation, and corporate entrepreneurship.

Organizational characteristics in terms of size, structure, and strategy received much attention from researchers. Decentralized structures (Cohendet & Simon, 2007; Jung, Wu, & Chow, 2008), complex structures (Damanpour & Schneider, 2006), structures with little power differentiation (Shipton, West, Parkes, Dawson, & Patterson, 2006), and low formalization (Jung et al., 2008) favor innovation. According to Damanpour's (1991) meta-analysis, organizational innovation is influenced by organizational characteristics such as vertical differentiation, internal communication, external communication, abundance of resources, administrative intensity, technical knowledge resources, administrative standardization, managerial attitude toward change, centralization, formalization, professionalism, functional

differentiation, and specialization, among others (Kimberly, 1981). Most studies found a significant positive effect between size of organization and innovation (Camison-Zornoza, Lapiedra-Alcami, Segarra-Cipŕes, & Boronat-Navarro, 2004; Damanpour, 2010), this effect measured in terms of number of employees, total sales, and financial results. Other studies evaluate the role of micro-institutional forces in organizational innovation (Vermeulen, Van Den Bosch, & Volberda, 2007), which involve internal normative, regulatory, and cultural influences and structural integration of units into one same identity (Puranam, Singh, & Zollo, 2006); restructuring and reorganization (Karim, 2009) affect innovation strategies (He & Wong, 2004).

Another great aspect evaluated in research is concerning to management and its impact on innovation, especially regarding the role of managers and people management practices. Offering support in management (Choi & Chang, 2009) of organizational innovation, emphasizing the role of transactional and transformational leadership (Jung, Chow, & Wu, 2003; Jung et al., 2008), and attitudes favorable to innovation by top managers (Damanpour & Schneider, 2006) are directly associated with innovation. Some demographic characteristics of managers are also associated with innovation, such as racial and gender heterogeneity in team management (Richard, Barnett, Dwyer, & Chadwick, 2004) and share ownership of managers (Latham & Braun, 2009). However, the service time of managers (Wu, Levitas, & Priem, 2005; Damanpour & Schneider, 2006) did not provide conclusive results, sometimes with positive association, sometimes with negative associations.

Recently, the ambidexterity theory (Bledow et al., 2009a, 2009b) has been responsible for explaining with considerable empirical support how the process of managing conflicting demands at multiple organizational levels contributes to innovation (Rosing et al., 2011). Active management and self-regulatory processes are needed for integration of activities carried out by subsystems or in different moments (Bledow et al. 2009a, 2009b), which characterizes successful management of conflicting demands of exploration (creating new products) and exploitation (production and implementation of products). Results of Lin and McDonough III (2011) studies provided support to indicate the extent to which (1) a strategic leadership influences a culture of sharing knowledge, (2) a culture of sharing knowledge directly affects the degree of innovation and organizational ambidexterity, and (3) organizational culture mediates the relationship between strategic leadership, innovation, and ambidexterity.

Regarding the people management practices, important results show that provision of training, employee engagement practices, use of performance-based pay systems, use of flexible working hours, variety of activities, autonomy in the exercise of occupation, and flexibility in management of people are related to high levels of innovation (Martínez-Sánchez, Vela-Jiménez, Pérez-Pérez, & De-Luis-Carnicer, 2009; Shipton et al., 2006).

More recently authors are concerned with the use of tangible and intangible assets (Choi & Chang, 2009), such as production, use and dissemination of knowledge through internal and external networks (Figueiredo, 2011) as factors that leverage innovation. Investigations on availability (Choi & Chang, 2009) point that

quality and diversity of resources (Srivastava & Gnyawali, 2011), resource exchange (Hargadon & Bechky, 2006), and lack of resources influence innovation and its implementation (Greve, 2003), especially considering the macro level of innovation measure. Some concepts as absorptive capacity (Lichtenthaler, 2009), intellectual capital (Rothaermel & Hess, 2007), storage of knowledge (Kyriakopoulos & De Ruyter, 2004), search for knowledge (Katila, 2002), knowledge sharing (Van Wijk, Jansen, & Lyles, 2008) and social networks (Phelps, 2010) refer to the use of knowledge and organizational learning. Many research topics have been investigated such as actors' role in social network regarding to their actions in creation, transfer and adoption of knowledge (Phelps, Heidl, & Wadhwa, 2012) and how strong ties between different units encourage adoption of new ideas (Kijkuit & Van den Ende, 2010).

Defined as the sum of organizational innovation efforts, proactivity, renewal, and risk actions (Sebora & Theerapatvong, 2010), corporate entrepreneurship has received much attention in recent years (Narayanan, Yang, & Zahra, 2009) through research on how characteristics of entrepreneurs influence innovation process (Baron & Tang, 2011; Zhou, 2008) and facilitate introduction of changes in established organizations (Lassen, Gertsen, & Riis, 2006). Surveys highlight the role of human resource practices (Zhang & Jia, 2010), the decision scope (Heavey, Simsek, Roche, & Kelly, 2009), transformational leadership (Ling, Simsek, Lubatkin, & Veiga, 2008), perceptions of external environment, and discretionary shortage (Simsek, Veiga, & Lubatkin, 2007) as factors that promote corporate entrepreneurship and increase level of innovation.

One of the main organizational aspects associated with innovation concerns organizational culture and climate (Anderson et al., 2014; Zhou & Shalley, 2003). For this reason, this chapter will discuss in greater detail the influence of these phenomena on innovation.

9.9 A Detailed Analysis of Climate and Cultural Influences on Innovation

A difficult part of these studies is differentiating aspects which are climate components or organizational culture (Schneider et al., 2013). Many studies classify climate as shared perceptions, and thus, the basic premise is that an innovative organization can develop an organizational climate that favors creativity and subsequently promote innovation (Tidd, Bessant, & Pavitt, 2003). Baer and Frese (2003) explored innovation as a background for organizational performance and found that the relationship between innovation process and company performance was enhanced by high levels of personal initiative and psychological safety. In addition, most studies linking climate innovation focus on the level of groups and work teams (Anderson & Gasteiger, 2008). Research evidence points to organizational climate, creativity, and innovation fostered by leader behavior, self-efficiency, and encouragement for independence being an innovation driver at organizational level

(Jung et al., 2008; Patterson et al., 2005). Dobni (2008) points out that "in an organizational environment, innovation is often expressed through behaviors or activities that are ultimately linked to a tangible action or result" (p. 540).

Usually the difference between components of culture and organizational climate lies in the moment that beliefs, shared values, and social norms generate attitudes, subjective norms, and perceived behavioral control standards, which are determinants of intention and willingness of employees to engage in innovative activities that guide the way, the level, and speed of innovation (Montalvo, 2006; Nacinovic, Galetic, & Cavlek, 2010). Both studies on organizational culture and innovation have been of interest to several researchers because they are cited as source of competitive advantage and business success (Khazanchi, Lewis, & Boyer, 2007; Martins & Terblanche, 2003). Despite the presence of comprehensive prescriptive literature in this area, there is already a significant scientific framework relating the two variables.

Studies' findings linking culture and innovation have different terminologies to address issue in organizations, the most present being innovation culture (Bakovic, Lazibat, & Sutic, 2013; Dobni, 2008; Linke & Zerfass, 2011; Naranjo-Valencia et al., 2011; Sharifirad & Ataei, 2012), culture of innovation support (Khazanchi et al., 2007), culture that stimulates innovation (Martins & Terblanche, 2003), innovative culture (Hyland & Beckett, 2005; Machado, Gomes, Trentin, & Silva, 2013), culture-driven innovation (Stamm, 2009), and culture-oriented innovation (Gobara et al., 2010; Stock, Siz, & Zacharias, 2012; Zhu & Engels, 2014).

Theoretical bases are diverse (Bruno-Faria & Fonseca, 2014), with several theoretical models created from propositions of authors of these studies (such as Dobni, 2008). There is no framework that adds propositions involving organizational culture, organizational results, and innovations. However, it is possible to define two basic segments: (1) the use of typologies of organizational culture and investigation of the effect of cultural types on innovative behaviors and innovation at group and organizational levels and (2) the design of organizational culture globally, based on its components or dimensions defining a culture for innovation and its effect on innovative behavior and innovation at group and organizational levels.

There is still controversy about characteristics of organizational culture that lead to innovation, since the conceptual range of variable culture is extensive and reports a low production of comparative empirical studies on the subject (Anderson et al., 2014). The matter of level of analysis is reiterated by authors who argue that organizational culture is an integral aggregate variable in which the referent is a group of individuals, but it cannot be reduced to a list of individuals' properties (Jaskyte & Dressler, 2005).

Among studies on culture and innovation, there are those intended to evaluate the proper environment for innovation and specifically try to identify cultural aspects engendered in the process justified by potential strategic competitive advantages that culture takes in this scenario (Dobni, 2008). In this trend, there is no association of culture measures with more objective measures of innovation such as number of innovations presented. Dobni (2008) proposes a kind of inventory to

evaluate four theoretical dimensions of culture of innovation, being propensity for innovation and organizational circumscription (intension to innovate); organizational learning, creativity, and empowerment (innovation infrastructure); market orientation and orientation toward value creation (influence of innovation); and context of implementation (innovation implementation). This inventory aims to evaluate the theoretical model proposed by the author that includes "intention to be innovative, infrastructure to support innovation, knowledge and guidance to employees to support the thoughts and actions needed for innovation and an environment or context to support implementation – which invariably has inherent risk and rewards in return" (Dobni, 2008, p. 552). The intention of characterizing an innovative cultural environment can also come by inspiration of organizational culture models, as the "onion" model of Hofstede (Machado et al., 2013). With the purpose of identifying innovation culture variables, the author developed an instrument based on nine elements: values; beliefs and assumptions; rites, rituals, and ceremonies; stories and myths; taboos; heroes; standards; communication; and artifacts and symbols.

A great problem of the association of culture with innovation concerns the comparison of culture measures and innovation measures. Most innovation measures involve the number of new products or services presented by the organization (Anderson et al., 2014). Direct association between cultural dimensions, often characterized as culture oriented or innovation oriented, and product, service, or process innovations is explored by many authors and presents several clues. Cultures that are adhocratic (flexibility, change, growth, creativity, and adaptation) and tolerant to risk are positively related to development speed of new products (Menon, Chowdhury, & Lukas, 2002), a culture focused on innovation, and competent, committed, and innovative individuals associated with innovative organizations (Steiber & Alänge, 2013) or influencing the relationship between HR systems and the development of new products (Lau & Ngo, 2004).

Other dimensions are also listed as components of a culture for innovation: support innovation, risk propensity, and tendency for generating ideas, autonomy and proactive and risk propensity (Bakovic et al., 2013; Tellis, Prabhu, & Chandy, 2009).

There are many questions about the extent to which these constructs characterize organizational climate or culture. Organizational incentives, supervisor encouragement, support the working group, challenging work, job autonomy rather reflect this question and have significant and positive influence on organizational culture and organizational innovation, and moderate the relationship between team and organizational innovation (Lin, Chuang, Chang, & Yeh, 2012). Seven dimensions of organizational culture (goal orientation, orientation to innovation, participation in decision-making, structured leadership, support leadership, shared vision, and collaboration, among members) were significantly related to implementation innovations (Zhu & Engels, 2014). There were also significant associations between leadership behavior and a culture of innovation (Apekey, McSorley, Tilling, & Siriwardena, 2011).

Indirect relations also involve organizational culture (or dimensions of it) as mediator or moderator variable or being mediated by other variables such as innovation (Uzkurt, Kumar, Kimzan, & Eminoğlu, 2013). Innovation is a complete mediator in the relationship between organizational culture and organizational performance (Uzkurt et al., 2013) as organizational culture measurement was based on four constructs: cooperativeness, innovation, consistency, and effectiveness. Cultural barriers and innovation results have strong, negative, and direct relationship (Leal-Rodríguez, Ariza-Montes, Roldán, & Leal-Millán, 2014), but cultural barriers also mediate the relationship between absorptive capacity and innovation results. There is no indication of the five items of cultural barriers (Leal-Rodríguez et al., 2014) as discriminative of what is being assessed as a cultural barrier. Some groups (building culture and managerial knowledge) and individual aspects (creativity and self-leadership) are singled out as a group of innovative behavior history (Pratoom & Savatsomboon, 2012).

There is evidence of mediation effect of creativity in self-leadership, group constructive culture, and managerial knowledge innovation of group members (Pratoom & Savatsomboon, 2012). Some authors evaluate the relationships between transformational leadership and levels of technological innovation, as well as the moderating effects of innovative culture and incentive payment. The results indicate that behavior of transformational leadership promotes technological innovation level in business units, and this mediated its relationship with innovative culture. In addition, the adoption of financial incentives neutralizes the relationship between transformational leadership and technological innovation (Chen, Lin, Lin, & McDonough, 2012).

For the sake of facilitating comparison between results of previously reported studies, a considerable group of researchers choose to adopt organizational culture typologies associated with innovation measures in individual, group, and organizational levels. In general, studies involve cultural dimensions of Hofstede (Hofstede, 1998), Competing Values Framework of Cameron and Quinn (Hartnell, Ou, & Kinicki, 2011), Schein's propositions (Hogan & Coote, 2013; Martins & Terblanche, 2003), and the cultural profile model (O'Reilly, Chatman, & Caldwell, 1991). Another problem on innovation measures which range from organizational (innovation results, innovation, etc.), group, and individual (innovative behavior) levels.

The multilayered organizational culture model (Schein, 1996) has influence on innovative organizational behavior and performance measures (Hogan & Coote, 2013). Rules, artifact, and innovative behavior partially mediate effects of values on company's performance (Hogan & Coote, 2013). Some determinants of organizational culture (strategy, structure, support mechanisms, behavior that encourages innovation, and open communication) influence creativity and innovation, and values, norms, and beliefs can support or inhibit creativity and innovation (Martins & Terblanche, 2003).

The Organizational Culture Profile (O'Reilly et al., 1991) has also been evaluated as a predictor of innovation or behaviors associated with it. There is evidence that a competitive culture-oriented result has a strong relationship with climate for organizational innovation, and it mediates the relationship between transformational and leadership climate for organizational innovation (Sarros, Cooper, & Santora, 2008). Jaskyte and Dressler (2005) describe the cultural consensus—strong

cultures—and organizational values in Organizational Culture Profile (O'Reilly et al. 1991) are predictors of organizational innovativeness.

Perhaps the model of competing values (Cameron & Quinn, 1999) is the one that presents the most consistent evidence of cultural types influencing innovation relationship. Clan and adhocratic cultures and cash crops are differentially and positively associated with efficiency criteria (Hartnell et al., 2011). The developmental culture was the strongest predictor of performance measures: product quality, product innovation, and process innovation. Rational culture shows a relationship with product quality and, along with clan cultures and hierarchical cultures, also plays an important role in predicting process quality (Prajogo & McDermott, 2011). Some authors have managed consistent and repeated results between types of organizational cultures that stimulate or inhibit innovations, innovation strategies, and organizational imitation, using organizational culture instrument based on Competing Values Framework (Naranjo-Valencia, Jimènez Jimènez, & Sanz-Valle, 2012; Naranjo-Valencia, Sanz-Valle, & Jimenez-Jimenez, 2010; Naranjo-Valencia et al., 2011; Sanz-Valle, Naranjo-Valencia, Jiménez-Jiménez, & Perez-Caballero, 2011). While adhocratic cultures can improve development of new products or services, hierarchical cultures inhibit product innovation (Naranjo-Valencia et al., 2010). In addition, adhocratic cultures promote innovation strategies, and hierarchical cultures promote the imitation strategy (Naranjo-Valencia et al., 2011). The authors point out that the relationship between culture and innovation is more complex than what is shown in literature, with cycles of inhibition and incentive (Naranjo-Valencia et al., 2012). These previously found relationships were also associated with organizational learning with results that corroborate an indirect relationship of organizational culture in technical innovation, mediated by organizational learning (Sanz-Valle et al., 2011).

This relationship between organizational learning and culture was also assessed with the use of cultural types of Hofstede (Bockstedt, Druehl, & Mishra, 2015; Çakar & Ertürk, 2010). Results suggest that collectivism and uncertainty avoidance are positively associated with formal learning, whereas power distance is negatively related to formal learning through training (Çakar & Ertürk, 2010). The results also suggest that power distance and uncertainty avoidance are associated with innovation capacity at individual level, while associations between collectivism and innovative capacity and between focus on assertiveness and empowerment are found at company level. Formal learning, through training, was positively related to innovation capacity for both small- and medium-sized enterprises (SMEs), both at individual and organization levels (Bockstedt et al., 2015).

The learning culture and knowledge generation have also been associated with innovation. The results show that organizational learning culture has a strong positive direct effect on innovation, as well as a moderate indirect positive impact through an innovative culture (Skerlavaj, Song, & Lee, 2010). Other results also showed moderating effect of culture centered on knowledge, leadership centered on knowledge, and HR practices centered on knowledge in the relationship between the variables of knowledge exploration, exploitation practices, and innovation results (Donate & Guadamillas, 2011).

Anyway, organizations and leaders are trying to create an institutional framework and informal relationships in which creativity and innovative behavior and innovation in group and organization levels are accepted as cultural basic standards, which have found some support in research findings in the area. It has become clear that the unwritten rules of the game (rules and standards of behavior) and shared values influence performance, creation, and implementation of innovations in different ways (Anderson et al., 2014). To facilitate global understanding of these relationships, this amount of cited variables and their influence on innovation at various levels can be balanced and presented in Fig. 9.1. This figure depicts only direct relationships between variables, encompass indirect relations would bring greater difficulty on figure construction.

9.10   Practical Implications of Knowledge on Innovation

As one can see by literature review, innovation has received great attention from various areas of knowledge. Psychosocial and management factors have gained much attention in recent years because they involve aspects that directly influence creation and implementation of ideas in the workplace.

What are the practical implications for employees and managers to foster innovation? This is a complex question given the number of variables in research with positive results to influence innovation, whereas indirect effects (moderation and mediation) are still poorly studied. In a very complex way, all variables can interact to generate positive and negative effects on innovative behavior. Insofar as all the models and recommendations constitute a simplification of reality, it is important to point out that, above all, it is an attempt to translate these results to a more peculiar language.

Initially it is important to speak of the individual, because it portrays the features that can influence directly or indirectly innovative behavior that will generate new products and services. Another application relates to selecting individuals that have these characteristics if there is intention to form working groups that can provide innovative behavior. The important thing to emphasize here is that the surveyed characteristics are prone to intervention that promotes them at individual level, which sets the level at which the changes primarily occur. Goal-oriented people, especially learning goals, which have strategic knowledge for the company, who have a cognitive opening (mental), that use intuitive thinking, present skills to form social networks (to connect to other people), which have good self-esteem and have positive expectations of performance results and tend to be more directed toward innovation and present innovative behavior. The person-organization adjustment can be promoted through selection processes to choose professionals with aspirations and perspectives congruent with the organizational environment in which they will work.
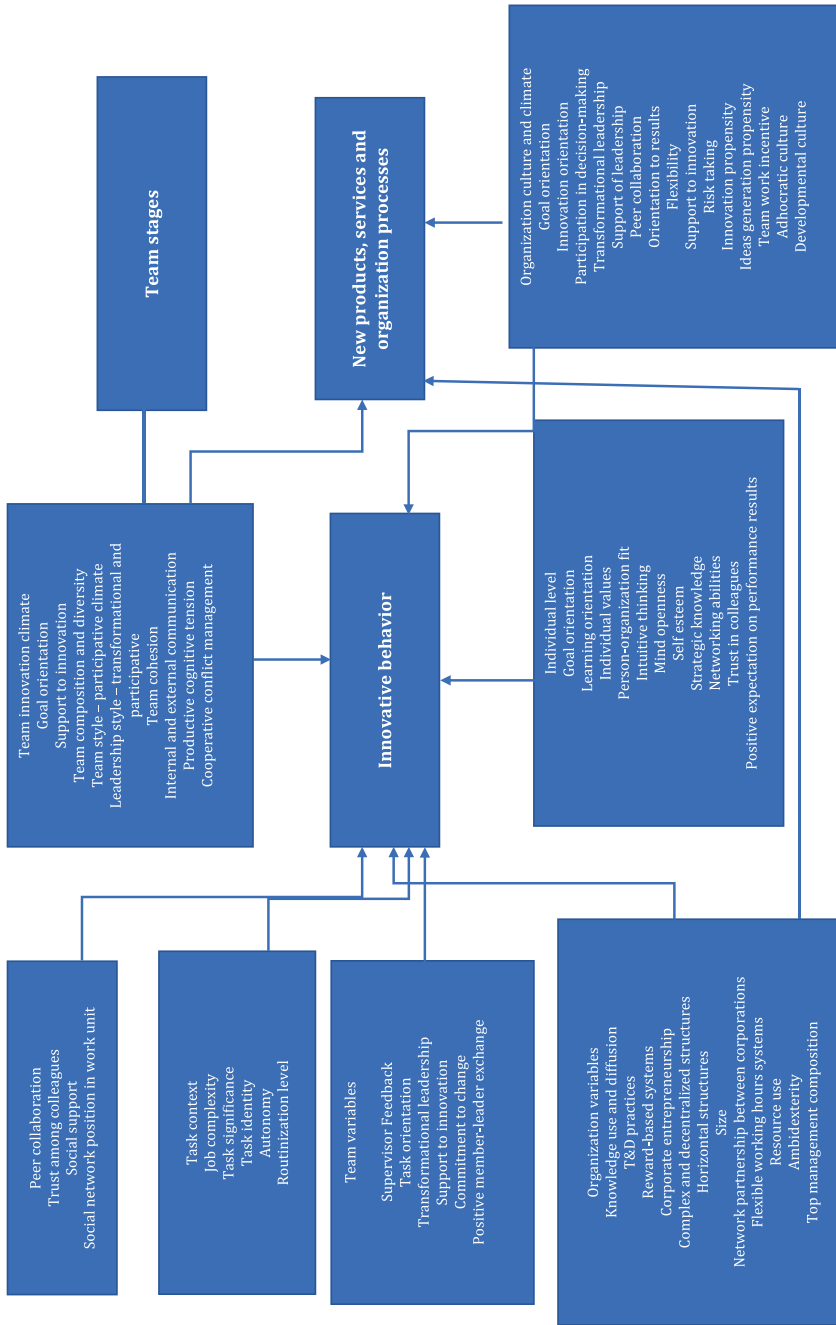
Fig. 9.1 Model with all variables in innovation studies

Tasks presenting more complexity and less routine and requiring more skills of professionals provide a favorable context for production and implementation of new ideas. Development of more meaningful tasks that identify themselves with professionals responsible for them increases the likelihood of producing innovations in terms of products, new services, and proposed ways of carrying out relevant activities.

The working group has key role, since it can be designed to encourage the creation and implementation of ideas. There are specific attributes of leadership/supervision as much as their peers. But climate of innovation idea at team level has been very fruitful. The management development courses should focus on skills that can be trained in management, such as providing feedback to subordinates, guiding to make clear tasks and reasonable expectations, offering support to innovation initiatives from subordinates, and creating a positive relationship with them. The commitment to change and a positive attitude to change programs need to be developed among the managers who are directly involved in innovation processes.

Confidence, cooperation, and support of colleagues in the development of ideas that generate innovation become fundamental. The relationship with colleagues can become the main inhibitor of creation and implementation of ideas. When these attitudes and behaviors are shared in a work team, there is construction of a climate for innovation that is fundamental in innovation processes and building a culture for innovation. The team management that fosters participation and encourages transformation in the workplace are features of this climate for innovation which is also characterized by the sharing of a vision, task orientation, cohesion, and cooperative management of conflicts. Tension and conflict in groups must exist but in manageable levels and focus on the tasks, which leads to the solution sharing to work problems. Relationship conflict levels managed inappropriately are very harmful to the teams that want to innovate.

The climate for innovation at team level appears to be the first step to building a culture of innovation or cultural orientation to innovation. Such cultural perspective has been characterized by orientation to goals, shared vision, orientation, innovation, cooperation, promotion of employee participation in decision-making, results orientation, flexibility in conducting of standards, valuation of change, offering support innovation stuff, development of risk propensity, generation of ideas, appreciation of work in teams, etc. These characteristics overlap to some extent, which shows that they are combined according to the organization's environment. Culture management consolidates interventions that have such purposes.

These interventions can be characterized by mechanisms of use and diffusion of knowledge among organizational members, offering training and development activities that promote construction and sharing of knowledge; introduction of performance-based reward systems; organizational restructuring aiming decentralized, complex structures with little differentiation of power; availability of resources for implementation of activities; implementing flexible working hours; and establishing partnerships with other organizations to set up innovation networks.

Larger organizations and a more diverse top management team are also reflected in higher innovation rates. The ambidexterity has been an organizational feature rather desired to enable the company to effectively manage the exploration activities

as the technology exploration should be conducted intensively to enable the achievement of sustainable competitive advantage by the company. Among the challenges experienced by companies, there is one related to the balance between organizational actions to support the current success and those that aim to drive future success. One can compare this challenge to simultaneous participation in two games with different rules and objectives. In one of the games, the company aims to short-term competitiveness and focuses on operational efficiency resulting from alignment of its strategy, structure, people, culture, and processes. At the same time, in search of the achievement of long-term success, rules of the second game are to understand how and when to start an innovation process for radical technological change in the organization.

Through the current capacity utilization activities, called exploitation in American language, actions for improvement and efficiency are included over the current products and processes in order to meet the needs of customers and markets already conquered. The exploitation activities enable refinement and implementation of the existing skills and knowledge, generating incremental innovation, enabling the deployment routines focusing on increasing the reliability of processes, and increasing profits in the short term. The activities of prospecting, called exploration in English, are aimed at seeking new skills and are related to the long-term returns. Features such as openness to experimentation, flexibility, risk acceptance, and interest in the development of radical innovations are presented as inherent in the process of exploration and exploitation of new ideas.

The main conclusion of this chapter concerns the need for actions on many levels in organization with the purpose of promoting generation and implementation of ideas and therefore fostering innovation process.

References

Amabile, T. M. (1996). *Creativity in context*. Boulder, CO: Westview.

Anderson, N., & Gasteiger, R. M. (2008). Innovation and creativity in organisations: Individual and work team research findings and implications for government policy. In B. Nooteboom & E. Stam (Eds.), *Micro-foundations for innovation policy* (pp. 249–271). Amsterdam, the Netherlands: Amsterdam University Press/WRR.

Anderson, N., & West, M. A. (1998). Measuring climate for work group innovation: Development and validation of the team climate inventory. *Journal of Organizational Behavior, 19*, 235–258.

Anderson, N., Potocnick, K., & Zhou, J. (2014). Innovation and creativity in organizations: A state-of-the-science review, prospective commentary, and guiding framework. *Journal of Management, 40*(5), 1297–1333. doi:10.1177/0149206314527128.

Apekey, T. A., McSorley, G., Tilling, M., & Siriwardena, A. N. (2011). Room for improvement? Leadership, innovation culture and uptake of quality improvement methods in general practice. *Journal of Evaluation in Clinical Practice, 17*(2), 311–318. doi:10.1111/j.1365-2753.2010. 01447.

Aragon-Correa, J., García-Morales, V. J., & Cordón-Pozo, E. (2007). Leadership and organizational learning's role on innovation and performance: Lessons from Spain. Elsevier Science. *Industrial Marketing Management, 36*(3), 349–359.

Araújo, R. F., & Alvarenga, I. (2011). A bibliometria na pesquisa científica da pós-graduação brasileira de 1987 a 2007. *Encontros Bibli: Revista eletrônica de biblioteconomia e ciência da informação, Florianópolis, 16*(31), 51–70. doi:10.5007/1518-2924.2011v16n31p51.

Baer, M. (2010). The strength-of-weak-ties perspective on creativity: A comprehensive examination and extension. *Journal of Applied Psychology, 95*, 592–601.

Baer, M., & Frese, M. (2003). Innovation is not enough: Climates for initiative and psychological safety, process innovations, and firm performance. *Journal of Organizational Behavior, 24*, 45–68.

Bakovic, T., Lazibat, T., & Sutic, I. (2013). Radical innovation culture in Croatian manufacturing industry. *Journal of Enterprising Communities: People and Places in the Global Economy, 7*(1), 74–80.

Baron, R. A., & Tang, J. (2011). The role of entrepreneurs in firm-level innovation: Joint effects of positive affect, creativity, and environmental dynamism. *Journal of Business Venturing, 26*, 49–60.

Barras, R. (1986). Towards a theory of innovation in services. *Research Policy, 15*(4), 161–173.

Battistelli, A., Montani, F., & Odoardi, C. (2013). The impact of feedback from job and task autonomy in the relationship between dispositional resistance to change and innovative work behavior. *European Journal of Work and Organizational Psychology, 22*(1), 26–41. doi:10.1080/1359432X.2011.616653.

Battisti, G., & Stoneman, P. (2010). How Innovative are UK Firms? Evidence from the Fourth UK Community Innovation Survey on Synergies between Technological and Organizational Innovations. *British Journal of Management, 21*, 187–206.

Bledow, R., Frese, M., Anderson, N., Erez, M., & Farr, J. (2009a). A dialectic perspective on innovation: Conflicting demands, multiple pathways, and ambidexterity. *Industrial and Organizational Psychology: Perspectives on Science and Practice, 2*, 305–337.

Bledow, R., Frese, M., Anderson, N., Erez, M., & Farr, J. (2009b). Extending and refining the dialectic perspective on innovation: There is nothing as practical as a good theory; nothing as theoretical as a good practice. *Industrial and Organizational Psychology: Perspectives on Science and Practice, 2*, 363–373.

Bockstedt, J., Druehl, C., & Mishra, A. (2015). Problem-solving effort and success in innovation contests: The role of national wealth and national culture. *Journal of Operations Management, 36*, 187–200.

Bruno-Faria, M. F., & Fonseca, M. V. A. (2014). Cultura de Inovação: Conceitos e Modelos Teóricos. *Revista de Administração Contemporânea, 18*(4), 372–396.

Burpitt, W. J., & Bigoness, W. J. (1997). Leadership and innovation among teams. *Small Group Research, 28*, 414–423.

Çakar, N. D., & Ertürk, A. (2010). Comparing innovation capability of small and medium-sized enterprises: Examining the effects of organizational culture and empowerment. *Journal of Small Business Management, 48*(3), 325–359. doi:10.1111/j.1540-627X.2010.00297.

Cameron, K., & Quinn, R. (1999). *Diagnosing and changing organizational culture*. Reading, MA: Addison Wesley Longman.

Camison-Zornoza, C., Lapiedra-Alcami, R., Segarra-Cipŕes, M., & Boronat-Navarro, M. (2004). A meta-analysis of innovation and organizational size. *Organization Studies, 25*, 331–361.

Chen, G., Liu, C., & Tjosvold, D. (2005). Conflict management for effective top management teams and innovation in China. *Journal of Management Studies, 42*(2), 277–300.

Chen, M., Lin, Y. C., Lin, C. Y., & McDonough, H. E. (2012). Does transformational leadership facilitate technological innovation? The moderating roles of innovative culture and incentive compensation. *Asia Pacific Journal of Management, 29*(2), 239–264.

Chen, G., Farh, J.-L., Campbell-Bush, E. M., Wu, Z., & Wu, X. (2013). Teams as innovative systems: Multilevel motivational antecedents of innovation in R&D teams. *Journal of Applied Psychology, 98*, 1018–1027.

Choi, J. N., & Chang, J. Y. (2009). Innovation implementation in the public sector: An integration of institutional and collective dynamics. *Journal of Applied Psychology, 94*, 245–253.

Choi, J. N., & Price, R. H. (2005). The effects of person-innovation fit on individual responses to innovation. *Journal of Occupational and Organizational Psychology, 78*, 83–96.

Choi, J. N., Sung, S. Y., Lee, K., & Cho, D. (2011). Balancing cognition and emotion: Innovation implementation as a function of cognitive appraisal and emotional reactions toward innovation. *Journal of Organizational Behavior, 32*, 107–124.

Clegg, C., Unsworth, K., Epitropaki, O., & Parker, G. (2002). Implicating trust in the innovation process. *Journal of Occupational and Organizational Psychology, 75*, 409–422.

Cohendet, P., & Simon, L. (2007). Playing across the playground: Paradoxes of knowledge creation in the videogame firm. *Journal of Organizational Behavior, 28*, 587–605.

Damanpour, F. (1991). Organizational innovation: A meta-analysis of effects of determinants and moderators. *Academy of Management Journal, 34*(3), 555–590.

Damanpour, F. (2010). An integration of research findings of effects of firm size and market competition on product and process innovations. *British Journal of Management, 21*, 996–1010.

Damanpour, F., & Gopalakrishnan, S. (2001). The dynamics of the adoption of product and process innovations in organizations. *Journal of Management Studies, 38*, 45–65. doi:10.1111/1467-6486.00227.

Damanpour, F., & Schneider, M. (2006). Phases of the adoption of innovation in organizations: Effects of environment, organization and top managers. *British Journal of Management, 17*, 215–236.

Damanpour, F., & Aravind, D. (2011). Managerial innovation: Conceptions, processes and antecedents. *Management and Organizational Review, 8*(2), 423–454.

Dobni, C. B. (2008). Measuring innovation culture in organizations: The development of a generalized innovation culture construct using exploratory factor analysis. *European Journal of Innovation Management, 11*(4), 539–559.

Donate, M. J., & Guadamillas, F. (2011). Organizational factors to support knowledge management and innovation. *Journal of Knowledge Management, 15*(6), 890–914.

Eurostat –Statistical Office of the European Communities. (2008). *Science, technology & innovation in Europe*. Luxembourg: Office for Official Publications of the European Communities.

Fagerberg, J., Martin, B., & Anderson, E. S. (2013). *Innovation studies: Evolution and future challenges*. Oxford: Oxford University Press.

Fernandez, S., & Wise, L. R. (2010). An exploration of why public organizations 'ingest' innovations. *Public Administration, 88*, 979–998.

Figueiredo, P. N. (2011). The role of dual embeddedness in the innovative performance of MNE subsidiaries: Evidence from Brazil. *Journal of Management Studies, 48*, 417–440.

Gajendran, R. S., & Joshi, A. (2012). Innovation in globally distributed teams: The role of LMX, communication frequency, and member influence on team decisions. *Journal of Applied Psychology, 97*, 1252–1261.

Gallouj, F., & Weinstein, O. (1997). Innovation in services. *Research Policy, 26*(4–5), 537–556.

Gobara, C., Rossoni, L., Kato, E., Dossa, A. A., & Hocayen-da-Silva, A. J. (2010). A influência das dimensões da cultura organizacional na inovação em serviços: Uma análise do setor hoteleiro. *Base – Revista de Administração e Contabilidade da Unisinos, 7*(4), 252–265.

Greve, H. R. (2003). A behavioral theory of R&D expenditures and innovations: Evidence from shipbuilding. *Academy of Management Journal, 46*, 685–702.

Hammond, M. M., Neff, N. L., Far, J. L., & Schwall, A. R. (2011). Predictors of individual-level innovation at work: A meta-analysis. *Psychology of Aesthetics, Creativity, and the Arts, 5*(1), 90–105. doi:10.1037/a0018556.

Hansen, M. B. (2011). Antecedents of organizational innovation: The diffusion of new public management into Danish local government. *Public Administration Journal, 89*(2), 285–306. doi:10.1111/j.1467-9299.2010.01855.

Hargadon, A. B., & Bechky, B. A. (2006). When collections of creatives become creative collectives: A field study of problem solving at work. *Organization Science, 17*, 484–500.

Hartnell, C. A., Ou, A. Y., & Kinicki, A. (2011). Organizational culture and organizational effectiveness: A meta-analytic investigation of the competing values framework's theoretical suppositions. *Journal of Applied Psychology, 96*(4), 677–694.

He, Z. L., & Wong, P. K. (2004). Exploration vs. exploitation: An empirical test of the ambidexterity hypothesis. *Organization Science, 15*(4), 481–494.

Heavey, C., Simsek, Z., Roche, F., & Kelly, A. (2009). Decision comprehensiveness and corporate entrepreneurship: The moderating role of managerial uncertainty preferences and environmental dynamism. *Journal of Management Studies, 46*, 1289–1314.

Hernández-Mogollon, R., Cepeda-Carrión, G., Cegarra-Navarro, J. G., & Leal-Millán, A. (2010). The role of cultural barriers in the relationship between open-mindeness and organizational innovation. *Journal of Organizational Change Management, 23*(4), 360–376. doi:10.1108/09534811011055377.

Hirst, G., Van Knippenberg, D., & Zhou, J. (2009). A cross-level perspective on employee creativity: Goal orientation, team learning behavior, and individual creativity. *Academy of Management Journal, 52*, 280–293.

Hirst, G., Van Knippenberg, D., Chen, C. H., & Sacramento, C. A. (2011). How does bureaucracy impact individual creativity? A cross-level investigation of team contextual influences on goal orientation-creativity relationships. *Academy of Management Journal, 54*, 624–641.

Hofstede, G. (1998). Attitudes, values and organizational culture: Disentangling the concepts. *Organization Studies, 19*(3), 477.

Hogan, S. J., & Coote, L. V. (2013). Organizational culture, innovation, and performance: A test of Schein's Model. *Journal of Business Research, 67*(8), 1609–1621.

Hogan, S. J., Soutar, G. N., McColl-Kennedy, J. R., & Sweeney, J. C. (2011). Reconceptualizing professional service firm innovation capability: Scale development. *Industrial Marketing Management, 40*(8), 1264–1273.

Howell, J. M., & Boies, K. (2004). Champions of technological innovation: The influence of contextual knowledge, role orientation, idea generation, and idea promotion on champion emergence. *The Leadership Quarterly, 15*, 123–143.

Hülsheger, U. R., Anderson, N., & Salgado, J. F. (2009). Team-level predictors of innovation at work: A comprehensive meta-analysis spanning three decades of research. *Journal of Applied Psychology, 94*, 1128–1145.

Hyland, P., & Beckett, R. (2005). Engendering an innovative culture and maintaining operational balance. *Journal of Small Business and Enterprise Development, 12*(3), 336–352.

IBGE –Instituto Brasileiro de Geografia e Estatística. (2010). *Pesquisa de inovação tecnológica –2008*. Rio de Janeiro: IBGE.

Isaksen, S. G., & Ekvall, G. (2010). Managing for innovation: The two faces of tension within creative climates. *Creativity and Innovation Management, 19*(2), 73–88.

Janssen, O. (2001). Fairness perceptions as a moderator in the curvilinear relationships between job demands, and job performance and job satisfaction. *Academy of Management Journal, 44*, 1039–1050.

Janssen, O. (2003). Innovative behaviour and job involvement at the price of conflict and less satisfactory relations with co-workers. *Journal of Occupational and Organizational Psychology, 76*, 347–364.

Janssen, O., & Van Yperen, N. W. (2004). Employees' goal orientations, the quality of leader-member exchange, and the outcomes of job performance and job satisfaction. *Academy of Management Journal, 47*, 368–384.

Jaskyte, K., & Dressler, W. W. (2005). Organization culture and innovation in nonprofit human service organizations.*Administration in Social Work, 29*, 23–41.

Jehn, K. A., Rispens, S., & Thatcher, S. M. B. (2010). The effects of conflict asymmetry on work group and individual outcomes. *Academy of Management Journal, 53*, 596–616.

Jung, D. I., Chow, C., & Wu, A. (2003). The role of transformational leadership in enhancing organizational innovation: Hypotheses and some preliminary findings. *The Leadership Quarterly, 14*, 525–544.

Jung, D., Wu, A., & Chow, C. (2008). Towards understanding the direct and indirect effects of CEOs' transformational leadership on firm innovation. *The Leadership Quarterly, 19*, 582–594.

Kanter, R. M. (1988). When a thousand flowers bloom: Structural, collective, and social conditions for innovation in organization. *Research in Organizational Behaviour, 10*, 169–221.

Karim, S. (2009). Business unit reorganization and innovation in new product market. *Management Science, 55*(7), 1237–1254.

Katila, R. (2002). New product search over time: Past ideas in their prime? *Academy of Management Journal, 45*, 995–1010.

Khazanchi, S. L., Lewis, M., & Boyer, K. (2007). Innovation-supportive culture: The impact of organizational values on process innovation. *Journal of Operations Management, 25*(4), 871–884.

Kijkuit, B., & Van den Ende, J. (2010). With a little help from our colleagues: A longitudinal study of social networks for innovation. *Organization Studies, 31*, 451–479.

Kimberly, J. R. (1981). Managerial innovation. In P. C. Nystrom & W. H. Starbuck (Eds.), *Handbook of organizational design* (pp. 84–104). Oxford, England: Oxford University Press.

Krause, D. E. (2004). Influence-based leadership as a determinant of the inclination to innovate and of innovation-related behaviors: An empirical investigation. *The Leadership Quarterly, 15*, 79–102.

Kyriakopoulos, K., & De Ruyter, K. (2004). Knowledge stocks and information flows in new product development. *Journal of Management Studies, 41*, 1469–1498.

Lassen, A. H., Gertsen, F., & Riis, J. O. (2006). The nexus of corporate entrepreneurship and radical innovation. *Creativity and Innovation Management, 15*, 359–372.

Latham, S. F., & Braun, M. (2009). Managerial risk, innovation, and organizational decline. *Journal of Management, 35*, 258–281.

Lau, C. M., & Ngo, H.-Y. (2004). The HR system, organizational culture, and product innovation. *International Business Review, 13*, 685–703.

Leal-Rodríguez, A. L., Ariza-Montes, J. A., Roldán, J. L., & Leal-Millán, A. G. (2014). Absorptive capacity, innovation and cultural barriers: A conditional mediation model. *Journal of Business Research, 67*(5), 763–768.

Liao, H., Liu, D., & Loi, R. (2010). Looking at both sides of the social exchange coin: A social cognitive perspective on the joint effects of relationship quality and differentiation on creativity. *Academy of Management Journal, 53*, 1090–1109.

Lichtenthaler, U. (2009). Absorptive capacity, environmental turbulence, and the complementarity of organizational learning processes. *Academy of Management Journal, 52*, 822–846.

Lin, T. Y., Chuang, L. M., Chang, M. Y., & Yeh, C. M. (2012). A study of the relationship between team innovation and organizational innovation in the high-tech industry: Confirmation of the organizational culture moderation effect. *Advances in Management & Applied Economics, 2*(2), 19–52.

Ling, Y., Simsek, Z., Lubatkin, M. H., & Veiga, J. F. (2008). Transformational leadership's role in promoting corporate entrepreneurship: Examining the CEO-TMT interface. *Academy of Management Journal, 51*, 557–576.

Linke, A., & Zerfass, A. (2011). Internal communication and innovation culture: Developing a change framework. *Journal of Communication Management, 15*(4), 332–348.

Liu, D., Chen, X., & Yao, X. (2011). From autonomy to creativity: A multilevel investigation of the mediating role of harmonious passion. *Journal of Applied Psychology, 96*, 294–309.

Machado, D. D. P. N., Gomes, G., Trentin, G. N. S., & Silva, A. (2013). Cultura de inovação: Elementos da cultura que facilitam a criação de um ambiente inovador. *RAI – Revista de Administração e Inovação, 10*(4), 164–182.

Martínez-Sánchez, A., Vela-Jiménez, M., Pérez-Pérez, M., & De-Luis-Carnicer, P. (2009). Inter-organizational cooperation and environmental change: Moderating effects between flexibility and innovation performance. *British Journal of Management, 20*, 537–561.

Martins, E., & Terblanche, F. (2003). Building organisational culture that stimulates creativity and innovation. *European Journal of Innovation Management, 6*(1), 64–74.

Menon, A., Chowdhury, J., & Lukas, B. A. (2002). Antecedents and outcomes of new product development speed: An interdisciplinary conceptual framework. *Industrial Marketing Management, 31*(4), 317–328.

Michaelis, B., Stegmaier, R., & Sonntag, K. (2009). Shedding light on followers' innovation implementation behaviour, the role of transformational leadership, commitment to change, and climate for initiative. *Journal of Managerial Psychology, 25*(4), 408–429.

Montalvo, C. (2006). What triggers change and innovation? *Technovation, 26*, 312–323.

Montani, F., Odoardi, C., & Battistelli, A. (2014). Individual and contextual determinants of innovative work behaviour: Proactive goal generation matters. *Journal of Occupational and Organizational Psychology, 87*(4), 645–670. doi:10.1111/joop.12066.

Nacinovic, I., Galetic, L., & Cavlek, N. (2010). Corporate culture and innovation: Implications for reward systems. *International Journal of Human an Social Sciences, 5*(1), 32–37.

Naranjo-Valencia, J., Sanz-Valle, R., & Jimenez-Jimenez, D. (2010). Organizational culture as determinant of product innovation. *European Journal of Innovation Management, 13*(4), 466–480.

Naranjo-Valencia, J., Jiménez-Jiménez, D., & Sanz-Valle, R. (2011). Innovation or imitation? The role of organizational culture. *Management Decision, 49*(1), 55–72.

Naranjo-Valencia, J., Jimènez Jimènez, D., & Sanz-Valle, R. (2012). ¿Es la cultura organizativa un determinante de la innovación en la empresa? *Cuadernos de Economía y Dirección de la Empresa, 15*, 63–72.

Narayanan, V. K., Yang, Y., & Zahra, S. A. (2009). Corporate venturing and value creation: A review and proposed framework. *Research Policy, 38*, 58–76.

Ng, T. W. H., Feldman, D. C., & Lam, S. S. K. (2010). Psychological contract breaches, organizational commitment, and innovation-related behaviors: A latent growth modeling approach. *Journal of Applied Psychology, 95*, 744–751.

O'Reilly, C., Chatman, J., & Caldwell, D. (1991). People and organizational culture: A profile comparison approach to assessing person-organization fit. *Academy of Management Journal, 34*(3), 487–516.

OECD. (2005). *Proposed guidelines for collecting and interpreting technological innovation data* – Oslo manual, Paris.

Ohly, S., Sonnentag, S., & Pluntke, F. (2006). Routinization, work characteristics and their relationships with creative and proactive behaviors. *Journal of Organizational Behavior, 27*, 257–279.

Oke, A. (2007). Innovation types and innovation management practices in service companies. *International Journal of Operations & Production Management, 27*(6), 564–587.

Patterson, M., West, M. A., Shackleton, V. J., Dawson, J. F., Lawthom, R., Maitlis, S., Robinson, D. L., & Wallace, A. M. (2005). Validating the organizational climate measure: Links to managerial practices, productivity and innovation. *Journal of Organizational Behavior, 26*, 379–408. doi:10.1002/job.312.

Perry-Smith, J. (2006). Social yet creative: The role of social relationships in facilitating individual creativity. *Academy of Management Journal, 49*, 85–101.

Perry-Smith, J., & Shalley, C. E. (2003). The social side of creativity: A static and dynamic social network perspective. *Academy of Management Review, 28*, 89–106.

Phelps, C. C. (2010). A longitudinal study of the influence of alliance network structure and composition on firm exploratory innovation. *Academy of Management Journal, 53*, 890–913.

Phelps, C., Heidl, R., & Wadhwa, A. (2012). Knowledge, networks, and knowledge networks: A review and research agenda. *Journal of Management, 38*, 1115–1166.

Pieterse, A. N., Van Knippenberg, D., Schippers, M., & Stam, D. (2010). Transformational and transactional leadership and innovative behavior: The moderating role of psychological empowerment. *Journal of Organizational Behavior, 31*, 609–623.

Pirola-Merlo, A., & Mann, L. (2004). The relationship between individual creativity and team creativity: Aggregating across people and time. *Journal of Organizational Behavior, 25*, 235–257.

Potočnik, K., & Anderson, N. (2012). Assessing innovation: A 360-degree appraisal study. *International Journal of Selection and Assessment, 20*, 497–509.

Prajogo, D. I., & McDermott, C. M. (2011). The relationship between multidimensional organizational culture and performance. *International Journal of Operations & Production Management, 31*(7), 712–735.

Pratoom, K., & Savatsomboon, G. (2012). Explaining factors affecting individual innovation: The case of producer group members in Thailand. *Asia Pacific Journal of Management, 29*(4), 1063–1087.

Puranam, P., Singh, H., & Zollo, M. (2006). Organizing for innovation: Managing the coordination-autonomy dilemma in technology acquisitions. *Academy of Management Journal, 49*, 263–280.

Rank, J., Nelson, N. E., Allen, T. D., & Xu, X. (2009). Leadership predictors of innovation and task performance: Subordinates' self-esteem and self-presentation as moderators. *Journal of Occupational and Organizational Psychology, 82*, 465–489.

Richard, O. C., Barnett, T., Dwyer, S., & Chadwick, K. (2004). Cultural diversity in management, firm performance, and the moderating role of entrepreneurial orientation dimensions. *Academy of Management Journal, 47*, 255–266.

Rosing, K., Frese, M., & Bausch, A. (2011). Explaining the heterogeneity of the leadership-innovation relationship: Ambidextrous leadership. *The Leadership Quarterly, 22*, 956–974.

Rothaermel, F. T., & Hess, A. M. (2007). Building dynamic capabilities: Innovation driven by individual-, firm-, and network-level effects. *Organization Science, 18*, 898–921.

Sanz-Valle, R., Naranjo-Valencia, J., Jiménez-Jiménez, D., & Perez-Caballero, L. (2011). Linking organizational learning with technical innovation and organizational culture. *Journal of Knowledge Management, 15*(6), 997–1015.

Sarros, J. C., Gray, J. H., Densten, I. L., & Cooper, B. (2005). The organizational culture profile revisited and revised: An Australian perspective. *Australian Journal of Management, 30*(1), 159–182.

Sarros, J. C., Cooper, B. K., & Santora, J. C. (2008). Building a climate for innovation through transformational leadership and organization culture. *Journal of Leadership and Organizational Studies, 15*(2), 145–158.

Schippers, M. C., West, M. A., & Dawson, J. F. (2015). Team reflexivity and innovation: The moderating role of team context. *Journal of Management*. doi:10.1177/0149206312441210.

Schneider, B., Ehrhart, M. G., & Macey, W. H. (2013). Organizational climate and culture. *Annual Review of Psychology, 64*, 361–388.

Schein, E. H. (1996). Culture: The missing concept in organization studies. *Administrative Science Quarterly, 41*(2), 229–240.

Schumpeter, J. A. (1935). The analysis of economic change. *The Review of Economics and Statistics, 17*(4), 2–10.

Scott, S. G., & Bruce, R. A. (1994). Determinants of innovative behavior: A path model of individual innovation in the workplace. *Academy of Management Journal, 37*, 580–607.

Sebora, T. C., & Theerapatvong, T. (2010). Corporate entrepreneurship: A test of external and internal influences on managers' idea generation, risk taking, and proactiveness. *International Entrepreneurship and Management Journal, 6*, 331–350.

Shalley, C. E., Gilson, L. L., & Blum, T. C. (2009). Interactive effects of growth need strength, work context, and job complexity on self-reported creative performance. *Academy of Management Journal, 52*, 489–505.

Sharifirad, M. S., & Ataei, V. (2012). Organizational culture and innovation culture: Exploring the relationships between constructs. *Leadership & Organization Development Journal, 33*(5), 494–517.

Shin, S. J., Kim, T. Y., Lee, J. Y., & Bian, L. (2012). Cognitive team diversity and individual team member creativity: A cross-level interaction. *Academy of Management Journal, 55*, 197–212.

Shipton, H. J., West, M. A., Parkes, C. L., Dawson, J. F., & Patterson, M. G. (2006). When promoting positive feelings pays: Aggregate job satisfaction, work design features, and innovation in manufacturing organizations. *European Journal of Work and Organizational Psychology, 15*, 404–430.

Simsek, Z., Veiga, J. F., & Lubatkin, M. H. (2007). The impact of managerial environmental perceptions on corporate entrepreneurship: Towards understanding discretionary slack's pivotal role. *Journal of Management Studies, 44*, 1398–1424.

Skerlavaj, M., Song, J. H., & Lee, Y. (2010). Organizational learning culture, innovative culture and innovations in South Korean firms. *Expert Systems with Applications: An International Journal, 37*, 6390–6403.

Smith, K. (2005). Measuring innovation. In J. Fagerberg, D. C. Mowery, & R. R. Nelson (Eds.), *The Oxford handbook of innovation*. Oxford University Press: Oxford.

Somech, A., & Drach-Zahavy, A. (2013). Translating team creativity to innovation implementation: The role of team composition and climate for innovation. *Journal of Management, 39*, 684–708.

Srivastava, M. K., & Gnyawali, D. R. (2011). When do relational resources matter? Leveraging portfolio technological resources for breakthrough innovation. *Academy of Management Journal, 54*, 797–810.

Stamm, B. (2009). Leadership for innovation: What you can do to create a culture conducive to innovation. *Strategic Direction, 25*(6), 13–15.

Steiber, A., & Alänge, S. (2013). A corporate system for continuous innovation: The case of Google Inc. *European Journal of Innovation Management, 16*(2), 243–264.

Stock, R., Siz, B., & Zacharias, N. (2012). Linking multiple layers of innovation-oriented corporate culture, product program innovativeness, and business performance: A contingency approach. *Academy of Marketing Science, 41*(3), 283–299.

Tellis, G., Prabhu, J., & Chandy, R. (2009). Radial innovation across nations: The preeminence of corporate culture. *Journal of Marketing, 73*, 3–23.

Thatcher, S. M. B., & Greer, L. L. (2008). Does it really matter if you recognize who I am? The implications of identity comprehension for individuals in work teams. *Journal of Management, 34*, 5–24.

Tidd, J., Bessant, J., & Pavitt, K. (2003). *Gestão da Inovação – Integração das mudanças tecnológicas, de mercado e organizacionais*. Ed. Monitor, Portugal.

Tierney, P. (2008). Leadership and creativity. In J. Zhou & C. E. Shalley (Eds.), *Handbook of organizational creativity* (pp. 95–124). Hillsdale, NJ: Erlbaum.

Tierney, P., & Farmer, S. M. (2004). The Pygmalion process and employee creativity. *Journal of Management, 30*, 413–432.

Tierney, P., & Farmer, S. M. (2011). Creative self-efficacy development and creative performance over time. *Journal of Applied Psychology, 96*, 277–293.

Uzkurt, C., Kumar, R., Kimzan, H. S., & Eminoğlu, G. (2013). Role of innovation in the relationship between organizational culture and firm performance: A study of the banking sector in Turkey. *European Journal of Innovation Management, 16*(1), 92–117.

Van der Vegt, G. S., & Janssen, O. (2003). Joint impact of interdependence and group diversity on innovation. *Journal of Management, 29*, 729–751.

Van Wijk, R., Jansen, J. J. P., & Lyles, M. A. (2008). Inter- and intra-organizational knowledge transfer: A meta-analytic review and assessment of its antecedents and consequences. *Journal of Management Studies, 45*, 830–853.

Vermeulen, P. A. M., Van Den Bosch, F. A. J., & Volberda, H. W. (2007). Complex incremental product innovation in established service firms: A micro institutional perspective. *Organization Studies, 28*, 1523–1546.

Wang, P., & Rode, J. C. (2010). Transformational leadership and follower creativity: The moderating effects of identification with leader and organizational climate. *Human Relations, 63*, 1105–1128.

West, M. A. (1990). The social psychology of innovation in groups. In M. A. West & J. L. Farr (Eds.), *Innovation and creativity at work: Psychological and organizational strategies* (pp. 309–333). Chichester, England: Wiley.

West, M. A., & Richter, A. (2008). Climates and cultures for innovation at work. In J. Zhou & C. E. Shalley (Eds.), *Handbook of organizational creativity* (pp. 211–236). Hillsdale, NJ: Erlbaum.

Wu, C., Parker, S. K., & De Jong, J. P. J. (2014). Need for cognition as an antecedent of individual innovation behavior. *Journal of Management*. doi:10.1177/0149206311429862.

Wu, S., Levitas, E., & Priem, R. L. (2005). CEO tenure and company invention under differing levels of technological dynamism. *Academy of Management Journal, 48*, 859–873.

Yuan, F., & Woodman, R. W. (2010). Innovative behavior in the workplace: The role of performance and image outcome expectations. *Academy of Management Journal, 53*, 323–342.

Zhang, Z., & Jia, M. (2010). Using social exchange theory to predict the effects of high-performance human resource practices on corporate entrepreneurship: Evidence from China. *Human Resource Management, 49*, 743–765.

Zhou, J. (2008). New look at creativity in the entrepreneurial process. *Strategic Entrepreneurship Journal, 2*, 1–5.

Zhou, J., & Shalley, C. (2003). Research on employee creativity: A critical review and directions for future research. In J. J. Martocchio & G. R. Ferris (Eds.), *Research in personnel and human resources management* (Vol. 22, pp. 165–217). Oxford, England: Elsevier Science.

Zhou, J., Shin, S. J., Brass, D. J., Choi, J., & Zhang, Z. (2009). Social networks, personal values, and creativity: Evidence for curvilinear and interaction effects. *Journal of Applied Psychology, 94*, 1544–1552.

Zhu, C., & Engels, N. (2014). Organizational culture and instructional innovations in higher education: Perceptions and reactions of teachers and students. *Educational Management Administration & Leadership, 42*(1), 136–158.

Chapter 10
Positive Rule Breaking and Implications for Organizations

Maria Cristina Ferreira, Marcos Aguiar de Souza, Claudio Vaz Torres, and Maria da Gloria Lima Leonardo

10.1 Introduction

For many decades, organization scholars have been devoted to understand the negative deviant workplace behaviors (Spreitzer & Sonenshein, 2004). The organizational psychology have labeled these behaviors in different ways, for example, workplace deviances, counterproductive behaviors, antisocial behaviors (Appelbaum & Shapiro, 2006), and lack of civility in the workplace (Robbins & Judge, 2007). These behaviors are typical to individuals and groups. The main characteristic of this behavior lays on the fact that these are volunteer acts to break the organizational rules, entailing losses to the organization and its members (Robbins & Judge, 2007; Rotundo & Spector, 2010). Actions such as frauds, drug abuse, thefts, vandalism, aggressions, sabotages, waste of time and material, intentional slowness to perform labor tasks, dissemination of rumors, refusal to cooperate, non-compliance with the supervisors' instructions, frequent delays, moral harassment, and lack of ethics in decisions are examples of this kind of behavior (Bayram, Gursakal, & Bilgel, 2009; Robinson & Bennett, 1995; Spector, Fox, & Domagalski, 2006).

However, more recently the positive deviant workplace behaviors in organizations have also deserved the scholars' attention, mainly after the expansion of the positive organizational psychology movement. Just like the negative deviant workplace behaviors, these behaviors violate the organizational rules, but their intention

M.C. Ferreira (✉) • M. da Gloria Lima Leonardo
Universidade Salgado de Oliveira, Rio de Janeiro, RJ, Brazil
e-mail: mcris@centroin.com.br; bgdgloria@gmail.com

M.A. de Souza
Universidade Federal do Rio de Janeiro, Rio de Janeiro, RJ, Brazil
e-mail: maguiarsouza@uol.com.br

C. Vaz Torres
Universidade de Brasília, Brasília, DF, Brazil
e-mail: claudiovtorres@gmail.com

is to benefit rather than harm the organization and its members (Robbins & Galperin, 2009). This chapter aims to approach the positive deviant workplace behaviors in organizations. It starts by discussing the concept of rules and their role in organizations. Next, it characterizes the positive workplace behaviors that deviate from the organizational rules regarding their definition, types, differences, and similarities. Then, it points out measurement instruments that are being developed to measure these behaviors, as well as the main antecedents in the light of theoretical propositions and empirical studies with this focus. Finally, it discusses the implications of these actions to the organizations, mainly regarding management.

10.2   What Are Organizational Rules?

Rules are a long-lasting object of study of social psychology that has been approached by several authors. The construct is eminently connected to the concept of social group, and, thus, it is important to characterize what is a social group. According to Sherif (1968), a group can be conceptualized as a social unit made up by a given number of individuals that in a given moment perform specific roles and relate one another.

Rules arise from social groups, since rules are beliefs shared by a given social group about how a person "should" act in relation to the others (Emmerich, Goldman, & Shore, 1971), i.e., the collective obligations or group rules that involve the "duty" since these are developed by the group to rule the behavior of its members (Feldman, 1991). In this sense, these are of descriptive and prescriptive nature because they are associated to descriptions about behavior standards that the group members should adopt (Miller & Prentice, 1996). Therefore, to exist, a rule must be shared by a group of individuals that must agree with it and be aware that the group members, according to their social status, should act and feel in a given way.

Miller and Prentice (1996) differentiate local from global rules. Local rules are characterized by "relative standards" built by small groups as they become necessary and which are used by the individual to compare and evaluate its position in relation to the group (individual level). Global rules, in turn, consist in absolute standards applicable to any social context, built from the consistent interaction of the individual with the dynamics of the society and culture. Jackson (1966) does not agree with the definition of rule at the individual level. According to the author, to define rule, one should approach it as an interactional and suprapersonal concept, i.e., as an attribute of culture.

According to Feldman (1991) rules are developed in four different ways: (a) by the social group leader to ensure his/her survival; (b) by a critical incident in the group's history, clarifying which behaviors are consistent with the group values; (c) by the first behavior that happens in the group and that characterizes the group routine; and (d) by behaviors brought by past works and that are considered standards of a profession. Regardless how the rule is built, culture always has remarkable influence on the development of a rule by the group (Triandis, 1994).

Based on these authors, we could say that rules refer to behaviors that a group considers acceptable in a given situation and are learned by the members of that social system. Just like any other organized group activity, these involve a standard of ideas and assume minimum consensus or approval by the social system. In other words, rules comprise behaviors approved by the social system. Moreover, rules embrace a set of behaviors considered acceptable or tolerable by the social group in a specific situation. This way, acceptable behaviors and agreement by the members of social groups about these behaviors are core elements to define the rule.

Although all-encompassing, this definition is also applicable to the organizational context. In the specific case of organizations, rules prescribe the acceptable behaviors to its members. In this sense, the ways to make decisions, communicate with superiors, and deal with coworkers are examples of behavior standards associated to organizational rules. On the other hand, rules also prescribe the sanctions applicable to those who violate the behaviors considered acceptable (Lux, Ferris, Brouer, Laird, & Summers, 2008). Therefore, rules limit the way people in a given group (e.g., the holders of a specific office in the organization) behave to be accepted by coworkers (Porras & Robertson, 1992). In brief, rule can be understood as a search for assurance of uniformity and thus of the work operation conform to what has been defined.

However, rules are not static, i.e., they have their own dynamisms since they are eminently bound to the interactions and exchanges taking place in the organizational environment. Therefore, rules are largely influenced by individual behaviors and reactions of the organization members (Lux et al., 2008).

Though, formal and informal, explicit or implicit rules should be differentiated, mainly in the organizational context. As mentioned, every rule limits how a person behaves. Yet, formal organizational rules refer to the procedures or behaviors considered standard, or to the rules to be followed and put in practice in most organizational situations and events (Freitas, 2010). This is not necessarily opposite to the informal rules, but the first prescribes and describes the set of behaviors to be adopted by groups in the organizations, including by its creator, and usually are explicit. These are associated to instruction handbooks, concern the proper procedures for specific situations, and could be related to forms of production, quality standards, and technical specifications (Smircich, 1983).

Informal rules, in turn, do not use to be explicit or written. Rules guide the behavior of individuals everyday in the organization, driving their behaviors ideally (but not necessarily) to achieve the organizational goals. They keep the notion, jointly with their formal counterpart, that these are the behaviors expected from individuals in each occasion (Fleury & Fischer, 1996). But they may go beyond, representing at heart the most surfaced and shared part of the organizational culture that relates to organizational goals, mainly when these are not congruent with the formal rules.

Finally, it is worth mentioning that the organization's informal regulatory system is grounded on impersonality; it should be followed by all under the penalty of very adverse or punitive consequences enforced by the different social groups part of the organizations; and these are highly sensitive to social interactions, being transmitted

and socialized by other elements of the organizational culture. Formal rules, in turn, are prescriptive. These inform, communicate, and update the behavioral standards expected from individuals in the organizations, officially and most of the times explicitly. Not always (or few times), these are coherent with the informal rules.

10.3 Characterizing the Positive Deviant Workplace Behaviors in Organizations

The first theorists interested in studying the positive deviant workplace behaviors, also known as prosocial rule-breaking behaviors or constructive deviance (Galperin, 2012), tended to characterize them as a construct opposite to the negative or dysfunctional deviant workplace behavior, because they consider that both behaviors were similar and, thus, could be integrated under the broader concept of rule breaking in organizations. In this sense, Warren (2003) considers that positive deviant workplace behaviors are acts that deviate from the reference group rules, but conform to the hyper rules (global beliefs and values), while Galperin (2002) defines these as behaviors that violate the most significant organizational rules to benefit the organization, i.e., contribute to its wellness. Spreitzer and Sonenshein (2004), in turn, characterize them as intentional and volunteer behaviors detached from the rules of a reference group, but in a honorable way, i.e., with the purpose to contribute to the organizational goals, regardless the consequences.

The positive organizational rules deviance are thus associated to volunteer and intentional acts that are not formally sanctioned by the organizations, but that benefit them economically and financially (Appelbaum, Iaconi, & Matousek, 2007). An example is when an employee violates the rules to solve a client's problem, to implement an innovative idea, or criticize an incompetent superior on behalf of the organization. In principle, these are not expected behaviors. Moreover, to be considered as such, the employee should consciously decide to significantly detach from the rules, to the point of being noticed (Spreitzer & Sonenshein, 2003). In other words, they are part of a volitional and conscious process of the employee who, due the force of habit, can even become automatic over time. In this sense, the violation of rules unknown to the organization members, rules accidentally disobeyed, or rules whose mandatory nature is not clear should not be considered a positive deviant workplace behavior (Morrison, 2006).

Hence, both positive and negative deviances of rules concern volunteer and intentional behaviors of the organization members and are focused on the general expectations about the acts practiced by those individuals. However, they differ in nature, since negative workplace deviances are naturally destructive, while the positive ones aim at the benefit of the organization.

In one of the earliest typologies developed to characterize the positive rules deviance, Galperin (2002) classified them in two categories: interpersonal deviances focused on individuals including, for example, behaviors such as disobedience to

orders of superiors to improve the organizational processes; and organizational deviances focused on the organization and subdivided into innovative behaviors and behaviors to challenge the organization. Innovative behaviors are associated to the implementation of creative ideas to solve the organization's everyday problems to help it, while behaviors of challenging the organization are related to acts to challenge the organization's rules to help it as, for example, in the cases of breaking rules to solve the clients' problems (Galperin & Burke, 2006).

Warren (2003), in turn, proposes that constructive deviances in organizations are a higher-order construct that comprises several positive behaviors that other authors have introduced in the organizational area. These are divergence of organizational principles (manifestation of disagreement with some organizational practices and attempts to change these; Graham, 1986); counter-role behaviors (actions in the opposite direction of the prescribed roles but aimed to remedy procedures and expectations of dysfunctional roles to the organization; Staw & Boettger, 1990); tempered radicalism (adoption of behaviors directed to transform the organization by individuals that do not fit into the organizational culture, but who are committed and productive; Meyerson & Scully, 1995); whistleblowing (communication of information about illegal or unethical practices adopted by the organization; Near & Miceli, 1995); voice expression (volunteer emission of ideas and opinions about ways to improve the labor context; Van Dyne & LePine, 1998); some types of prosocial behaviors (actions that extrapolate the office prescriptions but benefit the organization rather than directly benefiting the individual; O'Reilly & Chatman, 1986); some modalities of behaviors of organizational citizenship (discretionary behaviors that exceed the responsibilities of the office to which the employee has been appointed, and aim to assist coworkers and the organization; Organ, 1988); and creative or functional disobedience (acts of disobedience against morally questionable orders; Brief, Buttram, & Dukerich, 2001).

Adopting a position opposite to the aforementioned ones, instead of designing a classification of constructive deviances, Spreitzer and Sonenshein (2004) dedicated to establish some similarities and differences among four prosocial behaviors (organizational citizenship, whistleblowing, innovation, and corporate social responsibility) and the positive deviant workplace behaviors. According to the authors, although these behaviors share common characteristics of extrapolating the organization's rules to benefit it, being not practiced by most of the members and that they could be classified as honorable, they cannot be always considered as positive deviances from the rules.

Regarding the organizational citizenship that encompasses discretionary behaviors that could be labeled as honorable, Spreitzer and Sonenshein (2004) state that these differ from the positive deviant workplace behaviors because the first just extrapolates the requirements of the individual's specific office (such as performing the work of an absent workfellow), while the constructive deviances extrapolate the formal rules of the organization, although sometimes the office requirements may be congruent with a given rule of the organization. Another difference lays in the fact that citizenship behaviors always target to improve the organizational work, while positive deviances can contribute or not to that. Moreover, citizenship

behaviors are less intense as they are manifested through small acts of consideration for the organization, while positive deviances represent more substantial break of the organizational rules. Finally, the authors point out that citizenship behaviors entail little or no cost to the organization, as these are an extension of the prescribed roles. The positive deviant workplace behaviors, in turn, can result in considerable costs to the organization. Galperin (2012) also adds that organizational citizenship behaviors are more passive than the constructive deviances that usually are more proactive and involve risks.

Depending on its purpose, whistleblowing can be a constructive deviance or not, i.e., if it violates the organizational rules with honorable intention and prosocial motivation (Spreitzer & Sonenshein, 2004). In this sense, when it is practiced on the organization behalf, for example, in the cases of internal dissemination of actions that in the long term could damage the organization's reputation to allow the organization to change the course, it could be considered a constructive deviance. However, whistleblowing can also be adopted in one's own interest, like when an employee voluntarily discloses to the audience external to the organization any illegal practice that could damage it (the organization) for self-promotion, to obtain financial gains or pay back the organization. In these events, whistleblowing is considered a destructive deviance (Robbins & Galperin, 2009).

Sticking to innovative behaviors, Spreitzer and Sonenshein (2004) emphasize that although these typically seek to benefit the organization, they are not always honorable as is the case with the hackers, for example, that develop a new virus to hack into computers all over the world. Moreover, the innovative behaviors are not always a break of rules as happens, for example, with entertainment and advertising organizations where the rule is to be creative and innovative. Regarding the corporate social responsibility, specifically the adoption of organizational practices that benefit the society and, thus, the organization itself, the main difference is that it happens only at the organization level and could be congruent or not with the normative rules of other organizations of the sector. The positive deviant workplace behavior, in turn, mainly involves individual break of rules internal to the organization, although it could also refer to rule breaking by the organization (Spreitzer & Sonenshein, 2004).

In a more recent publication, Vadera, Pratt, and Misha (2013) resume the position advocated by Warren (2003) that positive deviances from rules can be considered a higher-order construct that comprises a wide range of constructive behaviors. According to the author, in the last decades, these behaviors have been investigated in separate, hindering the development of integrated models capable to foster research on the causes and processes shared by these practices. Based on this assumption, they propose a typology to positive deviances from rules in organizations, including some of the behaviors previously approached by Warren (2003)—counter-role behaviors, whistleblowing, voice expression, prosocial behaviors—added to the behaviors of creative performance, issue selling, taking charge, extra-role, and prosocial rule-breaking behaviors, because in their view, these also meet the required criteria to classify a behavior as positive or constructive rules deviance. These criteria are that they deviate from the reference

Table 10.1 Typologies of positive deviances of rules

Galperin (2002)	Warren (2003)	Vadera et al. (2013)
Interpersonal deviances	Divergence from organizational principles	Taking charge
Organizational deviances	Counter-roles behaviors	Counter-roles behaviors
	Tempered radicalism	Issue selling
	Whistleblowing	Whistleblowing
	Voice expression	Voice expression
	Prosocial behaviors	Prosocial behaviors
	Behaviors of organizational citizenship	Extra-role behaviors
	Creative or functional disobedience	Creative performance
		Prosocial behaviors of rule breaking

group rules, benefit the reference group, and are in line with the hyper rules of the organization.

According to Vadera et al. (2013), creative performance is characterized by the generation of new ideas or solutions to the organizational issues, while issue selling refers to actions the employee undertakes to influence the organizational agenda, making their superiors pay attention to some ideas the employee deems strategic to the organization.

The behaviors of taking charge are related to constructive efforts to make functional changes to how work is executed, while the prosocial behavior of breaking rules refers to the intentional violation of formal procedures, regulations and policies of the organization to benefit it, the clients, and coworkers. The authors' typology is one of the most all-encompassing. However, the authors recognize that, although all the behaviors included in it comply with the hyper rules and aim the benefit of the reference group, they not always stand for a deviance of the reference group's rules, except for the issue selling, prosocial rule-breaking behavior, and counter-role behaviors that necessarily imply positive deviance from the reference group's rules. Table 10.1 summarizes the main typologies of positive rule deviances approached in this paper.

10.4   How to Evaluate the Positive Deviant Workplace Behaviors in Organizations?

There are fewer measures of positive deviant workplace behaviors in organizations than measures of negative deviant workplace behaviors because of the historically greater interest on these last. However, more instruments to evaluate positive deviances have been developed in the last two decades, simultaneously to the increase

of empirical studies and the theorization about this matter. Next we present some of these tools. This is not an exhaustive list of the instruments developed up to these days for this purpose, since the boundaries between these behaviors and other related constructed are not yet clearly defined in the literature on this area. Therefore, we decided to include in this review not only the instruments available to evaluate the three types of behavior that Vadera et al. (2013) considered to be clearly allocated in the category of positive rule deviances (counter-role behaviors, issue selling, and prosocial behaviors of rule breaking) but also measures to evaluate this construct in a global way.

Regarding the counter-roles behavior, we found no instrument specifically developed to evaluate this construct whose psychometric properties have been tested. The only reference found on the construct was the study by Staw and Boettger (1990), where the authors analyze only one aspect of the counter-roles behavior, i.e., the review of tasks (action performed to correct an erroneous task). The research was of experimental nature and participants were allocated in different conditions. However, all of them received a text to review and then two independent evaluators coded the total number of ideas comprised in the review and the number of new ideas presented.

Similar to the counter-roles behaviors, no instrument specifically devised to evaluate the issue-selling behavior was found. However, Ashford, Rothbard, Piderit, and Dutton (1998), in a study about issue selling on gender equality, have adopted as the construct measurement a scale on the likelihood of success in issue selling, made up by three items to be answered in 7-point Likert scales, with internal consistency of 0.91. These items were "I am confident I could successfully sell this issue in my organization," "I believe I could make all the decision-makers in my organization buy this issue," and "I am confident I could make the decision-makers in my organization pay attention to this issue."

In a more recent study, Webber, Bishop, and O'Neill (2012) asked the respondents to report the issues sold to their superiors with success or not. Later, they calculated a success rate to each respondent, based on the number of successful events divided by the total number of events reported.

Differently from the two constructs mentioned, the prosocial rule-breaking behavior has scales psychometrically validated for evaluation. In a study of experimental nature, Morrison (2006) presented two scenarios to the participants describing situations that varied according to the meaning of work, autonomy, and the coworkers' behavior and developed a scale to evaluate the prosocial rule-breaking behavior. The instrument comprises six items to be answered on 5-point Likert-type scales, varying according to the likelihood or degree of comfort or agreement of respondent to violate the organization's rules. The one-factor scale presented internal consistency coefficient of 0.87 in the first scenario and 0.90 in the second one. Some examples of the scale items are "How likely you are to violate the organization's policy" and "I think that violating the organization's policy would be wrong."

Dahling, Chau, Mayer, and Gregory (2012) developed the General Pro-Social Rule Breaking Scale (GPSRBS) which tried to reflect the three dimensions of the prosocial rule-breaking behavior previously identified by Morrison (2006), namely,

rule breaking to improve, rule breaking to help coworkers, and rule breaking to provide better service to clients. Those items should be answered on 5-point scales ranging from never (1) to very frequently (5) according to the individuals' evaluation about his/her behavior in the workplace.

The questionnaire was applied to staff members of a university in the United States. The results of the exploratory factor analysis led to a solution of three factors and 13 items in which the first factor (rule breaking to improve performance) comprised five items; the second (rule breaking to help coworkers), four items; and the third factor (rule breaking to provide better service to clients), four items. The precision indexes of these factors calculated by the Cronbach's alpha coefficient were, respectively, 0.87, 0.81, and 0.86. Some examples of the instrument items are "I ignore the rules of my organization to reduce bureaucracy and work more efficiently" (factor 1), "I help other coworkers even if it means to disregard the organizational policies" (factor 2), and "I break the organizational rules to deliver better services to clients" (factor 3).

In another study with a sample of working students from a US university, Dahling et al. (2012) adopted confirmatory factor analysis procedures and found that the three-factor structure resulting from the first study was fully replicated in this second study. They also found a higher-order construct made up by the three factors. Accordingly, they observed that scores in this general factor presented negative correlations with conscientiousness and performance at work evaluated by supervisors and positive correlation with the counterproductive work behaviors. These results have then suggested validity of the scale construct. Leonardo, Ferreira, Valentini, and Gabardo-Martins (2016) adapted the scale to Brazilian samples, with good psychometric characteristics.

Regarding the evaluation of positive deviant workplace behaviors in general, Galperin (2012) developed a constructive deviance measurement to be answered on 7-point scales that ranged from never to everyday, according to the degree of engagement with deviant workplace behaviors in the last year. In two studies with Canadian university worker students, the explanatory and confirmatory factor analyses gave rise to a final instrument of nine items distributed in two factors: positive organizational deviance (five items) and positive interpersonal deviance (four items). Some examples of these items are "Not following a rule to meet the need of a client" (organizational deviance) and "Disobey the supervisor's instructions to work more efficiently" (interpersonal deviance).

Regarding the converging and discriminant validity of the instrument, the two positive deviance modalities were positively correlated to the innovative behavior and organizational citizenship and negatively correlated to obedience. Moreover, the interpersonal deviance showed positive correlation with the voice behavior. These results have then certified the scale construct validity.

10.5 Facilitators of Positive Deviant Workplace Behaviors in Organizations

One of the first theorizations about the facilitators of positive deviant workplace behaviors is that of Spreitzer and Sonenshein (2003), to whom organizational rules usually act as ways to control what individuals say and do. The authors advocate that to engage in positive deviant workplace behaviors, individuals should have five psychological conditions that could trigger these behaviors. These are sense of meaning, focus on the other, self-determination, personal efficacy, and courage.

Sense of meaning refers to the fact that the employee endeavors to make his/her tasks important to themselves, making them feel intrinsically motivated to seek novelties and challenges, i.e., adopt more proactive behaviors. Focus on the other, i.e., take perspective and empathy with the other, makes the individual try to cooperate with other coworkers, facilitating the emission of prosocial behaviors. When the individual is self-determined, s/he tends to feel more autonomous in attitudes and behaviors, i.e., with self-control on their actions, leading them to mainly adopt behaviors that conform to their own goals, in opposition to the organizational goals. Personal efficacy, i.e., belief in one's own capabilities, is also a motivational factor that makes individuals endeavor and perseverate in face of obstacles to achieve their goals. Finally, courage facilitates the positive deviant workplace behavior, as it is characterized by the individual's tendency to take risks, if s/he finds it necessary to reach his/her goals.

According to Spreitzer and Doneson (2005), psychological empowerment is another critical factor in the facilitation of positive deviant workplace behaviors. The authors thus advocate that when organizations, through their leaders, encourage members to participate in the decision-making, granting them more power to think and act, they are more likely to be more creative and engaged in risk behaviors that although not compliant with rules bring benefits to the organization.

In the last two decades, some empirical studies have tried to test these propositions. In one of the earliest studies for that purpose, Galperin (2002), who classifies positive deviant workplace behaviors as interpersonal and organizational deviances that are innovating and challenging the organization, found that access to information, autonomy in the workplace, and collectivist orientation are positively related to innovative behavior, while self-efficacy mediated the relationships between autonomy and innovation. Galperin and Burke (2006) analyzed the relationships of three workaholism dimensions (engagement with work, job satisfaction, and feeling of impulse to work) and the three modalities of positive deviant workplace behaviors. They found that engagement with work was positively associated to innovative positive deviances, and job satisfaction was positively correlated to the organization's innovative and challenging positive deviances. Chung and Moon (2011) were interested on the impact of psychological ownership on positive deviant workplace behaviors and found that this variable was correlated only to innovative positive deviances and interpersonal positive deviances. The collectivist orientation has also

moderated the feelings of psychological ownership with interpersonal positive deviances and of challenging the organization.

Adopting only two categories of positive deviant workplace behaviors (interpersonal and organizational), Bodankin and Tziner (2009) observed that neuroticism and pleasantness are negatively related to the positive organizational and interpersonal deviances, while openness to experience was positively correlated to both. Extroversion, in turn, was positively related only to the interpersonal constructive deviance. Also using only these two positive deviance modalities, Galperin (2012) concluded that Machiavellianism and access to information were positively related only to the positive organizational deviance, while self-efficacy was positively associated to the two types of positive deviance. Sticking only to innovative positive deviances, Yildiz, Eratz, Alpkan, Ates, and Sezen (2015) noted that such behaviors were positively associated to risk propensity, and this relationship was fully mediated by the skill of building significant social networks in the organization.

Specifically regarding the prosocial rule-breaking behavior, Morrison (2006) observed that risk propensity, autonomy in tasks performance, and information on rule breaking by coworkers were positively associated to that behavior. Huang, Lu, and Wang (2014), in turn, observed that transformational leadership was positively correlated to the prosocial rule-breaking behavior, and this relationship was fully mediated by autonomy in task performance.

Adopting meta-analytical procedures to analyze about 150 studies, Vadera et al. (2013) proposed a model of positive deviant workplace behavior that tries to integrate literature from different areas to systematize knowledge about the individual facilitators, of leadership, group, and organizational, as well as the mediators of this type of behavior. According to the model (Fig. 10.1), positive deviant workplace behavior is seen as a label comprising nine types of conducts (counter-role behaviors, whistleblowing, voice expression, prosocial behaviors, creative performance, issue selling, taking charge, extra-role behaviors, and prosocial rule-breaking behaviors).

The intrinsic motivation is one of the mediators of the relationships with such behaviors. According to the self-determination theory (Ryan & Deci, 2000), intrinsic motivation is defined by the impulse to engage with given tasks because these are interesting and pleasant. Thus, the model proposes that the innovative cognitive style (individual attribute characterized by the tendency of searching for and integrating different information, of redefining problems and generating new ideas) and transformational change (characteristic to the leader that encourages followers to argue, cope with challenges, have vision and focus on self-development) arise the individuals' motivations to engage in positive deviant workplace behaviors.

Blau's (1964) social exchange theory is adopted as the ground to the proposal that the feeling of obligation to the organization serves as mediator to the relationships of some individual characteristics (positive individual attitudes), of leadership characteristics (supportive, non-controller and engaged with quality exchange with subordinates), of the group characteristics (attachment to the group, group culture and rules, support of coworkers), and of organizational characteristics (organization's culture and climate, procedural justice, organizational support) with constructive
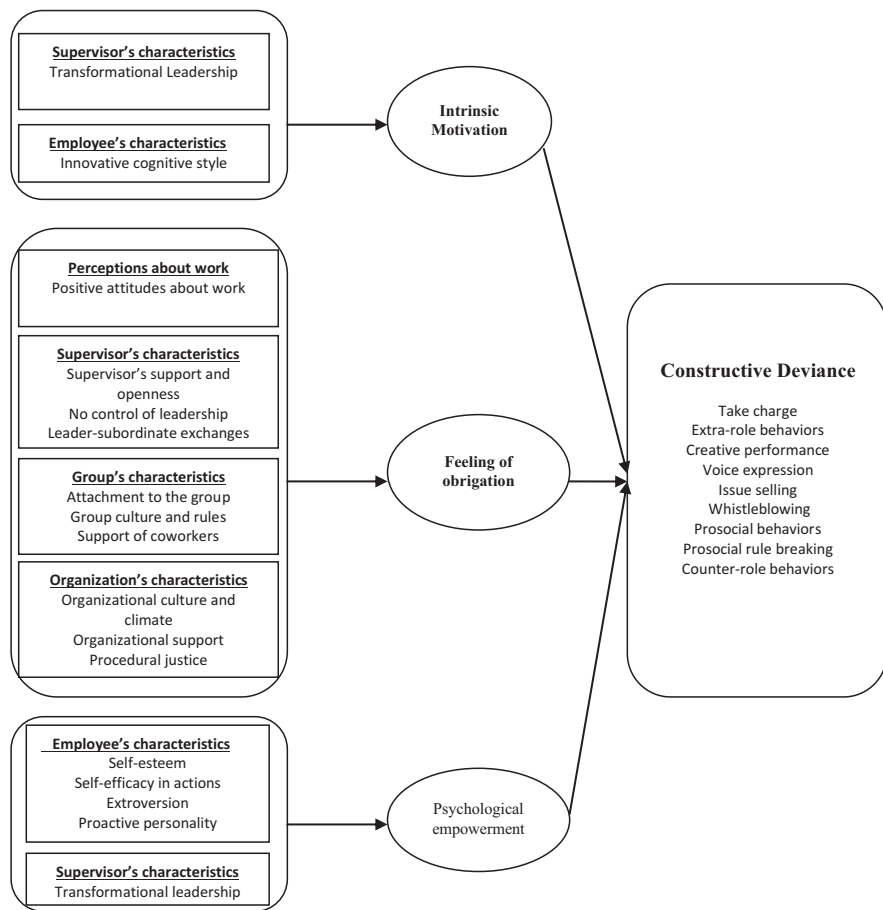
Fig. 10.1 A model of positive rules deviance (Source: Vadera et al., 2013)

deviances. Therefore, when employees perceive their work environment as positive, friendly, and productive, they feel obligated to reciprocate this context by engaging in positive deviant conducts to benefit the group and the organization.

Vadera et al. (2013) sustain that psychological empowerment is the third mediating mechanism to the relationships of several individual characteristics (self-esteem, self-efficacy, extroversion, proactive personality) and leadership characteristics (transformational leader) with positive deviant workplace behaviors. Therefore, according to the authors the employees' confidence about their own competences and skills to communicate and cope with situations, as well as the leader's trust in the employee, strengthen their beliefs in their capabilities, fostering engagement in constructive deviant workplace behaviors.

10.6   Managing the Positive Deviant Workplace Behaviors in Organizations

Organizations have rules that are usually developed in line with the organizational goals (Vardaman, Gondo, & Allen, 2014). As Appelbaum, Deguire, and Lay (2005) claim, the business ethic is defined by rules, codes, or principles that guide morally correct and reliable behaviors in specific situations. Therefore, organizations endeavor to make their members behave as expected.

Maybe that is why, when referring to rule breaking or deviance, the negative aspects are traditionally pointed out (Ferris, Brown, Lian, & Keeping, 2009). The logic is that things should work as they were conceived to work. After defining how the organization should work, many organizations set rules to guide the behaviors of their members. By analogy, rule deviance show that things are not going as expected.

Managers in general try to understand the causes of deviant workplace behavior considering the effects of that behavior on the organization as a whole, involving aspects ranging from negative impact on the organizational climate to financial losses (Muafi, 2011). As such, the main concern is to ensure that rules are followed, since deviant workplace behavior is perceived as something harmful that should be suppressed. In other words, managers try to identify the facts that contribute to rule deviance and endeavor to ensure a labor context capable of preventing this type of behavior.

More recently, however, academics found that positive deviant workplace behaviors, although opposite to the organizational rules, entail positive consequences to the organization and its members. However, the management of these behaviors poses huge difficulties to organizations regarding the tradition of appraising compliance to rules, which is considered to be the safest strategy for organizations to achieve their goals. As Sunday (2013) advocates, few organizations would accept creating or tolerating conditions that could encourage the emission of deviant workplace behaviors, even the positive ones.

Moreover, despite the positive deviant workplace behaviors, negative deviant workplace behaviors still exist in the organizations. This means to say that managers must simultaneously deal with both types of deviance. Suppressing negative deviant workplace behaviors remain of utmost relevance. Encouraging positive deviant workplace behaviors, in turn, is a recent challenge in the history of organizations.

In anyway, both positive and negative deviances indicate that something could be improved in terms of the rules that guide the workers' conduct in the organization. Therefore, it would be better update the organizational rules to ensure they are followed, making the organization more efficient. Put in another way, every positive deviant workplace behavior demands new changes. Vardaman et al. (2014) warn that members of an organization usually face situations in which violating the rules can effectively contribute to achieve the organization goals. For example, they refer to a restaurant manager who perceives that an important client was inadequately

served and may make the decision of offering not only the dessert, as provided for in the rules, but the whole meal for free. In other words, the best person to perceive if rules are responsive or not to the organization goals may be on the edge.

One should consider that in some situations rules are not contributing to the success of the organization. Bozeman (2000) considers that many organizations have rules that, although being followed, do not effectively contribute to the organization's success. These rules are considered unnecessary and associated to the waste of time and resources and sometimes even annoying. Therefore, the evaluation of a positive or negative deviant workplace behavior necessarily passes by the evaluation of the rules being violated. According to Kidwell and Martin (2005), employees may consider ethical, appropriate, and effective to deviate from rules and seek new solutions to problems in organizations where these activities are not encouraged.

According to Appelbaum et al. (2007), organizations seeking for long-term success should discourage the negative deviant workplace behavior and foster the positive work environment in which members adopt behaviors that contribute to the organizational goals. To that, organizations should reassess and redesign their rules as more efficient procedures arise. In brief, the pursuit for an environment that promotes the employees' wellness and prevents the arisal of negative deviant workplace behaviors that are so harmful to organizations should be a basic concern of the contemporary organizations.

10.7   Final Remarks

This chapter presented a review of the main concepts, theoretical models, and empirical findings related to positive rules deviance in organizations. Although being a recent phenomenon in the organizational literature, this topic has deserved an increasing number of publications. However, consultation to the national literature shows that this topic remains virtually unexplored in the agenda of the Brazilian researchers.

Taking into consideration the relevance of this phenomenon to better understand the behavior of individuals in work organizations, further studies should be devoted to analyze the many factors that contribute to build the nomological network of positive deviances from rule in the contemporary Brazilian organizations. In this regard, it is worth mentioning the model proposed by Vadera et al. (2013) which is a tool of heuristic value, useful to investigations aimed to improve knowledge about the antecedents of positive deviances from rule and of the psychological mechanisms that explain those relationships.

Regarding the consequents of positive deviant workplace behaviors, there is virtually no national and international research, although Spreitzer and Sonenshein (2003) have suggested these behaviors impact the subjective wellness of employees and the establishment of high-quality interpersonal relationships. As regards the effects of these behaviors to the organization, the authors point out that they are likely to contribute to enhanced organizational efficacy in the long term, as well as

to the construction and development of consensual rules in the business context. These affirmations, however, should be submitted to empirical verification.

Considering the different typologies of positive deviance from rules, future empirical research on the actual similarities and differences between the many types of deviance proposed in literature are also required, since comparisons made up to now are limited to the conceptual plan. In brief, the theorization and research in the field of positive deviances from rules is just taking the first steps. In this sense, a wide range of investigation possibilities is available to researchers interested in contributing to enhance knowledge about the implications of positive deviances from rules to individuals and organizations.

References

Appelbaum, S. H., & Shapiro, B. T. (2006). Diagnosis and remedies for deviant workplace behaviors. *The Journal of American Academy of Business, 9*, 14–20.

Appelbaum, S. H., Deguire, K. J., & Lay, M. (2005). The relationship of ethical climate to deviant workplace behavior. *Corporate Governance, 5*, 43–55.

Appelbaum, S. H., Iaconi, G. D., & Matousek, A. (2007). Positive and negative deviant workplace behaviors: Causes, impacts, and solutions. *Corporate Governance, 7*, 586–598.

Ashford, S. J., Rothbard, N. P., Piderit, S. K., & Dutton, J. E. (1998). Out on a limb: The role of context and impression management in selling gender-equity issues. *Administrative Science Quarterly, 43*, 23–57.

Bayram, N., Gursakal, N., & Bilgel, N. (2009). Counterproductive work behavior among white-collar employees: A study from Turkey. *International Journal of Selection and Assessment, 17*, 180–188.

Blau, P. M. (1964). *Exchange and power in social life*. New York: Wiley.

Bodankin, M., & Tziner, A. (2009). Constructive deviance, destructive deviance and personality: How do they interrelate? *Economic Interferences, 11*, 549–564.

Bozeman, B. (2000). *Bureaucracy and red tape*. Upper Saddle River, NJ: Prentice Hall.

Brief, A. P., Buttram, R. T., & Dukerich, J. M. (2001). Collective corruption in the corporate world: Toward a process model. In M. E. Turner (Ed.), *Groups at work: Theory and research* (pp. 471–499). Mahwah, NJ: Lawrence Erlbaum Associates.

Chung, Y. W., & Moon, H. K. (2011). The moderating effects of collectivistic orientation on psychological ownership and constructive deviant workplace behavior. *International Journal of Business and Management, 6*, 65–77.

Dahling, J. J., Chau, S. L., Mayer, D. M., & Gregory, J. B. (2012). Breaking rules for the right reasons? An investigation of pro-social rule breaking. *Journal of Organizational Behavior, 33*, 21–42.

Emmerich, W., Goldman, K. S., & Shore, R. E. (1971). Differentiation and development of social norms. *Journal of Personality and Social Psychology, 18*, 323–353.

Feldman, D. C. (1991). The development and enforcement of group norms. In R. M. Steers & L. W. Porter (Eds.), *Motivation and work behavior* (5th ed., pp. 220–230). New York: McGraw-Hill.

Ferris, D. L., Brown, D. J., Lian, H., & Keeping, L. M. (2009). When does self-esteem relate to deviant workplace behavior? The role of contingencies of self-worth. *Journal of Applied Psychology, 94*, 1345–1353.

Fleury, M. T. L., & Fischer, R. M. (1996). *Cultura e poder nas organizações* (2ª ed.). São Paulo: Atlas.

Freitas, M. E. (2010). *Cultura organizacional: Evolução crítica*. São Paulo: Cengage Learning.

Galperin, B. L. (2002). *Determinants of deviance in the workplace: An empirical examination of Canada and Mexico*. Unpublished doctoral dissertation, Concordia University, Montreal.

Galperin, B. L. (2012). Exploring the nomological network of workplace deviance: Developing and validating a measure of constructive deviance. *Journal of Applied Social Psychology, 42*, 2988–3025.

Galperin, B. L., & Burke, R. J. (2006). Uncovering the relationship between workaholism and workplace destructive and constructive deviance: An exploratory study. *International Journal of Human Resource Management, 17*, 331–347.

Graham, J. (1986). Principled organizational dissent: A theoretical essay. *Research in Organizational Behavior, 8*, 1–51.

Huang, Y., Lu, X., & Wang, X. (2014). The effects of transformational leadership on employee's pro-social rule breaking. *Canadian Social Science, 10*, 128–134.

Jackson, J. (1966). A conceptual and measurement model for norms and roles. *Pacific Sociological Review, 9*, 35–47.

Kidwell, R. E., & Martin, C. L. (2005). The prevalence (and ambiguity) of deviant workplace behavior at work: An overview. In R. E. Kidwell & C. L. Martin (Eds.), *Managing organizational deviance* (pp. 1–37). London: Sage.

Leonardo, M. G. L., Ferreira, M. C., Valentini, F., & Gabardo-Martins, L. M. D. (2016). Propriedades psicométricas da Escala Geral de Comportamento Pró-Social de Quebra de Normas [Psychometric properties of the general pro-social rule breaking scale]. *Avaliação Psicológica, 15*, 275–283.

Lux, S., Ferris, G. R., Brouer, R. L., Laird, M. D., & Summers, J. (2008). A multilevel conceptualization of politics. In J. Barling & C. L. Cooper (Eds.), *The Sage handbook of organizational behavior* (Vol. 1, pp. 353–370). Thousand Oaks, CA: Sage.

Meyerson, D., & Scully, M. (1995). Tempered radicalism and the politics of ambivalence change. *Organization Science, 6*, 585–600.

Miller, D. T., & Prentice, D. A. (1996). The construction of social norms and standards. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social psychology: Handbook of basic principles* (pp. 799–829). New York: Gilford.

Morrison, E. W. (2006). Doing the job well: An investigation of pro-social rule breaking. *Journal of Management, 32*, 5–28.

Muafi, J. (2011). Causes and consequences of deviant workplace behavior. *International Journal of Innovation, Management and Technology, 2*, 123–126.

Near, J. P., & Miceli, M. P. (1995). Effective whistle-blowing. *Academy of Management Review, 20*, 679–708.

O'Reilly, C. A., III, & Chatman, J. (1986). Organizational commitment and psychological attachment: The effects of compliance, identification and internalization on prosocial behavior. *Journal of Applied Psychology, 71*, 492–499.

Organ, D. W. (1988). *Organizational citizenship behavior: The good soldier syndrome*. New York: Lexington Books.

Porras, J. I., & Robertson, P. J. (1992). Organizational development: Theory, practice and research. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (Vol. 3, 2nd ed., pp. 719–822). Palo Alto, CA: Consulting Psychologists Press.

Robbins, D. L., & Galperin, B. L. (2009). Constructive deviance: Striving toward organizational change in healthcare. *Journal of Management and Marketing Research, 8*, 1–11.

Robbins, S. P., & Judge, T. A. (2007). *Organizational behavior*. Upper Saddle River, NJ: Pearson Prentice Hall.

Robinson, S. L., & Bennett, R. J. (1995). A typology of deviant workplace behaviors: A multidimensional scaling study. *Academy of Management Journal, 38*, 555–572.

Rotundo, M., & Spector, P. E. (2010). Counterproductive and withdrawal behaviors. In J. L. Farr & N. T. Tippins (Eds.), *Handbook of employee selection* (pp. 489–511). New York: Taylor & Francis.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*, 68–78.

Sherif, M. (1968). If the social scientist is to be more than a mere technician. *Journal of Social Issues, 24*, 41–61.

Smircich, L. (1983). Concepts of culture and organizational analysis. *Administrative Science Quarterly, 28*, 339–358.

Spector, P. E., Fox, S., & Domagalski, T. (2006). Emotions, violence, and counterproductive work behavior. In E. K. Kelloway, J. Barling, & J. Hurrell (Eds.), *Handbook of workplace violence* (pp. 29–46). Thousand Oaks, CA: Sage.

Spreitzer, G. M., & Doneson, D. (2005). Musings on the past and future of employee empowerment. In T. Cummings (Ed.), *Handbook of organizational development* (pp. 311–324). London: Sage Publishing.

Spreitzer, G. M., & Sonenshein, S. (2003). Positive deviance and extraordinary organizing. In K. Cameron, J. Dutton, & R. Quinn (Eds.), *Positive organizational scholarship* (pp. 207–224). San Francisco, CA: Berrett-Koehler.

Spreitzer, G. M., & Sonenshein, S. (2004). Toward the construct definition of positive deviance. *American Behavioral Scientist, 47*, 828–847.

Staw, B. M., & Boettger, R. D. (1990). Task revision: A neglected form of work performance. *Academy of Management Journal, 33*, 534–559.

Sunday, A. J. (2013). Workplace deviant workplace behaviour: A case study of Intels Nigeria Limited. *Research on Humanities and Social Sciences, 23*, 49–57.

Triandis, H. C. (1994). Cross-cultural industrial and organizational psychology. In H. C. Triandis, M. D. Dunnette, & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (Vol. 4, 2nd ed., pp. 103–172). Palo Alto, CA: Consulting Psychologists Press.

Vadera, A. K., Pratt, M. G., & Misha, P. (2013). Constructive deviance in organizations: Integrating and moving forward. *Journal of Management, 39*, 1221–1276.

Van Dyne, L., & LePine, J. A. (1998). Helping and voice extrarole behaviors: Evidence of construct and predictive validity. *Academy of Management Journal, 41*, 108–119.

Vardaman, J. M., Gondo, M. B., & Allen, D. G. (2014). Ethical climate and pro-social rule breaking in the workplace. *Human Resource Management Review, 24*, 108–118.

Warren, D. E. (2003). Constructive and destructive deviance in organizations. *Academy of Management Review, 28*, 622–632.

Webber, S. S., Bishop, K., & O'Neill, R. (2012). Trust repair: The impact of perceived organisational support and issue-selling. *Journal of Management Development, 31*, 724–737.

Yildiz, B., Eratz, S., Alpkan, L., Ates, H., & Sezen, B. (2015). Drivers of innovative constructive deviance: A moderated mediation analysis. *Procedia: Social and Behavioral Sciences, 195*, 1407–1416.

Chapter 11
Time Pressure, Pacing Styles, and Polychronicity: Implications for Organizational Management

Vinicius Carvalho de Vasconcellos

Time constitutes a fundamental dimension in organizational dynamics and conditions the execution of work at several levels. In spite of this centrality, there is reasonable consensus that time is routinely neglected in work and organizational psychology (WOP) and in administration (Ancona, Goodman, Lawrence, & Tushman, 2001; Caetano, 2012; George & Jones, 2000; Lee & Liebenau, 1999; Sonnentag, 2012). The reduced exploration of the theme in WOP has notably become harmful, considering that the incorporation of temporal aspects arises as a critical step in moving this area in the direction of greater theoretical and empirical sophistication (Shipp & Cole, 2015).

Faced with these points, this chapter reviews studies on three constructs that deal with the temporal relation of individuals with deadlines and tasks (time pressure, pacing style, and monochronicity/polychronicity), with emphasis on the relation of these constructs with performance, job satisfaction, and professional well-being. In line with the management proposal based on evidence (Pfeffer & Sutton, 2006), the proposal is to highlight practical implications of the study results and aid organizations in the development of management practices that improve the temporal relation of individuals with their work.

The first section discusses the very idea of time and the distinct concepts used to understand it. Next, the chapter describes how temporal aspects can be integrated into the analysis of organizational life so as to gain the attention of WOP and human resources (HR) professionals to the relevance of temporality in the understanding of daily labor experiences. The chapter then focuses on time pressure constructs, pacing style, and monochronicity/polychronicity, synthesizing the main results found in literature.

V.C. de Vasconcellos (✉)
Petrobras Inc., Rio de Janeiro, Brazil
e-mail: viniciuscarvalhodevasconcellos@gmail.com

11.1   Time Concepts

The ubiquity of time makes it widely familiar to individuals and social groups. In its most simple form, the time experience is immediate, that is, it prescinds any previous knowledge or reflexive deepening. In being so elementary, it is impossible to think of life without remitting to the passing of time. In effect, decisions, affections, cognitions, and individual behavior are so influenced by temporal aspects that this influence paradoxically becomes almost imperceptible. For example, the prosaic decision to have lunch at a determined restaurant is generally conditioned by past experiences at the location and/or the future expectation of tasting delicious, nutritious food.

The immersion of life in the temporal flow, strictly speaking, makes it difficult to think of time as a single, limited entity. As such, the conception of time remains elusive, notwithstanding the recurrent attempts to establish a definition in the history of philosophy and science.

If the ultimate definition of time continues to be a problem, it is possible to notice advances in the understanding of the temporal experience. This emerges from the perception that the world and its individuals are inescapably crossed by changes, a process delimited by the concepts of success and duration (Fraisse, 1984). The first is reported as the perception that two or more events are different and are sequentially organized. The second remits to the perception that there is (are) an interval (intervals) for the events to occur. Time experience, therefore, reflects a sense of order derived from the ability that our senses perceive that the events detain duration (beginning, middle, and end) and follow each other.

Duration and succession are at the base of the most usual representations of time in contemporary societies: temporal dimensions (past, present, and future), the clock, the chronometer, the calendar, and seasons of the year. These representations fraction the temporal *continuum*, making it more understandable. As such, humanity can appropriate time and use it to coordinate social function.

This human interest in time has placed time within the roots of scientific method. Studies on time as a natural (headed by physics) and psychosocial (led by psychology and sociology) phenomenon have left its mark on the history of science. Reviews on time recognize the equal existence and importance of each of these two fields of research (Ancona, Okhuysen, & Perlow, 2001; Lee & Liebenau, 1999; Orlikowski & Yates, 2002; Roe, 2006; Shipp & Cole, 2015). In these reviews, time as a physical-natural phenomenon is commonly labeled as objective time, even though other designations arise, like clock time, chronological time, or measured time. Time as a psychosocial phenomenon is normally called subjective time, even though there are other designations, such as social time, event time, or experienced time.

11.1.1   Objective Time

The conception of objective time supposes that time flows in a unidirectional/liner, homogenous, predictable, quantitative, absolute, and universal way (Ancona, Goodman et al., 2001; Lee & Liebenau, 1999; Shipp & Cole, 2015):

- Unidirectional/linear because it always evolves in the same sequence: past, present, and future.
- Homogenous and predictable because it elapses uniformly: 1 min always lasts 60 sec, just as 1 h always lasts 60 min.
- Quantitative since it is measured and expressed in infinitely divisible numerical units.
- Absolute and universal given that it is independent of events and individuals.

By means of calendars and clocks, the objective time controls from the launch of interplanetary probes to that afternoon coffee scheduled between friends. Specifically, the development and dissemination of the mechanical clock performed a critical role in diffusing the objective concept of time. Unlike the sun clock and the hourglass, imprecise and impractical timepieces, the mechanical clock conceded the ability for humanity to measure the duration/sequence of events in an exact, regular, accessible, and uninterrupted way (Whitrow, 2005). The regularity and precision of the mechanical clock quickly elevate it to the condition of metaphor of the function of nature, especially in scientific circles.

Newtonian physics, with its laws regarding mechanical bodies, was the epitome of this world vision sustained by the supposition of a rigorously objective time. Centuries later, the homogeneity/regularity of time was revisited by the Einstein Theory of Relativity. It proposes that time passes in different forms depending on the speed of the observer and the gravitational field of the bodies (Lee & Liebenau, 1999; Whitrow, 2005). It should be stated that Einstein's contributions, even though contesting the regularity and absolute character of time, do not transform it into a subjective phenomenon. They only indicated that time, yet conceived as a physical, natural, and quantitative variable, is influenced by other physical variables (observer speed and gravitational force).

11.1.2 Subjective Time

The second conception of time welcomes it as a subjective phenomenon. It is a nonlinear, heterogeneous, discontinuous, relative, and social time (Lee & Liebenau, 1999; Orlikowski & Yates, 2002; Shipp & Cole, 2015). In this conception, instead of being inexorably linear and progressive, time can assume a cyclical character. Many societies hold or held this perspective to organize their institutions and cultural practices (Eliade, 2005), always parting from the idea that history repeats itself. Periodically, these societies live the repetition of their creation, including a new cycle that purges past sins, problems, and sickness.

Subjective conception also puts time linearity and progressivity in check on the individual plane, notably in considering that thought can flow freely between the three temporal dimensions. For example, individuals, from the present moment, can relive memories or anticipate events that have not yet happened.

Subjective conception equally presupposes that time passes in a heterogeneous way. Some moments go by too quickly. Others drag by. This fluctuation in experiencing duration counters the supposition of temporal regularity. The positive psychology state of flow (Csikszentmihalyi, 2013) recognizes the alteration in the perception of duration. In this situation, individuals attain their optimum experience, where there is great intrinsic motivation and their attention is totally invested in the established objectives and challenges. In the flow experience, individuals state that "time flies" and are surprised at how time has passed (objectively) during the activity.

The discontinuity of time is another characteristic of subjective time. This discontinuity is condensed in the idea of time of events (Ancona, Goodman et al., 2001; Roe, 2006), which is manifest in the form of marking the temporal flow by means of significant events, in detriment to the continual sequence of minutes, hours, days, and years. For example, individuals usually use events such as a move from the city or a wedding to delimit periods of their life. Natural tragedies, economic crises, and changes in government operate in the same way for societies and countries.

Finally, the subjective concept attributes a social or relative meaning to time. In contrast to absolute time, the approach recognizes that time acquires meaning in passing through collective interpretations and conventions. In this direction, cultures are different as to the rhythm of their daily activities, time structure (continuous or discreet), directionality (linear or cyclical), and the temporal perspective (focus on the past, present, or future). Synthesizing, each society develops its own references of temporality.

11.1.3   Objective and Subjective Time: Possible Interfaces

The conceptions of objective and subjective time are in constant contact in the daily life of individuals. In this sense, calendars are emblematic, because they were developed based on the mix of objective astronomical phenomenon with social conventions. More precisely, the number of days and months finds it roots in the solar and lunar cycles, physical phenomena that are objectively measureable. However, since the monthly division (lunar cycle) and the yearly division (solar cycle) into days do not result in whole numbers (29.54 and 365.24 days, respectively), societies developed different forms to accommodate the fractions that remained (Frank, 2011). As a matter of fact, the Christian, Jewish, and Chinese calendars are not only in distinct years as they also separate different months and days to celebrate the New Year.

It is also interesting to note that calendars and clocks are socially produced products. However, they are also artifacts that symbolize the objectivity of time since they are fixed on a precise temporal scale that transcends the individual experience (Roe, 2006). As such, the borders that separate the two conceptions of time are more porous and flexible than one could suppose. In the face of what has been shown, there is no reason to defend one of the conceptions to the detriment of the other. At the heart, the existence of both favors the understanding of time. Recent publications have sought to overcome the simple dichotomy between the conceptions of

time, attesting to their complementarity (Roe, 2006; Shipp & Cole, 2015; Shipp & Fried, 2014).

Recognizing the two faces of the phenomenon, it is here assumed that objective time is the conception that sustains time as an essentially continuous, linear, and predictable phenomenon that transcends individual/group subjectivity (even when recognizing human intervention in the form of measuring and structuring). In complement, subjective time expresses time as a discontinuous, nonlinear, heterogeneous phenomenon that is relative to the particular experiences of individuals and societies. These two conceptions contribute to the understanding of the temporal variables and constructs in the organizational context, core of the next section.

11.2 Time and Organizations

Time is a structuring condition for labor and organizations. That is, work is executed within a determined duration, sequence, and rhythm in the flow of time. Meetings, projects, processes, and contracts present a beginning, middle, and end, covering days and specific schedules. Organizational events such as publishing profit reports and professional performance evaluations are distributed on the calendar and programmed to occur periodically.

The time-labor-organization relation, even though a topic debated since the birth of scientific administration, acquired a new connotation in the last decades. Technological innovations, globalization, and the increase in competition have awakened a process of organization acceleration where the continuous implantation of changes and the intensification of the pacing style converge in the attempt to "shrink" time and increase productivity (Caetano, 2012). This scenario drives employees to make quicker decisions, reduce their answer time, and engage in more activities at the same time. The sensation that time is something scarce in organizations is becoming more and more pronounced, and the defense of temporal balance between personal life and work emerges as a contemporary theme of discussion.

Temporal acceleration may have sensitized academics in the organizational world regarding the time theme. In fact, at the turn of the millennium, a series of theoretical articles and reviews demanded more attention to time in the organizational context (Ancona, Goodman et al., 2001, Ancona, Okhuysen et al., 2001; George & Jones, 2000; Lee & Liebenau, 1999). This call resounded in the subsequent years and the number of organizational studies that broached temporal aspects grew (Shipp & Cole, 2015). Regardless of this evolution, the field still lacks integration and coherence between the diverse forms of research (Ancona, Okhuysen et al., 2001).

In the literature, the most elementary distinction between the forms of incorporating time in the analysis of organizations refers to the difference between the use of time as a temporal reference or as a temporal variable/construct. As a temporal reference, time is understood as means by which changes materialize (Shipp & Cole, 2015) or as a context that involves and limits happenings (Sonnentag, 2012). Longitudinal studies show the use of time as a temporal reference in academia. In this case, time is not the focus of interest. It is as a marker to capture the variations

of the constructs, processes, and relations in the temporal *continuum* (Chan, 2014; Shipp & Cole, 2015). In the role of temporal reference, time is essentially based on the conception of objective time (Chan, 2014). It is the time conception that does not depend on the subjectivity of each individual, characteristic that, by the way, permits it to operate like a reference to events and activities.

On the other hand, as a temporal variable/construct, time is no longer a support and assumes substantive role in analyses (Shipp & Cole, 2015; Sonnentag, 2012). In this sense, its relation to other variables can be directly tested in models. Time, in this case, ceases to be the means or marker for the manifestation of other variables, and the focus falls on the temporal characteristics of the actors or activities/events. In general, temporal variables and constructs can vary in function of the conception of subjacent time, on the level of analysis and focus of investigation.

In fact, temporal variable/constructs can be supported by both the objective conception and the subjective conception of time. The duration of the tasks provides an enlightening example. On the one hand, it is possible to objectively assess duration (clock time). On the other hand, it is possible to inquire the professionals regarding their perception of the passage of time. This last type of study inserts itself in the line of research regarding temporal perception, that is, the form in which individuals learn/estimate the passage of time by means of their senses (Ancona, Okhuysen et al., 2001). In fact, there are reports by professionals in organizations on how "time flew" (e.g., in the experience of flow) or how "time dragged on" during a determined workday. Rhythm, sequence, and interval between activities are subjects that can be analyzed with an objective measure or with perceptions and experiences reported by professionals, depending on the objectives of each investigation.

Temporal variables/constructs vary equally in function of the different levels of analysis (individual, group, and organizational). An illustration of a typical construct at the individual level is temporal depth, the tendency of individual to concentrate in certain temporal "distances" (the extension of the future or the past) in thinking about events and making decisions (Shipp & Cole, 2015). At the group level, it is possible to underscore the shared temporal cognitive construct, conceived as the degree of team member congruence representations regarding the temporal aspects of collective tasks, such as deadlines, chronograms, and activity pace (Mohammed & Nadkarni, 2014).

In turn, organizational culture temporal norms constitute an example of construct at the organizational level. It refers to the norms and values that govern behavior and the relation of professionals to time in the organizations (Zellmer-Bruhn, Gibson, & Aldag, 2001). The way of establishing deadlines and chronograms, pacing style, punctuality, and the degree of autonomy in the use of time express manifestations of the temporal norms existent in a determined organization.

Besides the conception of subjacent time and the level of analysis, temporal variables/constructs retain different investigation foci or, rather, can value distinct aspects of the temporal phenomenon. Developing previous contributions (Ancona, Okhuysen et al., 2001; Chan, 2014; Shipp & Cole, 2015), this chapter proposes the existence of three basic investigation foci in order to confer greater comprehensibility and clarity to this field of study.

The first focus gathers variables/constructs that primarily broach the temporal characteristics of activities or events. The task duration, a previously cited variable, constitutes a basically intuitive illustration of this first focus. This variable can be analyzed based on the objective or subjective conception of time (temporal perception) on different organizational levels. In all scenarios, even in the case of temporal perception, the focus does not fall on a characteristic of the actors, but on an activity/event attribute.

The second focus incorporates variables/constructs that emphasize actor characteristics and experience in their relation to time. It includes variables based on the objective conception of time, such as individual punctuality and attendance or the group/organization workday rules. It also incorporates constructs inserted into the subjective conception of time, such as the temporal perspective, that is, the degree of attention or cognitive emphasis characteristically devoted by individuals in thinking of the past, present, and future (Zimbardo & Boyd, 1999). Temporal depth, shared temporal cognition, and temporal organization cultural norms, constructs previously cited, are also inserted in this second focus of the investigation.

The third focus involves variables/constructs that highlight the actor trajectory in the time. In practice, the second and third foci differ in that the third focus, instead of dealing with actor characteristics in their relation to time, reflects the eventual actor route and changes considered in their past, present, and future. Professional résumé and career planning, as well as the formal history of groups and organizations, are illustrated as the objective time conception can be applied in this focus. Narratives regarding the past and aspirations/expectations for the future, on the contrary, represent a subjective time conception in the analysis of actor trajectories.

In the chapter sequence, research on temporal pressure constructs, pacing style, and monochronicity/polychronicity will be described and their day-to-day implications in organizations debated. These constructs share some characteristics: (a) they broach the way actors deal with deadlines and the distribution of tasks in time, (b) are based on the subjective conception of time, (c) can be investigated in different levels of analysis, and (d) are tied to the second focus of investigation. They were selected in virtue of their practical relevance and their visceral connection with the contemporary discussion on the temporal acceleration of organizations, previously highlighted. The accent rests on evaluating how such constructs relate to variables critical to organizations, such as performance, work engagement, work satisfaction, and well-being at work.

11.2.1   Temporal Pressure

Feeling the pressure of a deadline is one of the most eloquent forms of perceiving the importance of time in organizations. In effect, a large part of employees, in consulting their list of tasks, work, and projects, experience the sensation that they will lack time to complete them. Literature has studied this experience by means of the

temporal pressure construct, defined as the perception that the time available to complete the task(s) seems to be insufficient and that a violation of the deadlines will end in undesirable consequences (Gevers, van Eerde, & Rutte, 2001; Rastegary & Landy, 1993). By focusing on perceptions, the construct is linked to the subjective conception of time.

It is possible to better understand temporal pressure by differentiating it from other construct: temporal urgency. This construct alludes to the individual's degree of concern with the passing of time, in a way that individuals with an elevated degree of temporal urgency are chronically in a hurry (Mohammed & Harrison, 2013). Temporal urgency is conceived as a relatively stable characteristic, manifesting itself in multiple situations in the life of the individual. On the other hand, temporal pressure does not reflect a long-term personal characteristic: it arises in specific situations where imposed external restrictions (notably the determination of a deadline) are perceived as worrying (Mohammed & Harrison, 2013).

11.2.1.1 Variables Related to Temporal Pressure

Literature regarding temporal pressure reveals that it does not appear to be decisively influenced by demographic variables. In recent studies, the relation of temporal pressure to gender, level of education, age, length of career, and number of children is inexistent or weak (Baer & Oldham, 2006; Höge, 2009; Kühnel, Sonnentag, & Bledow, 2012; Sonnentag, 2001).

On the other hand, there is robust evidence that associates temporal pressure and negative work experience. For example, several studies attest to temporal pressure as a consistent precursor to stress, burnout, and emotional exhaustion (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Rastegary & Landy, 1993; Schaufeli & Bakker, 2004; Zacher, Jimmieson, & Bordia, 2014). This view is illustrated in the work demands-resources model, which seeks to explain the emergence of burnout (Demerouti et al., 2001). This model typifies temporal pressure as one of the elements that can unleash exhaustion when the mental/physical effort is high and employees do not have the resources to deal with it (e.g., such a leadership support).

In the same frame, there are indications that temporal pressure is positively and moderately associated with irritation at work, family-work conflict, and psychosomatic complaints, such as nausea and headaches (Höge, 2009). Qualitative research also suggests that the effect of temporal pressure is not limited to stress and burnout, similarly including musculoskeletal disturbances (Fernandes, Assunção, & Carvalho, 2010).

Research indicates that the increase in temporal pressure adds negative work experiences; others show that high temporal pressure levels reduce positive work experiences. There is evidence that the variable reduces job satisfaction in sales personnel (Jones, Chonko, Rangarajan, & Roberts, 2007) and in civil construction workers (Zacher et al., 2014). Sonnentag (2001), in a daily follow-up study with teachers, noticed that the higher the temporal pressure at work, the less the indi-

vidual well-being (measured by affective states) on the evening of the same day. Kahneman, Krueger, Schkade, Schwarz, and Stone (2004), considering a sample of professionals from multiple organizations, indicated that the amount of positive affective episodes at work is significantly higher in the absence of temporal pressure than in its presence.

In contrast, the literature also contains evidence that temporal pressure can favor, in determined circumstances, work involvement. Schmitt, Ohly, and Kleespies (2015) found evidence of a curvilinear relation (in the form of ∩) between the variables. They highlight, however, that the existing involvement under moderate pressure levels is only sustained when the tasks are evaluated as reasonable and necessary by the professionals. In his part, Kühnel et al. (2012) informed that the relation between temporal pressure and work involvement seems to depend on control over work, understood as the ability of the professional to influence the execution and fulfillment of their tasks. When there is a high level of control, the temporal pressure favors involvement; when control is low, temporal pressure impairs involvement. At the group level, data arises that reinforces this understanding: groups working under temporal pressure present an increase in involvement when there is the collective perception of the effectiveness of performing the task (Salanova, Llorens, Cifre, Martínez, & Schaufeli, 2003).

The capacity of temporal pressure to tie itself to both negative and positive experiences finds backing in another investigation (Widmer, Semmer, Kälin, Jacobshagen, & Meier, 2012). These authors argue that temporal pressure is a challenge stressor or, rather, a work demand that, even though potentially stressing, can occasion benefits for the individuals. The collected data corroborates this understanding: temporal pressure positively associated itself to tension at work and organizational self-esteem (belief by individuals regarding their value to the organization). In this last case, the authors interpret that temporal pressure provides opportunities for individuals to show their competence and motivation. As such, in case the temporal pressure challenge is superseded, professional self-evaluation and self-esteem tends to go up.

Another set of investigations dedicated itself to clarify the link between temporal pressure and work performance. Rastegary and Landy (1993) point out that some studies in this area report an association between elevated levels of temporal pressure and high performance. This tendency is explained mainly in function of the role of motivation: the perception of the scarcity of time motivates individuals to work more intensely to meet the deadline.

However, these results appear to portray a partial and incomplete picture of the relation between temporal pressure and performance. This same review (Rastegary & Landy, 1993) exposes that, in the majority of cases, this relation tends to be curvilinear (in the form of ∩), such that very low levels or very high levels of pressure generate effects damaging to performance.

Furthermore, the effect of temporal pressure on performance appears to vary according to the type of task performed (Karau & Kelly, 2004). For example, Mohammed and Harrinson (2013), summarizing previous research, reinforce that temporal pressure situations appear to be refractory to tasks that demand creativity.

In these situations cognitive processing becomes excessively rapid, simplified, and shallow, inhibiting more complex formulations. In other words, the mind "closes" and convergent thinking prevails instead of exploratory thinking. Empirical studies suggest that elevated temporal pressure undermines the creative cognitive process and that high levels of creativity more easily arise in moderate pressure environments, where there is support for creativity (Amabile et al., 2002; Baer & Oldham, 2006).

Complexity in relation to temporal pressure-performance extends itself to the literature centered on the group analysis level. Such complexity is represented in the focus of attention model (Karau & Kelly, 2004), which establishes that the interaction between temporal pressure, task characteristics (e.g., its complexity), group structure (such as composition and cohesion), and individual differences (such as personality and abilities) determines the group focus of attention and, subsequently, its performance.

Empirical tests of this model corroborate that the effects of temporal pressure on group performance strongly depends on the characteristics of the tasks (Karau & Kelly, 2004). When the task is simple and there is clear and sufficient information, pressure can increase performance, with help from professionals to center attention on the task and use heuristics, and avoid procrastination and unnecessary discussions. When the task is complex, pressure tends to debilitate performance, since it reduces the communication time between members, reduces the set of information, and prematurely narrows the list of possible solutions. The authors also compiled evidence that supports the curvilinear relation (in the form of ∩) between the variables, which means that the optimum performance point is reached at the intermediary pressure point.

Besides the task characteristic, another temporal pressure-performance moderator received attention in the literature: the belief/perception that the group would be able to complete the task. Even though it was not previously seen in the focus of attention model, researchers tested the role of this variable with the constructs group potency (Gevers et al., 2001) and perceived collective efficacy (Salanova et al., 2003). Research shows that the performance of groups submitted to temporal pressure is particularly reduced when there are low levels of group potency or perceived collective efficacy.

11.2.1.2 Temporal Pressure: Practical Implications

The consulted research indicates practical implications for management. In this direction, intense and continuous experience of pressure in the work environment can unleash stress/burnout and threaten the health and well-being of the individuals. Team leaders and HR advisors should plan, distribute, and monitor activities seeking to minimize episodes of acute temporal pressure.

However, even the best planning and management practices are unable to entirely extinguish the unplanned and urgency in organizations. Consequently, elevated pressure situations will continue to exist, being then necessary to secure conditions and resources for professionals to deal with such scenarios. In elevated temporal pressure situations, individual control of work, leadership support, and collective

self-efficacy are resources that reduce the chance for burnout and provide involvement. Therefore, team leaders and HR professionals should supply individuals and teams with these resources.

Changing the prism to the temporal pressure-performance link, the literature delineates an intricate picture. The direct, linear, and positive impact of temporal pressure on performance, at time assumed by common sense, gives way to curvilinear relations and moderation effects. For most tasks, intermediate temporal pressure seems to lead professionals toward better performance. When the task is especially complex, creative solutions are more probable by reducing temporal pressure. When the task is quite simple, tighter deadlines and greater temporal pressure do not seem to negatively affect performance.

Considering what has been shown, it has been observed that team leaders should not indiscriminately intensify temporal pressure in the eagerness to increase productivity. Rather, the establishment of deadlines and the management of temporal pressure should respect the type of task requested and, above all, the well-being, health, and profile of the employees. Specifically regarding profile, it is worth retaking the discussion regarding temporal urgency cited at the beginning of the section. It is probably that the individuals with a high temporal urgency profile hold up better to temporal pressure, being, therefore, privileged candidates for the processes/projects with this characteristic. Such individuals constantly involve themselves in self-monitoring, routinely placing themselves under temporal pressure, a practice that tends to elevate their tolerance level.

11.2.2 Pacing Style

As with temporal pressure, the pacing style construct also explores the relation of individuals with deadlines in the work environment. However, pacing style focuses on how individuals temporally distribute their efforts considering the deadline established for the task (Gevers, Mohammed, & Baytalskaya, 2015; Gevers, Rutte, & van Eerde, 2006). The construct can reflect a subjective conception of time (Roe, 2006), when expressing the individual representation regarding the distribution of effort, as well as the objective conception of time (Shipp & Cole, 2015), when there is a precise measure of this distribution in days and hours. The subjective conception prevailed in the literature consulted.

In the course of developing the construct, some pacing styles were proposed in the literature (Gevers, Claessens, van Eerde, & Rutte, 2009; Gevers & Demerouti, 2013; Gevers et al., 2006). In the *early action* style, tasks are completed as quickly as possible, even before the deadline. The *constant action* style refers to professionals that perform the tasks in a relatively regular rhythm until the deadline. In the *deadline action* style, the professionals dedicated themselves only when the deadline was near, popularly known as "wait until the last minute." There is also the possibility that the actors adopt nonlinear styles. As such, the *U-shaped action* style reflects

peaks in effort at the beginning of the task and near the deadline. In contrast, in the *inverted-U action* style, the effort is concentrated in the middle of the task period.

Analyzing studies with employee samples, it was noted that the constant action, U-shaped action, and deadline action styles took turns in being the most frequent styles (Claessens, 2004; Gevers et al., 2009). In these studies, the U-shaped action style stood out slightly more than the others, being particularly more frequent in creative work with a multitask standard. Later study by the same group of researchers (Van Eerde, Beeftink, & Rutte, 2015) corroborated the elevated frequency of the U-shaped action style in creative work.

11.2.2.1 Variables Related to Pacing Styles

Antecedents, correlations, and consequences of pacing styles were verified in recent literature. In general, demographic variables (such as age, hierarchical level, and gender) and other temporal constructs (such as polychronicity and temporal perspective) manifested weak associations with pacing styles (Gevers & Demerouti, 2013; Gevers et al., 2015).

In general, professionals with the early action and constant action styles face activities in a planned way, avoid procrastination, employ time management mechanisms, and show a greater aversion to risk (Claessens, 2004; Gevers & Demerouti, 2013; Gevers et al., 2006, 2009, 2015). Empirical evidence also indicates that constant action workers sustain high levels of professional self-efficacy and early action workers relate to a high degree of time control perception (Claessens, 2004).

On the contrary, the deadline action style was associated with procrastination, less use of time management procedures, a greater risk tolerance, and optimism as to meeting deadlines (Claessens, 2004; Gevers & Demerouti, 2013; Gevers et al., 2006, 2009, 2015). These variables appear to be effectively interwoven. To the point that they are optimistic as to deadlines and tolerate the risk of not delivering their work, deadline action professionals become more likely to procrastinate and to dispense time management procedures.

Literature still lacks empirical investigation regarding pacing styles and health, well-being, and job satisfaction. However, researchers in the area consider that the rise in positive or negative work experiences depends on the level of congruence between the professional's style and the temporal characteristics of the project (Gevers et al., 2015). In this sense, deadline action professionals seem to be more comfortable with short and floating deadline projects, while constant actions professionals seem to be most accustomed to predictable projects and with incremental development.

Leadership performance in the face of these different styles shows itself to be equally important. Gevers and Demerouti (2013) show that reminders from leaders regarding deadlines generate greater absorption (dedication) from subordinates when said subordinates are inclined toward the deadline action style. This effect is not replicated in subordinates of the constant action or U-shaped styles. The authors also report that deadline action professionals, in virtue of their low investment in the self-regulation of time, tend to need a greater external influence (of the leader) to

dedicate themselves to the task. In the other two cited styles, self-regulation is higher and external influence becomes more superfluous. The authors point out that managerial discernment in the use of these management strategies resounds positively on professional well-being.

Other studies applied themselves to analyzing the relation of styles with individual job performance. Research performed in multiple organizations (Claessens, 2004) highlights that early action and constant action professionals outdo ∪-shaped and deadline action professionals both in performance self-evaluations and in evaluations performed by coworkers and supervisors. Also based on the sample from various organizations, Gevers et al. (2009) warn that the negative impact of the U-shaped style on performance (evaluated by coworkers/supervisors) is even more intense than in the case of the deadline action style. The authors interpret that individuals with a U-shaped style become frustrated more easily with the initial effort, such that their performance falls during execution of the activity.

The connection between pacing styles and performance was also the goal of a group-level analysis. In this line, groups oriented by the deadline action style showed greater difficulty to effectively meet their deadlines (Gevers et al., 2006). Furthermore, in these groups, the existence of shared temporal cognitions hampered deadline fulfillment. In effect, if the members of the group only act when the deadline approaches and if there is great congruence among them regarding the use of time, the tendency to procrastinate dominates the group. On the contrary, shared temporal cognitions benefit meeting the deadline in groups leaning toward early action.

Gevers et al. (2009) verified the performance of teams dedicated to engineering projects and relate that the best evaluated groups were those whose members tended toward the early action style. A diversity of styles presented a negative effect on the evaluation of teams that tended toward the early action style, however, caused a positive effect on teams with a deadline action style. This data suggests that in groups where early action dominated, the inclusion of individuals can generate negative consequences on performance. However, the inclusion of early action professionals in groups centered on the deadline action style can be beneficial to performance.

Mohammed and Nadkarni (2011) sophisticated the study of these relations in examining the role of leadership in managing the diversity of pacing styles. Their results support that such diversity occasions positive effects on group performance when supervisors exert temporal leadership or, rather, are able to effectively program, synchronize, and organize their team work time. On the other hand, poorly managed diversity tends to generate counterproductive conflicts.

11.2.2.2 Pacing Styles: Practical Implications

How does one manage in the face of distinct pacing styles? The first step refers to making professionals aware of their style. However, this process can be relatively difficult in some cases. There remains dissent regarding the stability of a pacing style throughout one's work life and regarding its rigidity in the face of different tasks/situations (Gevers et al., 2006, 2015). For example, a deadline action

individual may duly assume the typical early action style when it deals with tasks that are important to their career. As such, caution is necessary when identifying styles, being advisable to observe the eventual variations in style due to the function of the tasks performed and the context experienced.

Team leaders and HR professionals can help in the identification of team member styles based on their own experience in the work environment or by standardized instruments. In this last case, no questionnaires/scales adapted to Brazilian reality were found. It would be necessary to translate, adapt, and validate foreign instruments. Anyway, possessing information regarding the existing styles on their team, leaders should employ it in assigning professionals to projects and activities.

As a general tendency, the cited research suggests that the early action and constant action styles, at the individual or group level, produce better performance (product quality/services and meeting deadlines). However, the issue is more complex than simply preferring these professionals and relegating the remaining to ostracism. According to what was shown earlier, the diversity of styles can be advantageous to the group if it is well managed (Mohammed & Nadkarni, 2011). In addition, researches in this area, tied to previous research, recommend the merging of styles in groups responsible for complex projects (Mohammed & Harrison, 2013). Along this line, the initial tasks can be given to early action members, the continuous development activities to constant action members, and concluding tasks to deadline action members.

In this way, based on the actual stage of the literature, team leaders and HR professionals should pay attention to the congruence between team member pacing styles and designated tasks, seeking to increase individual performance and well-being. When congruence is not possible, it is possible to handle difficulties by means of management strategies. Leadership can provide support to perform tasks by periodically reminding deadline action professionals regarding the project deadline (Gevers & Demerouti, 2013). On the other hand, early action or constant action professionals require less supervision in this aspect. Anyway, the HR areas can provide training in time management to teach professionals and leaders how to deal with the eventual incongruities between styles and tasks.

11.2.3   Monochronicity and Polychronicity

Contemporary organizations, pressed by the productivity injunction, long for agility in the completion of tasks. Allied to technological advances, this pressure to work faster has redefined the relation of individuals with their activities, such that the execution of simultaneous tasks has become a common practice. It is precisely in this scenario that the discussion regarding monochronicity and polychronicity gains importance.

Originally conceived as a cultural-/societal-level construct, polychronicity has gained space in organizational studies, notably at the end of the 1990s. During this time, the construct refers to what extent individuals preferred to engage in two or more tasks simultaneously and believed that this preference was the best way to

perform activities (Bluedorn, Kalliath, Strube, & Martin, 1999). Gradually, literature came to privilege the first part of this definition (the preference in itself became the core of the construct) and to research the construct on the individual and group levels (Conte & Jacobs, 2003; Hecht & Allen, 2005; Jang & George, 2012; Slocombe & Bluedorn, 1999).

In this way, actually, polychronicity expressed the actor preference to perform two or more activities simultaneously, whereas monochronicity refers to the actor preference to perform activities sequentially (one at a time), both figuring as extremes of the same *continuum* (Slocombe & Bluedorn, 1999). With the sense of refining the construct even more, König and Waller (2010) recommend the use of the terms monochronicity/polychronicity to identify preferences, reserving the term multitask for the behavioral aspect of polychronicity. In representing preferences, one can say that monochronicity and polychronicity are founded in the subjective conception of time.

11.2.3.1 Variables Related to Monochronicity and Polychronicity

Age and gender do not appear to influence individual polychronicity (Jang & George, 2012). Similar data arose in Brazilian research on the theme (Lombardi, 2009), which also verified the lack of differences in polychronicity due to education and civil status. Regarding the big five personality factors, König and Waller (2010) show extroversion as the factor most solidly related to polychronicity.

König and Waller (2010) also highlight the role of work environment as an antecedent to polychronicity. Organizational environments that demand a multitasking behavior end up "selecting" polychronic individuals, because they tend to be successful in these environments. In this sense, Lombardi (2009) determined that the polychronicity of a company, assessed as an organizational cultural trait, figures as a relevant antecedent to individual polychronicity in a sample of professionals in several Brazilian organizations.

In contrast with the relatively small amount of research on antecedents, studies on consequents are many in literature. For example, Jang and George (2012) established that polychronicity related positively to work satisfaction in a sample of professionals in the lodging sector. The same standard was discovered by Arndt, Arnold, and Landry (2006) among retail sales personnel. In turn, a study held with Brazilian shopping center shop managers indicated that most of the interviewed, even though preferring a monochronic actuation, were aware of the multitasking standard of the activity, generating dissatisfaction and work unhappiness (Paiva & Gonçalves, 2014). Considering a sample of professionals from different sectors, Hecht and Allen (2005) showed that when opportunities to act in a polychromatic way at work are incompatible with the level of individual polychronicity, work satisfaction was negatively affected.

Together, this data suggests that work satisfaction occurs from the interaction between the type of activity and the individual level of polychronicity. That is, higher levels of job satisfaction were probable in a scenario with congruency between the

professional and the activity: polychronic professionals performing multitask work and monochronic professionals performing sequential activities. As, in organizational reality, there are cases of congruence and incongruence, the direct relation between polychronicity and job satisfaction tends to be inconsistent. In fact, the compilation by König and Waller (2010) reveals the inconsistency of this relation. In the six samples analyzed, two correlations were negative and not significant; one was positive, weak, and significant; and three were positive, moderate, and significant.

The interaction between polychronicity and type of activity seems to be equally relevant to the occurrence of other positive experiences at work, such as organizational self-esteem and affective well-being at work. Based on a sample of intermediate managers from different organizations, Hui, Lee, and Niu (2010) indicated that the polychronicity and variety of tasks interact in the prediction of organizational self-esteem, such that the concession of more varied tasks to polychronic individuals resulted in higher levels of organizational self-esteem. Also, on days with high multitask work demands, the affective well-being of polychronic individuals was less penalized than that of monochronic individuals (Kirchberg, Roe, & Van Eerde, 2015).

In the case of job satisfaction, the impact of polychronicity on performance also oscillated from research to research, raising the same attention for the role of individual-activity congruence. Conte and Jacobs (2003), investigating train engineers, registered the negative and significant relation between polychronicity and performance (evaluated by supervisors). On the other hand, positive associations were detected in performance self-evaluations and evaluations by third parties of sales professionals (Conte & Gintoft, 2005; Fournier, Weeks, Blocker, & Chonko, 2013), work that typically requires multitask behavior. In the three articles, the effects orbited at the limit that separates weak and moderate magnitude. Karatepe, Karadas, Azar, and Naderiadib (2013) also highlighted the positive effect of polychronicity in the hospitality sector; however, this effect was totally mediated by work involvement, given that it has difficulty establishing an unequivocal relation between the two first variables.

Such difficulty is well represented in the König and Waller (2010) review of the polychronicity-performance relation: the appreciation of the data from eight different samples of professionals revealed oscillations between $r = .23$ and $r = -.21$. The effects are not very expressive, and the extremes of distribution are almost diametrically opposed. In the same way as with job satisfaction, the discrepant results attest the need to refine the analyses regarding the association between polychronicity and performance.

First, this refinement goes through the importance of the individual-activity congruence, as highlighted by empirical studies previously cited (e.g., Fournier et al., 2013). Considering this reasoning valid, there are labor activities more favorable to monochronicity and others more adequate to polychronicity.

Secondly, it is worth observing the interference of another type of congruence: that of the individual with the group. Slocombe and Bluedorn (1999), with data collected from different organizations, indicated that the perception of professionals regarding how the partner/leader evaluates their performance was greater when the

levels of individual and group polychronicity were similar. As these levels distanced themselves (reducing the congruence), perception regarding performance evaluation given by the partner/leader became less favorable. In a complementary analysis, Mohammed and Nadkarni (2014) relate that monochronic/polychronic orientation diversity of individuals on teams related negatively to group performance. That is, in this research, the more heterogeneous groups in the polychronicity dimension presented lower group performance.

11.2.3.2 Monochronicity and Polychronicity: Practical Implications

The literature reveals that the organizational individual-activity, individual-group, and individual-culture congruencies in the polychronicity dimension are relevant to job satisfaction, organizational self-esteem, affective well-being, and performance. As a continuous act, the question arises: How does one reconcile individual, activity, and environment?

One of the initiatives deals with the process of recruitment and selection. By means of a prior analysis of the position characteristics, HR professionals and team leaders can define the desired profile for that position in the monochronicity/polychronicity *continuum* and consider it in the selective process. Such initiative represents low investment and great return potential (Arndt et al., 2006).

When dealing with already contracted individuals, each professional (including leaders) should identify the individual preference, the preferences of team members, and the job characteristics as to the levels of monochronicity/polychronicity. The Lombardi (2009) instrument, validated for Brazil with good psychometric indicators, can assist this diagnosis. Interviews with the professionals can also support this process.

Based on this diagnosis, the leader should match individuals and activities by means of task redistribution, reorganization/modification of the productive process, transfer of professionals to other sectors, or management of group conflicts. The intention is to reduce the incongruences, because these hold great conflict potential and can cause the reduction of performance and job satisfaction. The proposal to modify the professional monochronicity/polychronicity profile, by means of training, probably will face limitations, in such that the individual preferences are conceived more as personality traits than as states (Slocombe & Bluedorn, 1999).

In the contraction and relocation of professionals, it is worth observing that polychronic individuals are notably compatible with activities that involve creativity, problem resolution, and negotiation, since they retain the ability to consider multiple alternatives in a nonlinear way (Mohammed & Harrison, 2013). Monochronic individuals are especially compatible with more structured activities that do not demand concentrated attention and strict planning fulfillment. Effective personnel management allows the exploitation of inherent potentials in both profiles.

11.3   Final Considerations

Time figures as an essential dimension to perform work and to develop organizational life. This chapter has sought to sensitize WOP researchers, HR professionals, and team leaders regarding the relevance of considering time in the understanding and management of organizational phenomenon. The adoption of "temporal lenses" awakens a new vision of organizational dynamics (Ancona, Goodman et al., 2001), raising new questions, constructs, research models, and management practices.

Adopting such a perspective, this chapter placed temporal constructs in discussion that touched on the temporal acceleration that characterizes contemporary organizations. This scenario imposes challenges to the WOP area, for example, study the substantial changes in the professional-time-work relation and help organizations to conciliate well-being and performance (Caetano, 2012). Faced with these challenges, this chapter contributes to the WOP area in synthesizing the literature on temporal pressure, pacing styles, and monochronicity/polychronicity, supplying evidence capable of guiding organizational management.

In this sense, the data cited here can be of great value. In general lines, the research highlighted the complex relation between temporal constructs and important variables in the workplace (performance, work involvement, well-being, and job satisfaction), including the identification of curvilinear standards and moderator variables. In the three constructs, the congruence between individual temporal profiles and the activity arose as a key point, such that it deserves special attention by team leaders and HR professionals. Such congruence depends, firstly, on the identification of the individual temporal profile by means of standardized instruments, interviews, or behavioral observation. Next, leaders and HR professionals should consider such profiles in the allocation of workers in the distinct activities, projects, and organization sectors. Proceeding as such, it is possible to expect gains in worker performance and well-being, as long as the organizations pay attention to the curvilinear shape and the influence of moderator variables that modulate such relations.

Within the limitations of the chapter, it is underscored that other temporal constructs were not explored/detailed, such as temporal urgency, time management, and temporal perception, among others. Another limitation is the difficulty of presenting more evidence regarding some relations mentioned in the chapter, which is explained in large part by the vanguard condition of these constructs. At the heart, questions relative to time have not been completely incorporated into WOP research, especially due to insufficient theoretical production on the temporality in organizations, the methodological limitations to verify some phenomenon, and the weak dissemination of temporal constructs among academics (Ancona, Goodman et al., 2001).

The way individuals and groups deal with time is part of the organizational dynamic. In the establishment of a deadline for the most important project in the organization or in "break time," the relation with time holds a great richness of meanings. Highlighting this richness, the expectation is that this work contributes to the definite incorporation of time in the analysis and management of organizational phenomenon.

References

Amabile, T. M., Mueller, J. S., Simpson, W. B., Hadley, C. N., Kramer, S. J., & Fleming, L. (2002). *Time pressure and creativity in organizations: A longitudinal field study*. Harvard Business School Working Paper N° 02-073. Boston, MA.

Ancona, D., Goodman, P., Lawrence, B., & Tushman, M. (2001). Time: A new research lens. *Academy of Management Review, 26*(4), 645–663.

Ancona, D., Okhuysen, G., & Perlow, L. (2001). Taking time to integrate temporal research. *Academy of Management Review, 26*(4), 512–529.

Arndt, A., Arnold, T. J., & Landry, T. D. (2006). The effects of polychronic-orientation upon retail employee satisfaction and turnover. *Journal of Retailing, 82*, 319–330.

Baer, M., & Oldham, G. (2006). The curvilinear relation between experienced creative time pressure and creativity: Moderating effects of openness to experience and support for creativity. *Journal of Applied Psychology, 91*(4), 963–970.

Bluedorn, A., Kalliath, T., Strube, M., & Martin, G. (1999). Polychronicity and the inventory of polychromic values (IPV): The development of an instrument to measure a fundamental dimension of organizational culture. *Journal of Managerial Psychology, 14*, 205–231.

Caetano, A. (2012). Psicologia organizacional e do trabalho na era da aceleração: Macro e nanodesafios atuais na pesquisa e prática profissional. *Revista Psicologia: Organizações e Trabalho, 12*(1), 85–96.

Chan, D. (2014). Time and methodological choices. In A. Shipp & Y. Fried (Eds.), *Time and work* (Vol. 2, pp. 146–176). London: Psychology Press.

Claessens, B. J. (2004). *Perceived control of time: Time management and personal effectiveness at work (Tese de Doutorado)*. Eindhoven: Technische Universiteit Eindhoven.

Conte, J., & Gintoft, J. (2005). Polychronicity, big five personality dimensions, and sales performance. *Human Performance, 18*, 427–444.

Conte, J., & Jacobs, R. (2003). Validity evidence linking polychronicity and big five personality dimensions to absence, lateness, and supervisory performance ratings. *Human Performance, 16*, 107–129.

Csikszentmihalyi, M. (2013). *Flow: The psychology of happiness*. New York: Random House.

Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology, 86*, 499–512.

Eliade, M. (2005). *The myth of the eternal return*. Princeton, NJ: Princeton University Press.

Fernandes, R., Assunção, A., & Carvalho, F. (2010). Tarefas repetitivas sob pressão temporal: Os distúrbios musculoesqueléticos e o trabalho industrial. *Ciência & Saúde Coletiva, 15*, 931–942.

Fournier, C., Weeks, W. A., Blocker, C. P., & Chonko, L. B. (2013). Polychronicity and scheduling's role in reducing role stress and enhancing sales performance. *Journal of Personal Selling and Sales Management, 33*(2), 197–209.

Fraisse, P. (1984). Perception and estimation of time. *Annual Review of Psychology, 35*, 1–36.

Frank, A. (2011). *About time: Cosmology and culture at the twilight of the big bang*. New York: Free Press.

George, J. M., & Jones, G. R. (2000). The role of time in theory and theory building. *Journal of Management, 26*, 657–684.

Gevers, J., Claessens, B. J., van Eerde, W., & Rutte, C. G. (2009). Pacing styles, personality, and performance. In R. Roe, M. Waller, & S. Clegg (Eds.), *Time in organizational research* (pp. 80–102). Londres: Routledge.

Gevers, J., & Demerouti, E. (2013). How supervisors' reminders relate to subordinates, absorption and creativity. *Journal of Managerial Psychology, 28*(6), 677–698.

Gevers, J., Mohammed, S., & Baytalskaya, N. (2015). The conceptualisation and measurement of pacing styles. *Applied Psychology: An International Review, 64*(3), 499–540.

Gevers, J., Rutte, C., & van Eerde, W. (2006). Meeting deadlines in work groups: Implicit and explicit mechanisms. *Applied Psychology: An International Review, 55*(1), 52–72.

Gevers, J., van Eerde, W., & Rutte, C. (2001). Time pressure, potency, and progress in project groups. *European Journal of Work and Organizational Psychology, 10*(2), 205–221.

Hecht, T. D., & Allen, N. J. (2005). Exploring links between polychronicity and well-being from the perspective of person-job fit: Does it matter if you prefer to do only one thing at a time? *Organizational Behavior and Human Decision Processes, 98*, 155–178.

Höge, T. (2009). When work strain transcends psychological boundaries: An inquiry into the relationship between time pressure, irritation, work–family conflict and psychosomatic complaints. *Stress and Health, 25*(1), 41–51.

Hui, C., Lee, C., & Niu, X. (2010). The moderating effects of polychronicity and achievement striving on the relationship between task variety and organization-based self-esteem of midlevel managers in China. *Human Relations, 63*, 1395–1416.

Jang, J., & George, R. T. (2012). Understanding the influence of polychronicity on job satisfaction and turnover intention: A study of non-supervisory hotel employees. *International Journal of Hospitality Management, 31*(2), 588–595.

Jones, E., Chonko, L., Rangarajan, D., & Roberts, J. (2007). The role of overload on job attitudes, turnover intentions, and salesperson performance. *Journal of Business Research, 60*(7), 663–671.

Kahneman, D., Krueger, A. B., Schkade, D. A., Schwarz, N., & Stone, A. A. (2004). A survey method for characterizing daily life experience: The day reconstruction method. *Science, 306*(5702), 1776–1780.

Karatepe, O., Karadas, G., Azar, A., & Naderiadib, N. (2013). Does work engagement mediate the effect of polychronicity on performance outcomes? A study in the hospitality industry in Northern Cyprus. *Journal of Human Resources in Hospitality and Tourism, 12*(1), 52–70.

Karau, S. J., & Kelly, J. R. (2004). Time pressure and team performance: An attentional focus integration. In S. Blount (Ed.), *Time in groups: Research on managing groups and teams* (Vol. 6, pp. 185–212). Londres: Emerald.

Kirchberg, D. M., Roe, R. A., & Van Eerde, W. (2015). Polychronicity and multitasking: A diary study at work. *Human Performance, 28*(2), 112–136.

König, C. J., & Waller, M. J. (2010). Time for reflection: A critical examination of polychronicity. *Human Performance, 23*(2), 173–190.

Kühnel, J., Sonnentag, S., & Bledow, R. (2012). Resources and time pressure as day-level antecedents of work engagement. *Journal of Occupational and Organizational Psychology, 85*(1), 181–198.

Lee, H., & Liebenau, J. (1999). Time in organizational studies: Towards a new research direction. *Organization Studies, 20*, 1035–1058.

Lombardi, A. (2009). *Dimensões não visíveis de diversidade: Fatores antecedentes da heterogeneidade na forma de utilização do tempo (Doctoral thesis)*. São Paulo: Universidade Presbiteriana Mackenzie.

Mohammed, S., & Harrison, D. A. (2013). The clocks that time us are not the same: A theory of temporal diversity, task characteristics, and performance in teams. *Organizational Behavior and Human Decision Processes, 122*(2), 244–256.

Mohammed, S., & Nadkarni, S. (2011). Temporal diversity and team performance: The moderating role of team temporal leadership. *Academy of Management Journal, 54*(3), 489–508.

Mohammed, S., & Nadkarni, S. (2014). Are we all on the same temporal page? The moderating effects of temporal team cognition on the polychronicity diversity–team performance relationship. *Journal of Applied Psychology, 99*(3), 404–422.

Orlikowski, W., & Yates, J. (2002). It's about time: An enacted view of time in organizations. *Organization Science, 13*, 684–700.

Paiva, K., & Gonçalves, M. (2014). Tempo e gerência: Um estudo com gestores de um shopping center de belo horizonte (MG). *Gestão & Planejamento, 15*(1), 3–20.

Pfeffer, J., & Sutton, R. I. (2006). Evidence-based management. *Harvard Business Review, 84*(1), 62–74.

Rastegary, H., & Landy, F. (1993). The interactions among time urgency, uncertainty, and time pressure. In O. Svenson & A. J. Maule (Eds.), *Time pressure and stress in human judgment and decision making* (pp. 217–239). New York: Plenum Press.

Roe, R. A. (2006). Perspectives on time and the chronometric study of what happens in organizations. Trabalho apresentado no simpósio *It's About Time: Increasing the temporal focus in organizational research*. University of Maastricht, Maastricht, Holanda.

Salanova, M., Llorens, S., Cifre, E., Martínez, I. M., & Schaufeli, W. B. (2003). Perceived collective efficacy, subjective well-being and task performance among electronic work groups an experimental study. *Small Group Research, 34*(1), 43–73.

Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *Journal of Organizational Behavior, 25*(3), 293–315.

Schmitt, A., Ohly, S., & Kleespies, N. (2015). Time pressure promotes work engagement. *Journal of Personnel Psychology, 14*, 28–36.

Shipp, A. J., & Cole, M. S. (2015). Time in individual-level organizational studies: What is it, how is it used, and why isn't it exploited more often? *Annual Review of Organizational Psychology and Organizational Behavior, 2*(1), 237–260.

Shipp, A. J., & Fried, Y. (2014). *Time and work (Volume 1): How time impacts individuals*. Londres: Psychology Press.

Slocombe, T. E., & Bluedorn, A. C. (1999). Organizational behavior implications of the congruence between preferred polychronicity and experienced work-unit polychronicity. *Journal of Organizational Behavior, 20*(1), 75–99.

Sonnentag, S. (2001). Work, recovery activities, and individual well-being: A diary study. *Journal of Occupational Health Psychology, 6*(3), 196–210.

Sonnentag, S. (2012). Time in organizational research: Catching up on a long neglected topic in order to improve theory. *Organizational Psychology Review, 2*(4), 361–368.

Van Eerde, W., Beeftink, F., & Rutte, C. G. (2015). Working on something else for a while: Pacing in creative design projects. *Time & Society*. Advanced online publication. doi: 10.1177/0961463X15577274.

Whitrow, G. J. (2005). *O que é tempo?* Rio de Janeiro: Zahar.

Widmer, P. S., Semmer, N. K., Kälin, W., Jacobshagen, N., & Meier, L. L. (2012). The ambivalence of challenge stressors: Time pressure associated with both negative and positive well-being. *Journal of Vocational Behavior, 80*(2), 422–433.

Zacher, H., Jimmieson, N. L., & Bordia, P. (2014). Time pressure and coworker support mediate the curvilinear relationship between age and occupational well-being. *Journal of Occupational Health Psychology, 19*(4), 462–475.

Zellmer-Bruhn, M. E., Gibson, C. B., & Aldag, R. J. (2001). Time flies like an arrow: Tracing antecedents and consequences of temporal elements of organizational culture. In C. A. Cooper, S. Cartwright, & P. C. Earley (Eds.), *The international handbook of organizational culture and climate* (pp. 22–52). New Jersey: Wiley.

Zimbardo, P., & Boyd, J. (1999). Putting time in perspective: A valid, reliable individual-differences metric. *Journal of Personality and Social Psychology, 77*(6), 1271–1128.

Chapter 12
Cultural Diversity and Inclusion in Organizations: State of the Art and Challenges

Cláudio Vaz Torres, Iône Vasques-Menezes, and Luara Presotti

12.1 Introduction

There is no doubt that Brazil is a multicultural and heterogeneous country. However, little is known about the repercussion of cultural diversity and inclusion on the Brazilian organizations. Cultural diversity has been systematically defined as the representation in a social system of people holding different group identities and different cultural significance. It is also understood as the individual, social, and historically significant differences that have resulted in power differences and privilege in and out of organizations. There is a consensus in literature that organizations should go beyond the mere concern about diversity and think over inclusion in its context. Inclusion, in turn, means to say that members of all groups will be treated in a fair way, feel included, enjoy equal opportunities, and be represented in all organizational functions and levels. Organizations that incorporate the culture of inclusion, all identity groups have the opportunity of being present and to make their voices be heard and appreciated, and to carry out core activities on behalf of collectivity.

To enable inclusion, the existing cultural diversity should be managed to build an organizational environment favorable to the full development of everyone's potential of fulfilling their organizational objectives. The issue of cultural diversity and inclusion is making room in the agenda of many organizations, representing a universal and irreversible movement of our current societies. But there is yet a lot to be done toward managing diversity in the Brazilian organizations, and few studies can

C. Vaz Torres (✉) • L. Presotti
Universidade de Brasília, Brasília, DF, Brazil
e-mail: claudiovtorres@gmail.com; luapresotti@gmail.com

I. Vasques-Menezes
Universidade Salgado de Oliveira, Rio de Janeiro, RJ, Brazil
e-mail: vasques.menezes@gmail.com

be used to illustrate how the perspectives of diversity and inclusion management have been employed in Brazil.

The initial aim of this chapter is to identify and explore the national academic production from 2010 to 2015, disclosing a scenario of empirical studies developed on the topic in Brazil. It is expected to generate data that reflect the Brazilian reality regarding aspects of diversity and inclusion in organizations. Next it aims to address the international literature and point out systematized practices of diversity and inclusion management in organizations that contribute to develop firms beyond the effects of high-performance traditional systems. These practices normally approach training and monitoring in diversity and inclusion, recruitment, compensation systems, and promotion oriented to minority groups, among others, being positively associated to high performance in businesses, high productivity and innovation of labor force, low turnover, and increased job satisfaction and wellness. Finally, it intends to propose a reflection on diversity and inclusion in the Brazilian organizations to support empirical evidence-based strategies that could contribute to its management. Understanding and managing diversity and inclusion are important to get the maximum advantages. The firms that neglect this fact lose their competitive potential. In brief, this review is expected above all to contribute to the knowledge and debate about diversity and inclusion in organizations, serving as reference to future surveys and input to formulate organizational policies related to the matter.

12.2 What We Are Addressing: Definition of Diversity and Inclusion

The different definitions of diversity found in literature are complementary. As observed in Ferdman and Sagiv (2012), the heart of the concept of diversity refers to different ways of thinking work and organizations and of approaching the pertinent situations deeply rooted in social identities. Diversity is variability and could be understood as the representation of individuals with different group identities in a social system (Cox, 1994). Mor Barak (2011) emphasizes the divide of labor force in different categories that hold intragroup similarities perceived in a cultural context and that impact work outcomes and relationships. Thomas and Ely (1996), in turn, emphasize in the definition of diversity as the different perspectives that members of different identity groups integrate to work.

On the other hand, the concept of inclusion can be viewed in two different lights. The first one is in the light of the individual itself. According to Mor Barak (2005), the baseline of inclusion lays in the sense of belonging. According to this approach, individuals perceive inclusion as associated to the feeling of belonging to a group. To Hayes (2002), in turn, inclusion refers to acceptance; it is the feeling of being appraised as member of an organization at all levels. In other words, the essence is to be accepted by the other. Therefore, when these two visions are combined, inclusion goes beyond diversity. To be achieved, inclusion depends on the diversity

management to build an organizational environment that allows all to fully develop their potential to fulfill the corporate goals (Thomas & Ely, 1996).

Since literature employs several different terms (e.g., inclusion behaviors, inclusion experience) to refer to one single phenomenon—inclusion in organizations (Fedman & Davidson, 2002)—it builds a conceptual cloud that contributes to obscure the definition (Hanashiro, Torres, Ferdman, & D'Amario, 2011). However, it seems that literature generally accepts that inclusion is related to *how* the individual *perceives* she/he is being treated because of her/his features and the groups to which she/he belongs such as race, gender, and sexual orientation, among others (Ferdman, 2010).

12.3   Studies About Diversity and Inclusion in the National and International Scenarios

To talk about diversity and inclusion in Brazilian organizations means, to a large extent, understanding the impacts of the quota act on work organizations, considering that these laws have demanded the market to fit into their requirements and challenges. In addition to laws, one should consider the international management standards that increasingly advocate for diversity and inclusion as competitive elements to businesses.

International studies have served more as a theoretical reference to Brazil than as a possibility of immediate application. This issue is grounded on historical, cultural, and social differences that ensure different contexts to businesses and, above all, to the relations of access to goods and power by different social groups. Still, the Brazilian cultural diversity is visible and places the topic at a necessary and above all promising level. Because of the status of application of inclusion in the Brazilian reality, the classic studies of diversity of the 1980s and 1990s continue to serve as reference. Nonetheless, more recent studies could suit as a horizon toward which we take larger steps.

Mor Barak (2011) has been one of the international references in diversity management at organizations. The author has studied the baseline concepts that ground cultural diversity, presenting arguments to manage it through studies of case from different countries in the world. Her work is a guideline for academics and executive officers. Another important reference is professor Bernardo Ferdman who, in his latest publications, has refined the differentiation between diversity and inclusion, and also systematized inclusion as practice, linking it to the area of transcultural psychology (Ferdman, 2010; Ferdman & Dease, 2013; Ferdman & Sagiv, 2012). The author also exhaustively studies the Latin identity and the ethnical-racial identity (Gallegos & Ferdman, 2012).

Among the studies reported between 2010 and 2015, it is worth mentioning Miles' and Erhardt's (2014) warn that international surveys on diversity and inclusion have inconsistent results in relation to the organizational performance. Still

according to the authors, this could be due to the narrow focus on the diversity-performance relation. Miles and Erhardt draw attention to the mediating role of corporate social responsibility practices in the relationship between the corporate senior management diversity and the organizational performance, suggesting that organizations with diversity and inclusion at senior levels and that implement social responsibility practices tend to be more profitable over time. These authors, however, have limited their findings to the US firms and do not make clear if the same effect could happen in organizations of other cultural context. Pulignano (2011), in turn, points out that in the supranational context of the European Union, the only way to modernize the industrial relationships and increase productivity is the renewal of an agenda of partnership and social dialogue, understood as collaborative practices and social networks that enable managing diversity and inclusion. To the author, these practices are supported by new ways of direct support by the state at supranational level, which appraise the intraorganizational difference.

Zhou and Park (2013) suggest there is no single and best way of managing diversity and inclusion and even challenge the notion of "best practices" in this regard. The authors studied organizations in the United States and Europe and suggest that the different pathways and approaches adopted by organizations to manage diversity vary in relation to their business objectives and demographic and geographic contexts. While some firms maintain and manage diversity initiatives of global scope (e.g., IBM or Royal Dutch Shell), others provide the local subsidiaries with great flexibility to customize and reach their specific goals of diversity (e.g., PepsiCo or Sodexo Inc.). Other firms focus on one single aspect or dimension of diversity and inclusion (e.g., gender) for all subsidiaries worldwide and use this dimension as the driving force to the top-down engagement and implementation of initiatives to enhance the participation of women[1] at leadership levels but with geographic and political adaptations (e.g., Deloitte & Touche). Thus, according to Zhou and Park (2013), one cannot claim best practice to the issue of diversity and inclusion, since different organizations met the several criteria of prizes or ranking of organizational diversity from their markets. However, these organizations monitor and manage their diversity in line with their business objectives. Still on this topic, Goyal and Shrivastava (2013) revised the best practices of diversity in organizations in the United States and the United Kingdom and observed that practices of diversity and inclusion management and diversity initiatives and programs are implemented mainly to improve the organizational diversity climate.

The diversity climate of an organization serves as a barometer that measures the organization's position in terms of creating an environment free of prejudice and discrimination. In their review of more than 20 years of models, approaches, and diversity measures, Goyal and Shrivastava (2013) found that all initiatives and trainings oriented to diversity and inclusion are basically focused on the development of that environment. The most successful organizations have recognized to which

---

[1] A common practice in literature on diversity and inclusion is to present the terms that define labels in capital letters. We have adopted this practice to emphasize and acknowledge the cultural significance of such group identities.

extent their diversity climate impacts the different individual and organizational performance measures. Still according to the authors, organizations should regularly assess the diversity climate to find areas with opportunities of improvement, signaling the organization's commitment to diversity and inclusion. This, in turn, will produce healthy working environment in the organization to all relevant categories or dimensions.

Regarding the national literature, we searched studies on the ABI/InformGlobal (Proquest), ISI Web of Knowledgement, Scopus, Science Direct, and *Google Scholar* databases. In addition, the articles published between 2010 and 2015 at the National Meeting of the National Association of Graduation and Research in Administration (*Encontro Nacional da Associação Nacional de Pós-Graduação e Pesquisa em Administração*—EnANPAD) were also verified. Searches were oriented by the combination of the key word "diversity" and/or "inclusion" and "organizational diversity management" and the respective versions in Portuguese. To ensure the identification of all studies on the topic, we used the snowball technique, i.e., verify the bibliographic references of all studies initially selected so that, by the end, all studies are referred to each other and to avoid disregarding any study. Altogether, 54 studies were identified and (after being analyzed regarding to the following criteria: (a) context of publications, (b) methodological characteristics, and (c) results found) were reduced to 18 of direct interest to this report. Although scarce and recent, the studies in Brazil generally approach the representativeness of different groups in organizations and the organizational or peer practices for their effective inclusion. Another tendency tries to study the feelings/perceptions/experiences of the minorities targeted by the quota act. It is also worth mentioning the studies that approach specific discriminations based on race/ethnics, gender, or age, i.e., racism, sexism, and ageism as the main types of *isms*. Such *isms* mean that prejudice (i.e., attitude) or discrimination (i.e., behavior) exist in the organization. These refer to the oppression institutionalized in the organizational context that generates, implements, and maintains phenomena such as lack of equal opportunities of growth in the organization, biased recruitment, and segregationist organizational policies, among others (Cox, 1994). Since they are institutionalized they need little or no participation of individuals to persist, and are maintained by their own effects, in a vicious cycle.

In a study aimed to survey visions and practices of diversity management and its effects on inclusion, having as reference Thomas' and Ely's (1996) paradigms of diversity management, Presotti (2011) identified a trend among the Brazilian organizations toward managing diversity in the perspective of *Discrimination and Justice* (quotas as a way to promote justice). Yet, organizations seem to have incorporated to their speech, and only to their speech, the paradigm of *Learning and Effectiveness* that understands diversity as a source of learning and effectiveness in the organization. In the same study, in an attempt to understand the results of diversity management perspective on the inclusive behavior and inclusion experience perceived by the employees of one of the organizations surveyed, the author identified that the inclusive behavior of the workgroup better explained the employees' experience of inclusion. This reinforces the relevance of fostering inclusive work relationships beyond the policies of inclusion.

Some works are outstanding in the area of the *isms*. Zauli, Torrres, and Galinkin (2012) investigated the attitude of the House of Representatives' staff regarding the possibilities and limitations of professional growth of women and found that women are less likely to hold high management offices in that House than men. Zidório (2012) found the same relationship in hospital organizations, which is also coherent with the surveys by the International Labour Organization that found the presence of women in only 5% of the senior offices in Brazil (International Labour Organization, 2015).

Irigaray, Saraiva, and Carrieri (2010) investigated sexual discrimination and identified the use of humor as a way to veil the organizations' discrimination against homosexuals. Regarding ageism, Nascimento (2010) captured evidence of discrimination (based on age) in police forces relating it to the theory of social identity and diversity. In the same area, some studies present an overview of age-based discrimination at the workplace specifically oriented to old people and the issue of retirement (França & Stepansky, 2012).

Cerqueira and Pérez-Nebra (2013) and Oliveira and Pérez-Nebra (2012) made several in-depth interviews with cleaning helpers and found active mechanisms of exclusion and discrimination in their work environments. Discrimination ranges from subcontracting (i.e., outsourcing) to peers relationship (i.e., do not greet, not know the employee's name). These mechanisms impact the organization in terms of turnover and relationships, considering the invisibility of these helpers and the resulting social devaluation. The study has also identified linkages with gender issue, as this professional category is typically made up by women.

Most of the studies on practices of diversity and inclusion in Brazilian organizations focus on people with disabilities (PwD). That is so because Brazil has ruled quotas to disabled individuals. However, more than 20 years after the enactment of the act of quotas to PwD, firms still face difficulties to adjust their conceptions and practices to the laws and needs of these people (Carvalho-Freitas & Marques, 2010; Campos, Vasconcelos, & Kuglianskas, 2013; Presotti, 2011; i.Social, 2015).

There are two somewhat antagonist positions regarding the compliance with the PwD quota laws. On one hand, firm managers claim they do not comply with the law due to the shortage of individuals with skills compatible with the job posts and the lack of governmental support (Campos, Vasconcelos, & Kuglianskas, 2013; Presotti, 2011). On the other hand, HR professionals unveil the perception that disabled people's qualification is on the average or above the overall average (i.Social, 2015). These positions show an important contradiction that deserves deeper analysis.

In the light of the PwD, quotas are acknowledged as a facilitator of access to the labor market. However, they perceive some skepticism regarding their competences and capabilities, in addition to difficulties of accessibility and promotion in the firm (Viana, Tardelli, & Almeida, 2012) by contrast with their positive perception of the self as not limited by disability (Coelho, 2012). These data are coherent with the survey by Leão and Silva (2012) who identified the overlapping of suffering in detriment to pleasure at work, as a result of physical and psychical strains, and lack of acknowledgement at work.

Likewise, a survey with 1519 HR professionals in Brazil showed that only 3% claim to hire persons with disability because they believe in their potential, while 86% state to hire PwD only to comply with the quotas act (i.Social, 2015). Therefore, there are indications about the persistence of prejudice against this minority group which could be impacting their exclusion *from* and *in* work.

As found by Presotti (2011) and previously by Saraiva and Irigaray (2009), there is a remarkable internalization of a politically correct speech on diversity, which is not necessarily followed by the practical application of this discourse. Therefore, to get practice closer to theory, investments should be made in management policies and tools, endeavoring to implement inclusion as a practice.

12.4 Social Aspects: Diversity and Inclusion as a Practical Issue

12.4.1 Universal-Diverse Orientation

Universal-diverse orientation (UDO) is defined as "an attitude of awareness and acceptance of both similarities and differences that exist among people" (Miville et al., 1999, p. 291). It is about the recognition of similarities (universal) or common aspects of human beings that connect people. Differences (diverse) are unique aspects among people due to cultural and individual factors (e.g., race, gender, sexual oriental, national origin, and personality). These factors impact the individuals' skills to effectively act in and among groups of different social identities. The construct UDO describes an attitude in relation to the others, based on the recognition and acceptance of similarities and differences existing among people, characterized by the interrelation of the cognitive, behavioral, and affective components (Miville et al., 1999). It attracted attention because of its predictive power in relation to other variables of organizational importance (Miville, Carlozzi, Gushue, Schara, & Ueda, 2006).

Studies developed by Miville et al. (1999, 2006) in the United States used the construct "universal-diverse orientation" (UDO) in the area of multicultural psychological counseling to university students. However, the UDO theoretical grounds come from studies developed by Vontress (1979, 1988, 1996). According to Vontress (1996), when counseling clients of different cultures, the counselor should be aware of the similarities and differences existing among people. Moreover, the acceptance of cultural similarities and differences is a relevant aspect to reach effective social interactions, since human beings share common aspects (universal culture) simultaneously to important differences (national, regional, religious, and ethnical-racial cultures).

In several studies Vontress (1979, 1988, 1996) described the notion that people are at the same time similar and different one from the other. To the authors, awareness about the core similarities and differences among people is crucial for their

effective interaction. This understanding would allow the gathering of individuals by similarities (e.g., quality of what is common in human beings) and, at the same time, by differences with the other (e.g., race, gender or sexual orientation). Vontress (1996) proposed people are product of different cultures that mutually interact: (a) universal, (b) ecological, (c) national, (d) regional, and (e) ethnical-racial. Universal culture refers to the "all-encompassing humanness in each of us which pervades all cultures. No matter what the conditions are under which people live, they must adjust to the fact that they are human beings" (Vontress, 1996, p. 164).

Miville et al. (1999) developed the Miville-Guzman Universality-Diversity Scale (M-GUDS) to evaluate the UDO construct. The instrument was initially composed by 45 items anchored in a Likert-type scale with values ranging from 1 (strongly disagree) to 6 (strongly agree). The attitudes comprised in the UDO are made up by affective, behavioral, and cognitive components. The cognitive component is the acknowledgement, valuation, and acceptance of similarities and differences; the behavioral component (or intention to behave) is associated to pursue plurality or diversity of interactions with others (different of one's identity group); the affective component is the sense of connection resulting from the common experience of being a human. These three components are referred to as realistic appreciation, diversity of contact, and comfort with differences, respectively (Fuertes, Miville, Mohr, Sedlacedk, & Gretchen, 2000).

Studying the UDO, Kluegel and Smith (1983) found that women tend to act with a sense of cooperative self-interest in diversity issues. It means to say that women believe that initiatives on behalf of diversity are beneficial to other marginalized groups and also indirectly help to raise awareness on discrimination and struggles that women have to cope in the work environment. Strauss and Connerley (2003) investigated the ties among gender, race, amability, and openness to experience and the UDO attitudes and found a strong correlation among the three last (race, amability, and openness) and the UDO *diversity of contact* attitude. The authors found that surveys using the UDO to measure attitudes of diversity in the United States showed that women tend to score higher in UDO attitudes than men. Little earlier Miville et al. (1999, p. 304) have also identified in studies with the M-GUDS scale that "Women can be more prone than men to accept the differences and similarities in relation to the others." In a research that approached the UDO attitude, Fuertes et al. (2000) showed that American Asian individuals presented a high score in the UDO behavioral component (diversity of contact). Later on Linnehan, Konrad, Reitman, Greenhalgh, and London (2003) carried out studies with Asian American groups and concluded that the strong racial identity made them more prone than the White Americans to make organizational actions more pluralist. Linnehan et al. (2003) also observed that racial groups historically excluded tend to support actions that mean respect to their racial identity.

Thompson, Brossard, Carlozzi, and Miville (2002) found strong links between the UDO and the big five (B5), mainly regarding *openness* and its facets. More recently Roberts, Laux, and Burck (2009) suggested that the links between UDO and B5 can be mediated by demographic variables, notably age and education, but did not disregard the direct relation between the two first sets of variables. Regarding

the dimension of race and attitudes toward diversity, it was observed that individuals of minority race groups are also more likely to adhere to diversity-related programs than the White men.

However, as male White workers are seldom target of discrimination, they tend to disbelieve that diversity programs could be beneficial to the organization (Faludi, 1991). Moreover, many of them believed to have nothing to win with diversity, as they would just be blamed for past organizational unfairness, and this gave rise to an attitude of resistance to diversity (Burke & Black, 1997). Strauss and Connerley (2003) identified that non-White individuals expressed attitudes more favorable to diversity than White individuals, mainly regarding the pursuit for contact with other different persons (diversity of contact). Fuertes et al. (2000) also realized that Asian American individuals scored higher than White men in the behavioral component of the UDO's diversity of contact.

Wilson (2006) carried out a survey to verify why White men discarded the practices of diversity, investigating if White men had any negative predisposition to give preference to diversified categories and groups or if it was due to previous negative predispositions (prejudices) in relation to the Black. He found that the White's negative attitudes were manifested in relation to both Black and women, i.e., were directed to the practices of diversity that gave preference to groups in general. Finally, Strauss, Sawyerr, and Oke (2008) identified that non-White individuals had more favorable attitudes toward diversity than the White for UDO attitudes in general.

However, most of these studies share a common trait: in addition to the relations established between the variables of interest, studies were carried out with US samples. Therefore, the main conclusion resulting from the search made was of a gap in the investigation about relationships between UDO and its impact on the organization in terms of policies of inclusion, mainly when samples are non-individualist, notably from the United States.

12.4.2 Affirmative Actions in the Public and Private Contexts

The UNDP (United Nations Development Programme) has played an important role as a development network of issues related to cultural diversity, social inclusion, and quality of life. Its concern about human development has resulted in affirmative actions at different levels and countries aimed to the social and economic inclusion of historically excluded shares of the population. It is worth mentioning that affirmative actions are understood as a set of compulsory public and private policies, elective or voluntary, designed to remedy the present effects of past discrimination, to materialize equal access to fundamental assets such as education and job (Presotti, 2011). The idea of affirmative action is based on the understanding that social phenomena are not natural but result from several social interactions. Therefore, the need of political intervention to reverse the picture of inequality is observed in a given society (Alves & Galeão-Silva, 2004). However,

affirmative actions do not mean diversity and inclusion, and one of the milestones of the policies against discrimination and on behalf of equal treatment was the 1948 Universal Declaration of Human Rights (UN, 1948).

Still approaching affirmative actions, Benedito and Menezes (2013) analyzed the Public Policies of Social Inclusion and affirm that the participation of the private sector in the implementation and success of those policies is important and justified. Public and private sectors should work together to solve complementary social issues aimed at social inclusion. In fact, according to the authors, virtually all the Public Policies on Social Inclusion in Brazil, mainly those of economic nature (job and income generation), depend on the public and private sectors to promote social inclusion. A good example is Law 10097/2000 (known as the Apprentice Act) that serves as a tool for professional training and job and income generation for minors (mainly the lower-income ones) through qualification and internship in companies. The facilitation of minors' access to the labor market imposes the firm the mandatory hiring of a given percentage of young employees. This also happens with the Public Policies on Inclusion of People with Special Needs, Law 8213/1991, which sets forth that companies with more than 100 employees must fill in 2% to 5% of the vacancies with workers with some special need, i.e., people with disability (PwD). As such, the companies play a strategic role to the success of the inclusive public policies organized by the Brazilian government at federal, state, or municipal level (Benedito & Menezes, 2013).

Also aimed at greater inclusion, the governmental policy *Educação para todos* (Education for all) and the movement *Todos pela Escola* (All for School) show that education issues are not limited to including non-enrolled PwD, since there is a population with no learning difficulty that remains out of classrooms. As discussed by Glat and da Oliveira (2003), last decade there were about 3.8 million children and youngsters of 4–17 years old out of school. This led to actions promoted in the public and private sectors to minimize this gap. As regards higher education, Almeida and Ernica (2015) pointed out that over the 2000s this education level has significantly expanded in Brazil, also in the light of social inclusion. Affirmative actions oriented to groups traditionally excluded from higher education were disseminated in an effort to reduce the effects of social, racial, and economic differences on the access to higher education. The authors emphasize that the federal government also started offering fiscal benefits to private institutions in exchange for scholarships to low-income students from public schools and expanded the education loan program, reducing interest rates and extending the term for repayment.

Despite some cuts made to these programs, these remain as important affirmative actions in the government plan. Feres, Daflon, and Campos (2011) approach this matter and point out that more than 70% of the state and federal public universities carry out some kind of affirmative action since 2011, mainly through the system of quotas and student loan. The same can be observed in the civil society. According to Lima (2010) the adoption of affirmative actions policies has brought significant changes in society regarding race. Although according to the author the debate is strongly focused on the system of quotas to public universities, the work of the latest administrations and the civil society comprise similar programs in other areas.

However, there are few affirmative action policies in Brazil if we consider all groups excluded from job. Even the existing ones still present operational problems such as difficulty to find skilled labor force and discrimination against the program, as well as cultural problems such as the myth that we live in a "country free of prejudices." Although this is a way to displace political issues and responsibility from the public sphere to the private sphere and to the organizations (Presotti, 2011), when considered as a whole, the affirmative actions policies in Brazil may be still insufficient, and there is little or no evaluation on the impact or efficiency of the existing ones. And something that is not evaluated cannot be valued.

12.4.3 Diversity and Inclusion: Beyond the Effects of the Traditional Systems of Organizational Performance

Armstrong et al. (2010) claim that, if well implemented, diversity systems can greatly contribute to the organizational performance. It is interesting that in their study the authors analyzed the traditional individual performance evaluations and the organizational practices and policies to verify how training in diversity and consistent monitoring of diversity through recruitment and implementation of compensation and promotion systems that reach monitories and disadvantaged groups have effectively increased the business performance of firms. Studying organizations of services and manufacture in Ireland, Armstrong et al. (2010) confirmed that practices of diversity are positively associated to higher organizational productivity and innovation in labor force and less turnover among workers. This draws attention to the relationship of diversity and inclusion and effects on the organizational productivity that go beyond the positive effects on workers. Corroborating this idea, Erhardt, Werbel, and Shrader (2003) go farther and suggest a relationship between the board of directors' demography and the financial performance of the organization. In a longitudinal study developed over 5 years, the authors investigated financial data in terms of investment returns and assets and percentage of women and other minorities in boards of directors of 127 large US companies. Their economic analyses indicated positive association between these financial indicators and practices of inclusion and diversity. Erhardt et al. (2003) argue that this impact may be due to the fact that representativeness of minority groups in boards mirrors the diversity of the pool of baseline workers and consumers of the organization and, thus, result in an expected enhancement of the organizational performance. As it seems, the investment in practices of diversity and inclusion results in returns to the organizational context. Diversity can be more than justice and a moral issue. It may be a business issue.

The way diversity is perceived is a far-reaching issue. and the expression of diversity in organizations may refer to any trait that makes people different. When the organizations handle with the issue of diversity exclusively in the light of

avoiding discrimination, they try to act with justice and in compliance with the laws. Therefore, everyone is expected to be treated with equality and respect. The programs of affirmative actions and quotas for minorities are some examples of this approach. The White and heterosexual men still earn the highest salaries in the market, sometimes performing the same role as a woman. This is the reason for programs of affirmative action and quotas for minorities—it is an attempt to include them. When the organization uses this type of strategy to handle with diversity, it diversifies the staff but not the type of work, because it does not take the most that people with different backgrounds can add in terms of different visions on the work and tasks performance. A broader way to approach the issue of diversity is to understand that Women, Black people, indigenous people, homosexuals, and many other groups can provide knowledge and different, important, and relevant competitive visions on how work can be performed. This could enable new and innovative ways to design processes, reach goals, assemble teams, inform teams, and lead. However, the private institute does not aim at inclusion, but at profit, generating proposals on inclusion exclusively to comply with the law. An organization that appraises differences between groups is likely to improve organizational effectiveness.

12.5   Conclusions

Cultural diversity in organizations means the inclusion of other people than man, White, heterosexual, married, and with 1.7 children on average. And above all, diversity and inclusion acknowledge, reinforce, and appraise differences and similarities existing among people and that will help the achievement of organizational and individual goals in a win-win proposal (Torres & Pérez-Nebra, 2014). Culturally diverse organizations have a potential to gain strong competitive advantages and to be dysfunctional. In a simple illustration of this idea, in Brazil the practice of referring to race groups using nicknames is considered to be friendly and loving (Rothblatt, 2003), contributing to the notion of "racial democracy" in the country. However, this racial awareness is pluralistic in symbolism comprising race, social class, and social position at the same time, creating a particularly virulent form of racism: the silent racism (Mikulak, 2011) and other forms of institutionalized oppression.

However, diversity and inclusion were very recently incorporated to the social and political concerns. The culture of racism, sexism, ageism, and many other *isms* is strongly present in the society as a whole and in public and private institutions and work organizations in general. There is a lot yet to be surveyed and, above all, much must be done to make the society and work organizations perceive the importance of these constructs, taking attitudes less prejudiced and with better acceptance of the diverse (Torres & Pérez-Nebra, 2014). Accepting individual, social, and historically meaningful differences is to develop in society attitudes that gather actions to minimize or, even better, abolish behaviors of discrimination and prejudices and differences and privileges within organizations and externally. With this,

all members of all groups are expected to be treated in a fair way to feel included and with equal opportunities in organizations and externally. Fortunately the topics of cultural diversity and inclusion are gaining room in the agenda of many organizations. However, there is a lot to be done to manage diversity in the Brazilian organizations.

Although the surveys approached in this paper point out problems resulting from poor management of cultural and social diversities in organizations and that good diversity management assumes fewer *isms* in organizations, this is not always true. Many positions bear the initial intention of praising or joking, but the effects of continuously engaging in such behaviors are harmful to the organization. The effect is different from the intention. We should be more aware about differences, the diverse, and accept it as purpose to act on and manage it. That is why training and monitoring in diversity and inclusion are as important as diagnoses on the occurrence of problems in this sector. It is worth highlighting that organizational management of cultural diversity is related to increased communication, better ways to solve problems, more effective decision-making, enhanced productivity, greater flexibility, and high moral among employees. It is only working on these mechanisms of organizational management and reassessment of attitudes and values that we can think on a fairer society in terms of social and organizational diversity and inclusion.

References

Almeida, A. M. F., & Ernica, M. (2015). Inclusão e segmentação social no Ensino Superior público no Estado de São Paulo (1990-2012). *Educação & Sociedade, 36*(130), 63–83.

Alves, M. A., & Galeão-Silva, L. G. (2004). A crítica da gestão da diversidade nas organizações. *Revista de Administração de Empresas, 44*(3), 20–29.

Armstrong, C., Flood, P. C., Guthrie, J. P., Liu, W., MacCurtain, S., & Mkamwa, T. (2010). The impact of diversity and equality management system on firm performance: Beyond high performance work systems. *Human Resource Management, 49*(6), 977–998.

Benedito, A., & Menezes, D. F. N. (2013). Políticas públicas de inclusão social. *Revista Ética e Filtica, 1*(16), 57–76.

Burke, R. J., & Black, S. (1997). Save the males: Backlash in organizations. *Journal of Business Ethics, 16*(9), 933–942.

Campos, J. G. F., Vasconcelos, E. P. G., & Kuglianskas, G. (2013). Incluindo pessoas com deficiência na empresa: Estudo de caso de uma multinacional brasileira. *Rev. Adm. (São Paulo), 48*(3), 560–573.

Carvalho-Freitas, M. N., & Marques, A. L. (2010). Inserção de pessoas com deficiência em organizações brasileiras: Um estudo com empresas socialmente responsáveis. *Gestão. Org – Revista Eletrônica de Gestão Organizacional, 8*(3), 483–502.

Cerqueira, F. B. P., & Pérez-Nebra, A. R. (2013). Significado do trabalho para mulheres de serviços terceirizados de limpeza e conservação. *Paper presented in the 34th Interamerican Congress of Psychology*, Centro Universitario de Brasilia, Brasília.

Coelho, M. R. (2012). A inserção da pessoa com deficiência no mercado de trabalho sob o ponto de vista da pessoa com deficiência. *Final Report of Supervised Practice presented as requirement to graduate in Business Administration from the Universidade do Estado de Santa Catarina – UDESC: Centro de Ciências da Administração e Socioeconômicas – ESAG.*

Cox, T., Jr. (1994). *Cultural diversity in organizations: Theory, research and practice*. San Francisco, CA: Berrett-Koehler Publishers.

Erhardt, N., Werbel, J. D., & Shrader, C. B. (2003). Board of director diversity and firm financial performance. *Corporate Governance, 11*(2), 103–111.

Faludi, S. (1991). *Backlash: The undeclared war against American women*. New York: Three Rivers.

Fedman, B. M., & Davidson, M. N. (2002). Inclusion: What can I and my organization do about it? *The Industrial – Organizational Psychologist, 29*(4), 80–85.

Ferdman, B. M. (2010). Teaching inclusion by example and experience: Creating an inclusive learning environment. In B. B. McFeeters, K. Hannum, & L. Booysen (Eds.), *Leading across differences: Cases and perspectives – facilitator's guide* (pp. 37–49). San Francisco: Pfeiffer.

Ferdman, B. M., & Dease, B. (2013). *Diversity at work: The practice of inclusion*. San Francisco, CA: Jossey-Bass.

Ferdman, B. M., & Sagiv, L. (2012). Diversity in organizations and cross-cultural work psychology: What if they were more connected? *Industrial and Organizational Psychology, 5*(3), 323–345.

Feres, J., Jr., Campos, L. A., & Daflon, V. (2011). Fora de quadro: as ações afirmativas nas páginas d'O Globo. *Contemporânea – Revista de Sociologia da UFSCar, 2*, 61–83.

França, L. H. F. P., & Stepansky, D. V. (2012). Voices from the front: The view from Brazil. *Global Aging: Issues and Action, 8*, 40–42.

Fuertes, J. N., Miville, M. L., Mohr, J. J., Sedlacedk, W. E., & Gretchen, D. (2000). Factor structure and short form of the Miville-Guzman Universality-Diversity Scale. *Measurement and Evaluation in counselling and Development, 33*, 157–168.

Gallegos, P. V., & Ferdman, B. M. (2012). Latina and Latino ethnoracial identity orientations: A dynamic and developmental perspective. In C. L. Wijeyesinghe & B. W. Jackson III (Eds.), *New perspectives on racial identity development* (2nd ed., pp. 51–80). New York: New York University Press.

Glat, R. & da Oliveira, E. S. G. (2003) Relatório de consultoria técnica, projeto Educação Inclusiva no Brasil: Desafios Atuais e Perspectivas para o Futuro. Banco Mundial. Disponível em. http://www.cnotinfor.pt/inclusiva. Acessado em dez. 2010.

Goyal, S., & Shrivastava, S. (2013). Organizational diversity climate: Review of models and measurement. *Journal of Business Management & Social Sciences Research, 2*(5), 55–60.

Hanashiro, D. M. M., Torres, C. V., Ferdman, B. M. & D'Amario, E. Q. (2011). *Medindo Inclusão no Ambiente Organizacional: Uma Visão "Emic" da Escala de Comportamento Inclusivo*. Paper presented in the 35th Meeting of the *Associação Nacional de Pós-Graduação e Pesquisa em Administração*, Rio de Janeiro, RJ.

Hayes, B. C. (2002). Creating inclusive organizations: Its meaning and measurement. Dissertation submitted to the Faculty of Old Dominion University in Partial Fulfillment of the requirement for the degree of doctor of philosophy.

i.Social. (2015). *Profissionais de Recursos Humanos: Expectativas e percepções sobre a inclusão de pessoas com deficiência no mercado de trabalho* (2ª ed.). São Paulo: Autor.

International Labour Organization. (2015). *Women in business and management: Gaining momentum*. Recovered on 01/04/2016, from http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_334882.pdf

Irigaray, H. A. R., Saraiva, L. A. S., & Carrieri, A. P. (2010). Humor e discriminação por orientação sexual no ambiente organizacional. *Revista de Administração Contemporânea, 14*(5).

Kluegel, J. R., & Smith, E. R. (1983). Affirmative action attitudes: Effects on self-interest, racial affects, and stratification beliefs on Whites' view. *Social Forces, 617*(1), 797–824.

Leão, M. A. B. G., & Silva, L. S. (2012). Vivências de trabalhadores com deficiência: uma análise à luz da Psicodinâmica do Trabalho. *Revista Brasileira de Saúde Ocupacional, 37*, 159–169.

Lima, M. (2010). Desigualdades raciais e politicas publicas: ações afirmativas no governo Lula. *Novos Estudos - CEBRAP, 87*, 77–95.

Linnehan, F., Konrad, A. M., Reitman, F., Greenhalgh, A., & London, M. (2003). Behavioral goals for a diverse organization: The effects of attitudes, social norms, and racial identity for Asian Americans and Whites. *Journal of Applied Social Psychology, 33*, 1331–1359.

Mikulak, M. (2011). The symbolic power of color: Constructions of race, skin color and identity in Brazil. *Humanity and Societey, 35*, 62–99.

Miles, P., & Erhardt, N. (2014). Top management diversity is just good business: Using CSR measures to explore the diversity-firm performance link. *Journal of Business and Economics, 5*(4), 449–461.

Miville, M. L., Gelso, C. J., Pannu, R., Liu, W., Touradji, P., Holloway, P., & Fuertes, J. (1999). Appreciating similarities and valuing differences: The Miville-Guzman Universality-Diversity Scale. *Journal of Counseling Psychology, 46*, 291–307.

Miville, M. L., Carlozzi, A. F., Gushue, G. V., Schara, S. L., & Ueda, M. (2006). Mental health counselor qualities for a diverse clientele: Linking empathy, universal-diverse orientation, and emotional intelligence. *Journal of Mental Health Counseling, 28*(2), 151–165.

Mor Barak, M. E. (2005). *Managing diversity: Toward a globally inclusive workplace*. Thousand Oaks, CA: Sage.

Mor Barak, M. E. (2011). *Managing diversity: Toward a globally inclusive workplace* (2nd ed.). Thousand Oaks, CA: Sage.

Nascimento, T. G. (2010). *Polícia: uma identidade em discussão: Construção, validação e aplicação de um Instrumento*. Master's Degree Dissertation, Graduation in Social, Work and Organizations Psychology, Universidade de Brasília.

Oliveira, M. K., Pérez-Nebra, A. R. (2012). Quando sair é a única saída: Uma análise do sentido do trabalho e a da rotatividade na função de servente de limpeza. Paper presented in the *V Congresso Brasileiro de Psicologia Organizacional e do Trabalho*. Universidade Estadual do Rio de Janeiro, Rio de Janeiro.

Presotti, L. (2011). *Gerenciar a diversidade cultural nas organizações: Caminhos para a inclusão*. Master's Degree Dissertation. Universidade de Brasília.

Pulignano, V. (2011). The EU and industrial relations modernization: Supranational state support for trade union and social partner modernization and social dialogue. *The International Journal of Human Resource Management, 22*(18), 3775–3793.

Roberts, J. A., Laux, J. M., & Burck, A. M. (2009). Exploring the relationship between universal-diverse orientation and personality. *Journal of Counseling Practice.* 1–7. Recovered on 01/24/2016 de: www.ohiocounseling.org/Resources/Documents/JCP%20Archives%20PDF.pdf

Rothblatt, J. (2003). Ó Crioulo! Addressee terms that address race relations in Brasil. Unpublished paper. Recovered on 06/02/2013 from: http://www.udc.es/dep/ix/cac/aa1998/rothblatt.htm

Saraiva, L. A. S., & Irigaray, H. A. R. (2009). Políticas de diversidade nas organizações: Uma questão de discurso? *Revista de Administração de Empresas, 49*(3), 337–348.

Strauss, J. P., & Connerley, M. I. (2003). Demographics, personality, contact, and universal-civerse orientation: An exploratory examination. *Human Resource Management, 42*(2), 159.

Strauss, J., Sawyerr, O., & Oke, A. (2008). Demographics, individual value structures, and diversity attitudes in the United Kingdom. *Journal of Change Management, 8*(2), 147–170.

Thomas, D. A., & Ely, R. J. (1996). Making differences matter: A new paradigm for managing diversity. *Harvard Business Review, 74*(5), 79–90.

Thompson, R., Brossard, D., Carlozzi, A. F., & Miville, M. L. (2002). Five-factor model (big five) and universal-diverse orientation in counselor trainees. *Journal of Psychology, 136*(5), 561–572.

Torres, C. V., & Pérez-Nebra, A. R. (2014). Diversidade e Inclusão nas Organizações. In J. C. Zanelli, J. E. Borges-Andrade, & A. V. B. Bastos (Orgs.), *Psicologia, Organizações e Trabalho no Brasil* (2nd ed., pp. 526–546). Porto Alegre: Artmed.

UN – United Nations Organization. (1948). *Universal declaration of human rights*. New York: Author.

Viana, L. M. B. P., Tardelli, P. G. A. S., & Almeida, L. I. R. (2012). Inclusão e mercado de trabalho: Uma análise das dificuldades enfrentadas por pessoas com deficiência em ingressar no mercado de trabalho da Grande Vitória (ES). *Destarte, 2*(2), 95–109.

Vontress, C. E. (1979). Cross-cultural counseling: An existential approach. *Personnel and Guidance Journal, 58*, 117–122.

Vontress, C. E. (1988). An existential approach to cross-cultural counseling. *Journal of Multicultural Counseling and Development, 16*, 73–83.

Vontress, C. E. (1996). A personal retrospective on cross-cultural counseling. *Journal of Multicultural Counseling & Development, 24*(3), 156–166.

Wilson, R. (2006). The power of professors. *Chronicle of Higher Education, 52*(26), 10–13.

Zauli, A., Torrres, C. V., & Galinkin, A. L. (2012). Câmara dos Deputados: Democracia e igual-dade de oportunidades entre mulheres e homens? *Cadernos de Psicologia Social do Trabalho, 15*(1), 49–64.

Zhou, P., & Park, D. (2013). *Which organizations are best in class in managing diversity and inclusion, and what does their path of success look like?* Recovered on 01/08/2016 from http://digitalcommons.ilr.cornell.edu/student/46/

Zidório, A. P. C. (2012). Desenvolvimento da carreira de executivas do Hospital Universitário de Brasília-HUB. *Participação*, 42–51.

Chapter 13
Social Network Analysis in Organizations as a Management Support Tool

Elisa Ribeiro, Magno Macambira, and Elaine Rabelo Neiva

Organizations and their management processes have been studied by diverse fields of knowledge for decades. During this time, the accumulated knowledge on organizational processes and their actors has produced essential management support tools. The design of structures and labor processes is more and more aligned with organizational strategy, diagnostics using process mapping, commitment to evaluation instruments, and climate, and transferring training to work are some of the available tools.

Besides these, organizational network analysis (ONA) has distinguished itself in making informal relationships woven into the organizational context visible. Informal relationships have always been considered a great influence in daily life by engendering situations such as hiring and promotion decisions, arousal or solution of group problems, and fluidity or obstacles to workflow. In spite of considering this influence, the ambit of informal relations has always been considered intangible or even an obstacle to organizational transparency or equity. As such, even though managers have recognized the influence of informal networks, they have not possessed the tools to view and manage these networks.

In spite of advances in the field of organizational behavior studies, the research and intervention tools available emphasize either the individual or organization in an isolated way (Brass, 2014; Cross & Thomas, 2008). ONA consists of the use of social network analysis (SNA) to understand and intervene in organizational phenomena. It differs from the other existing tools in that it focuses on and analyzes

E. Ribeiro (✉)
Universidade Federal da Bahia, Salvador, BA, Brazil
e-mail: elisambr@hotmail.com

M. Macambira
Universidade Metodista, São Paulo, SP, Brazil
e-mail: macambira04@gmail.com

E.R. Neiva
Universidade de Brasília, Brasília, DF, Brazil
e-mail: elaine_neiva@uol.com.br

the interactions between actors, the resources that transit within these interactions, and the social structure formed by these interactions. The actor responses are always perceived as being a result of their attributes immersed in an environment, the relationship networks (Brass, 2014). For this reason, ONA causes implicit aspects subjacent to the interaction dynamics that permeate the formal organization structure to become visible.

The 1920s study performed by Elton Mayo in the Hawthorne factory was one of the pioneers in mapping relationships in the organizational context. He demonstrated the existence and relevance of informal relationships not considered in the company organogram, as well as established the relation between an increase in employee productivity and management interest in them (Scott, 2000). As of the 1930s, social network analysis studies intensified in the organizational context. However, it has only been in the last decade that its application has intensified directly toward the management of people and companies (Cross & Parker, 2004; Cross & Thomas, 2008).

Understanding informal relations mean more than identifying connections and influential actors in the network. It means understanding how the standards of interaction favor or do not favor organizational performance. It means discovering the locations on the network where broadening collaboration is necessary, as well as where there is excessive interaction generating increased efforts and delays in decision processes (Cross, Singer, Colella, Thomas, & Silverstone, 2010).

This chapter shows the main ONA contributions as a diagnostic and intervention tool in the support of strategic management, teams, and people in the organizations. To enable understanding of the reach of applied ONA studies and cases, we introduce basic SNA notions, main concepts, measures used in organizations, and their general implications to actors, groups, and organizations. Next, we present empirical studies and cases using ONA that highlight the contributions of this tool to daily management.

13.1 Social Network Analysis (SNA)

SNA is a paradigm based on the premise that social life emerges and develops by relations and patterns formed by these relations (Marin & Wellman, 2011). It is an interdisciplinary field of study that chooses the interaction between actors (people, organizations, countries, etc.) as the object of study, with emphasis on the visualization, measurement, and analysis of the relationship networks that connect these actors (Freeman, 2011).

Informal social networks are composed of a set of people connected by social relations. In organizational studies, the relations of friendship, knowledge, counseling, information, and trust are those most studied. The dimensions generated by mapping the network allow it to be understood at its multiple levels: the actor, the subgroups (dyads, triads, etc.), and the network as a whole (Carpenter, Li, & Jiang, 2012; Hanneman & Riddle, 2005).

Networks are generated by simple consignations regarding the relations generated by each actor. A friendship network, for example, can be generated by

consignation: cite the work colleagues that you consider your friends. In the network visualization diagrams, the points are the actors or us. The lines indicate the connections between us, and the arrows indicate the direction of the relation, which can be either one- or two-way.

For each level of analysis, there is a set of measurements that reveal network structure patterns and the positions of groups and actors immersed therein. At the macrolevel we can see, for example, the size of the network, the proportion of relations existent in face of the possibilities (density), and the greatest (diameter) and the smallest (geodetic) distance possible between the actors and centralization. The degree of centralization informs us regarding the general standard of distribution of the ties, if they are concentrated on determined network actors or if they more equally distributed (Carpenter et al., 2012). These macro measurements inform us regarding the degree of network cohesion, the degree of availability, and the speed of information flow between us and the network (Hanneman & Riddle, 2005).

At the group evaluation level, we can identify subgroups with more frequent, near, direct, and strong relations, the so-called cohesive subgroups (clusters). There are several subgroup measurements in SNA, for example, cliques, n-cliques, n-clans, and k-plexes. They progressively differ in the reduction of restrictions for the existence of a group to be considered. Cliques or caucuses are subgroups formed by three actors (minimum) where everyone chooses each other as pairs in their connections. The different types of subgroups studied are evaluated regarding the presence of mutual relations, the proximity, and the reach between their members, as well as the frequency of ties within and without of the groups (de Nooy, Mrvar, & Batagelj, 2005; Hanneman & Riddle, 2005; Scott, 2000; Wasserman & Faust, 1994).

The cohesive subgroups are theoretically important due to the social powers that operate by means of direct contact between the subgroup members by means of indirect conduct transmitted by intermediaries or by means of actor comparison within and without the groups. They possess the same standards, values, orientations, and subcultures (Hanneman & Riddle, 2005; Scott, 2000), which are the basis for solidarity, identity, and cooperation when compared with actors outside the group (de Nooy et al., 2005).

An important intergroup relations evaluation measure that relates to the subgroup notion is homophobia. The measurement is derived from the very notion of homophilia, which is considered an organizational principle in relations and predicts a standard between association and resemblance, where contact between similar persons (gender, race, age, occupation, beliefs, etc.) occurs at a more elevated rate than among dissimilars. Elements such as geographic proximity, family nuclei, and participation in the same organizations are contextual factors that promote homophilia (McPherson, Smith-Lovin, & Cook, 2001).

Research shows that ties between dissimilar actors become extinct with greater frequency when compared in their processes of formation and dissolution (McPherson et al., 2001). Even though considered a "natural" tendency, the predominance of more homogenous standards expresses disputes among members of cohesive subgroups by means of recognition and social strength (Wimmer, 2008; Wimmer & Lewis, 2011). In this sense, conviviality between distinct groups needs to be managed within organizations in order to avoid the expression of discrimina-

tion, interpersonal conflicts, absenteeism, and low commitment and performance (Guillaume, Dawson, Woods, Sacramento, & West, 2013).

At the actor or individual level, it is possible to evaluate the place they occupy by means of centrality and structural position measurements. At the end of the 1940s, structural centrality measurement was developed, founded on the distance between each actor and all others. It was used to explain the differences in performance and moral behavior for employees of an organization. From that time, many centrality measurements were developed, the most studied being degree, intermediation, proximity, and power (Freeman, 2011).

The centrality of degree is the simplest, accounts for how many people the actor cites (out-degree), and how many people cite the actor (in-degree). Depending on the type of tie studied, high centrality input can indicate prestige in the network, and high centrality output identifies actors with high expansivity. In general, actors who have more connections with others have an advantage in that they have alternative forms to satisfy their needs and take advantage of network resources (Hanneman & Riddle, 2005; Wasserman & Faust, 1994).

Another important measure, the centrality *of* intermediation, refers to the control an actor has over the possibility of interaction between another two actors. The more an actor routes to meet others, the greater the degree of the centrality of intermediation. However, the centrality of proximity centers on evaluating the distance of each actor in relation to the others. The more an actor commutes to meet others, the greater their degree of centrality of intermediation will be. The greater this centrality, the closer the actor is to the others, which means rapid access on the network (Hanneman & Riddle, 2005). Figure 13.1 shows some of these concepts in an illustrated manner. We can identity the actors that present the greater degree of centrality, intermediation (forming bridges between subgroups), and highly cohesive subgroups.

The reach and direction of the interpretation of the centrality measures will always depend on the network structure and the context that is being studied. If, for example, the connections become redundant or if the actors with whom an actor connects are not well related, the related connections will not be efficient in terms of information flow.
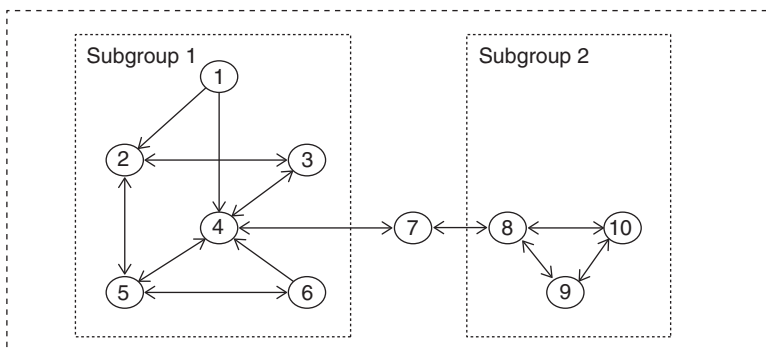
Fig. 13.1 Structure of relations in a sociometric analysis

The position measures identify actors who possess similarities in their connection standards. This similarity, or equivalency, can assume three forms that vary progressively as to degree of abstraction: *structural* (actors establish the same relations with all other actors in the network), *automorphic* (the actors can change places and the distance between the other actors does not suffer alterations), and *regular* (identification of relationship patterns in distinct networks) (Hanneman & Riddle, 2005).

we can visually observe the three types of equivalencies if we divide the network into four hierarchical levels (Fig. 13.2). In this way, the identification of the equivalencies is more easily understood. We can therefore identify the *regular* equivalency among actors "f–g," as well as with actors "b–e." We can identify the automorphic equivalency among actors on the third and fourth level (e–h–i and d–f–g). Finally, the regular equivalency can be seen between the second level actors (b–c), the third level actors (d–e), and the fourth level actors (f–g–h–i).

Another frequent theme in social network analysis refers to how social capital is used by actors and by what structural arrangements it can be made available (Freeman, 2011). Social capital refers to the instrumental utility of the network to its participants, being the sum of current and potential resources (Carpenter et al., 2012; Lozares, Roldán, Verd, Martí, & Molina, 2011). Studies in social capital discuss the consequences of interactions based on weak and/or strong ties both for the actors and for the network as a whole. Two theories, which are often used to understand organizational phenomenon, direct and foster these studies. They are the "Theory of Weak Ties" by Granovetter (1973) and "Structural Holes" by Burt (2002).

According to Granovetter (1973), weak ties are relevant in that they are bridge connections that, even though present low cohesion, are the only path available between two groups of actors. For a tie to present this property, it must be weak and a bridge at the same time, and its strength is in its being a potential source of new information. The author used this theoretical assertion to explain why people are

Fig. 13.2 Equivalencies analysis
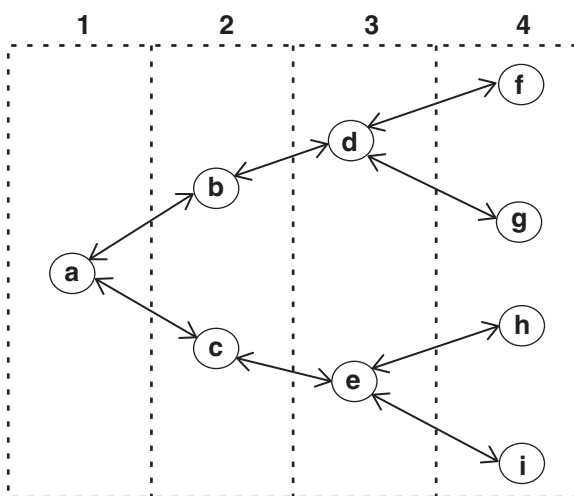
able to gain employment more by means of those who are known than by means of close friends. In this case, people with a greater number of weak ties were more successful in their search for employment.

Strong ties generate cohesive groups by means of frequent interaction (high density), sharing daily experiences, and affective closeness. The cohesion defines the content of the resource to be accessed by the actor and exerts isomorphic pressure on each dyad. At the same time that it facilitates the exchange of resources, it generates redundancy in the content traded and directs the actors to act in accordance with the expectations of the others. Strong ties form stable, almost immutable clusters which are little influenced by what surrounds them. On the contrary, weak or low cohesion ties allow participants to receive different resources and are less pressured by expectations and norms implicit to them (Freeman, 2011).

In the theory of structural holes by Burt (2002), an actor finds himself in a privileged position when they establish contacts that do not possess a direct connection among themselves. This theory maintains Granovetter's considerations regarding strong and weak ties and considers that the formation of holes only happens in groups with weak ties. The existence of structural holes is advantageous in competitive situations in relation to external groups. However, in intragroup relations, the presence of structural holes presents weak points that can be used by external actors (Lemieux & Ouimet, 2008).

The distinction of concepts and measures by analysis levels is not always purely factual and they often overlap. This happens because the networks are constituted on blocks of subgroups formed by three actors (triads), and the triads are formed by at least two links connecting three people. This means that every macro measure is the result of subgroup interaction standards, and all measures of specific actors and subgroups formed as a result of the general network structure.

In this section we described the concepts and measures most commonly used in analysis studies of organization networks. The range of SNA theories, concepts, and measures is vast, and the researchers who study organizational phenomenon have taken advantage of this range. Following, we will present studies that illustrate the applications of social network analysis in the organizational structure and its main advances.

13.2 ONA and Its Applications in the Strategic Management of Groups and People

The perspective of social network analysis applied to the understanding of organizational phenomenon presents several peculiarities. Although covering multiple levels of analysis (actor, dyad, subgroups, and network), they do not necessarily correspond in a simplistic way to the possible types of entities studied, or rather, individual, group, and organization. For example, in an individual analysis, it is possible to evaluate how the centrality of an actor in a communication network in an organization relates with their ability to innovate and solve problems (Perry-Smith & Shalley, 2003). However, in spite of the individual focus, it parts from a dyadic

perspective because communication always involves two or more people. More than that, the tie structure in which the dyad is immersed restricts the possibilities or constraints in accessing the network resources. Therefore, it is not uncommon in network situation research for micro- and macrolevels to be quite similar theoretically and methodologically (Katz & Lazer, 2016). Not only similar, but they are actually mutually determined.

As such, the studies will be described on the organizational, group, and individual axes as a didactic strategy in the chapter structure. However, just as the ARS measures and concepts, the organizational processes studied, such as innovation, sharing of cultural values, interdepartmental relations, transfer of learning, and performance, are also multilevel. They result in the network interactions that constitute organizations.

13.3 ONA and Strategic Organizational Management

The mapping of informal relations in organizations functions as a deep diagnosis of what is happening in the organization's daily life. This permits the evaluation of the distance between the formal proposal of work process flow and how this flow is, in fact, working. More than that, to what point the functioning favors the assumption of the organizational objectives and, consequently, their performance (Cross et al., 2010; Cross & Thomas, 2008).

Based on the analysis of the relations between organization collaborators and the evaluation of how much the standard of interactions favors performance, the manager can intervene to amplify the convergence between the informal relations networks and the organizational structure. This does not necessarily mean to increase the amount of interactions, making networks more and more dense. It means to stimulate collaboration at the necessary locations, indicated by ARS and analyzed in light of the organizational need. In this way, differences in labor characteristics, the product developed, or the service offered imply differences in the network standards necessary for efficient organization performance (Cross & Thomas, 2008).

Organizations can be separated into two large groups according to the context in which they operate and with the main governing values for each organization. The first group is composed of organizations that need to continually supply customized answers. This implies dealing with unknown problems and reaching solutions that are also known. The main governing value for these organizations is to supply innovative solutions to deliver the expected product or service. In this type of organization, the networks need to be decentralized, dense, and endowed with reciprocal relations within and beyond their borders. It is necessary to trust the expertise of the group and, at the same time, be able to identify peripheral expertise, at times outside the network (Cross & Thomas, 2008).

The second group of organizations deals with routine answers, and their main value is in providing consistent answers to previously mapped and known problems. In this case, the connection should be more aligned (when compared to the previous model) to the formal workflow. Networks tend to be more centralized, borders are

well defined, and the interaction with external actors is limited (Cross & Thomas, 2008). Consonant with this association between the network standard and the type of organization, Grant and Parker (2009) indicate that centralized communication networks result in better performance in simple and routine tasks. However, for complex and high uncertainty tasks, the decentralized networks promote better efficiency in organizational work processes.

Classifications of this nature are an important guide in the use of ARS to diagnose and intervene in organizations. Nevertheless, it should be understood as a characterization of extremes within a continuum of possibilities of organizational arrangements, for it is common to find units with customized demands and units with routine demands in the same company. There may be organizations facing an unstable environment, being forced to transition from more routine workflow models to those directed toward new problems and solutions. As such, each network diagnosis, as with all case diagnosis, should be contextualized and understood in the context of the very organization.

The central question is how the interaction standards either favor organizational performance or do not. The answer to this question is constructed jointly between the network analyst and the organization managers. It does not depend only on network mapping but on its association with sociodemographic data, performance indicators for the organization, and other management support tools available. Next, we will present an example of social network analysis as a support to organization strategic management, highlighting the proposed interventions proposed and/or adopted based on this diagnosis.

The study by Flores et al. (2014) mapped the informal relations of collaborators in five companies in the construction area. The laborers answered questionnaires that informed who they interacted with and with what frequency. Besides this, they were asked to identify the nature of the established relation: exchange of relevant information, problem solution, planning, innovative ideas, and professional feedback. This means mapping relations clarified the role of each actor and how this role approximated what was expected of them in the formal structure or not.

The results indicated that the relations established to solve problems and with planning goals were the weightiest in the flow of information in the companies analyzed. When interactions with leaders were analyzed (formal and informal), they were not permeated by relations of trust and the exchange of relevant information in most companies. Besides this, the relevant information exchanged did not relate to innovation. After sessions with company executives to discuss and interpret the interpretation of the analysis, action was taken in the way of making the flow of information more available in the whole network. In this direction, very central actors were identified with the objective of developing alternative channels by means of mentoring actions. Besides this, there was an effort to insert all team members in action planning, a task previously concentrated in leaders. Finally, once identified, the most sought after actors were procured to discuss solutions to problems and make them more accessible to all others (Flores et al., 2014).

Another case where high network centralization was present was described by Cross and Thomas (2008) that tells of the case of the Anny Dowing (pseudonym) company. In this company, ONA showed that the ten most central actors in the

informal social network generated 60% of the company income. If five of them were removed, it would mean an income loss of 38%. Even though essential, these persons most critical for sales of potential projects were not recognized in the formal company structure. Based on this mapping, the company came to listen to them and put them in contact with expertise that they did not yet know. Furthermore, there was a deliberate effort to integrate persons known for their creativity but who were located on the fringes of the network.

The study by Lago Júnior (2015) also observed actors in central and peripheral positions, comparing them with the workflow processes and their results. The general objective of the study was to apply the analysis of networks to improve the efficacy of organizational change processes in a Brazilian information technology company. After first mapping friendship, information, and trust relations among the 60 direct collaborators, a diagnosis was performed of the relations between management and collaborators. The network mapping revealed the presence of formal managers in peripheral roles on the informal network, as well as invisible collaborators, or rather, with no formal management roles, being made legitimate and providing support to the work processes. Besides this, the analysis of interdepartmental relations revealed low collaboration between strategic organization sectors.

This diagnosis launched a range of interventions, such as the redefinition of attributes, a rotation of functions, the promotion of greater synchrony between the formal structure and informal relations, and, mainly, interventions directed to increase cohesion in the friendship, information, and trust networks. After these interventions, new mappings were performed to evaluate the results. All informal social networks studied presented an increase in density and a reduction in the distance between actors. The alterations resulted in a greater collaborator adherence to the organizational scenario change expectations (Lago Júnior, 2015).

Another study example in the field of organizational change is described by Cross and Thomas (2008). In the described case, the application of ONA had the objective of favoring the implementation of a matrix structure in a technology services company (provider) with 10 thousand employees distributed to 70 offices around the world. The analysis of the information networks and collaboration of 250 executives and managers demonstrated the following impediments to the implementation and function of the matrix structure: the presence of excessively central leaders, which became bottlenecks in the flow of information and delayed the decision making process; actors, with direct contact with clients, situated on the network periphery and, therefore, distant from the executors of projects directed toward client sales; and regions that maintained collaboration in the local ambit but that were isolated from the matrix structure.

Based on the mapping, the company managers directed efforts to reduce the centrality of certain leaders, reduce the network distance between production actors and actors with direct client contact, and reduce the local focus on collaboration. The adopted actions with this objective were to delegate the approval of the more simple, low-cost projects, build information channels accessible to global specialists, stimulate a culture of independent responsiveness independent of the position of function of who seeks information, restructure the diagnosed sectors with high regional collaboration, and strengthen the matrix culture by means of training (Cross & Thomas, 2008).

Besides the confrontation between roles and formal work processes and positions occupied in the network, the study of informal networks in organizations can contribute to aligning with desires cultural values. Organizational culture exists as knowledge is shared in the minds of the organization members, and this shared knowledge is distributed and interpreted by means of social networks (Krackhardt & Killduff, 2002). An example is parallel workflows. Friedkin and Johnsen (1990, 1997) and Carley (1991) developed network models that describe how individuals interact one with another to produce homogeneity of beliefs and transmission of cultural standards. These models integrate a well-established research area, with roots in classic social psychology (e.g. Allen, 1977; Homans, 1950). This field concerns itself with how physical proximity, similarity in beliefs and attitudes, quantity of interaction, and affective ties are interrelated.

In work organizations, these social networks include counseling, information, and friendship networks. The structure of relations within which the individual is incorporated can restrict and permit the transfer of knowledge, specifically cultural knowledge. As such, the perceptions regarding social relations are an important aspect of culture. In organizations, informal counseling and friendship are fundamental to making decisions and the allocation of resources (Krackhardt & Hanson, 1993). The structure of these networks resides as understood knowledge in the minds of the organization members under the form of cognitive maps (Krackhardt & Killduff, 2002; Kumbasar, Rommey, & Batchelder, 1994). To the point that people agree regarding the structure of counsel and friendship relations in organizations, they share an understanding of important aspects of the organization culture.

Studies that use SNA as a strategy to understand the processes of adhesion and/ or resistance to organizational cultural standards evaluate how individual groups reinforce potentially idiosyncratic understandings of cultural aspects by means of the network relations structure. Based on recent work on Simelian dyad ties (defined as dyads imbedded in three-person cliques), Krackhardt and Killduff, (2002) examine perceptions regarding counseling and friendship relations in three companies. The results support the idea that the Simelian dyad ties (in relation to dyads in general) reach greater agreement regarding who is calling whom and who is embedded in triads in organizations.

Another case described by Cross and Thomas (2008) shows the case of a technology company that sought, without success, to increase collaboration between engineers and distinct hierarchical units and levels with the objective of more quickly attending market demands for innovation. In this case, ONA was associated with inventories of cultural standards with the objective of associating the positions of the actors and their degree of alignment with the culture to understand the preeminence of the value in the network. In general, there was a discrepancy in the perception of culture between engineers and managers. The first regarded the culture as rigid, whereas the managers evaluated the culture as flexible and of value to innovation.

The results indicated the existence of central actors with high and low adherence to the desired organizational culture, a dynamic that nulled the influence of actors aligned with the company culture. It was also possible to identify actors that

connected different units, acting as information brokers, but invisible to the organization. Based on this diagnostic, the managers adopted formal recognition and development practices for the more central actors and the information brokers who carried a positive culture. The central actors misaligned with the organizational culture were inserted into a training program with this goal (Cross & Thomas, 2008).

Network management in the promotion of greater alignment between the organization values and its collaborators occurs mainly by means of identifying change agents. Essentially, these change agents are opinion leaders, bearers of organizational culture (positive and negative), and contacts that infect by their enthusiasm at work. Besides identifying these atypical actors, it is necessary to be clear on the reference cultural values and seek the collaboration of these agents in the promotion of confluence with these values. These change agents will make interventions at the fragmentation points in the network represented by actors with visions and attitudes counterproductive to the consolidation of the desired culture (Denning & Cross, 2010).

The examples of the studies described until now show the need to configure the collaboration standards that in fact add value to the organization. The adoption of the matrix structure has grown in companies in the last decades due to the globalization of business. In this context, collaboration has assumed a central role in business performance. However, the demand for collaboration has overburdened employees, making them bottlenecks in the work process, reducing their performance, and delaying the flow of work processes. ARS studies held in more than 300 companies have shown that only 3–5% of the actors assume about 30% of the company collaborative actions. Faced with this reality, it is necessary that leaders act in the redistribution of collaboration, both by the promotion of behavioral change in more collaborative actors to bar unnecessary demands and to more demanding actors discerning the real need to seek support (Cross, Rebele, & Grant, 2016).

The combination between network analysis with performance measures, process maps, monitoring communication in internal systems, and organizational behavior evaluation instruments (e.g., culture) is an efficient strategy to identify where and how to intervene to reach the desired organizational results.

The next axis of discussion centers on the analysis of intra- and intergroup relations in organizations. We present the main emphases of study of this level of analysis, empirical studies that illustrate these emphases, as well as the implications for management resulting from these studies.

13.4   The ONA in Group Management

There are several studies that broach the internal dynamic of groups and units, seeking to explain how this affects organizational function and change (Nery & Neiva, 2015). The study of group processes in organizations under the SNA optic helps in the understanding of many themes associated with organizational behavior. For example, we can cite studies regarding the diffusion of beliefs and practices, conformity, transfer of knowledge, team performance, diversity, interdepartmental

relations, and innovation. The use of SNA allows the identification and capture of group dynamic processes and their impact on the organizational network, besides understanding the effects of the network on three levels: individual, group, and network (Wölfer, Faber, & Hewstone, 2015).

An ample gamut of work that associates groups and SNA emphasizes the evolution and change in the group structure and the repercussions on the organizational environment (Doreian & Stokman, 1997; Burkhardt & Brass, 1990; Burt, 2002; Shah, 2000; Snijders, 2001). For example, we can cite the study by Rand, Arbesman, and Christakis (2011) regarding how the degree of group cooperation suffered under the effects of the formation and dissolving of strategic ties. The results show that cooperation fell over time when the networks were randomly altered or if, on the contrary, did not undergo any change. However, in situations where cooperation represented a benefit for all in the group, cooperation increased when the members were at liberty to update their connections. In this case, members acted to break ties with those who did not contribute and deliberately formed connections with persons who cooperated. This study showed an alternative reaction to situations where the group performance suffered due to colleagues who retained resources or who avoided other group members (Sparrowe, Liden, Wayne, & Kraimer, 2001).

Since 1964 (Shaw, 1964), studies suggest that group cohesion measures can relate positively on performance. Since then, studies have considered a variety of factors, from the network structure and formation to the nature of the work process and the organization. Linked to these factors, research has observed the effects of the intra- and intergroup ties and the degree of centralization in the promotion of better results for group work and for the organization as a whole. In general, studies have indicated relations between the strength of the tie, centrality, and the degree of task difficulty. It is known, for example, that high centralization (few actors concentrating many interactions) promotes performance only in the execution of the simplest tasks (Sparrowe et al., 2001). As an illustration of the effect of the strength of ties, results show that weak ties between units help one team seek useful knowledge in other units. However, they impede the transfer of complex knowledge, which tends to demand strong ties between the two groups, to be diffused (Hassen, 1999).

With the objective of evaluating the influence of interdepartmental cohesion in a process of organizational change, Tenkasi and Chesmore (2003) studied the social networks of 40 units, one a multinational. Among them, there were units responsible for implementing change and receptor units, objective of the change implementation. The results suggest the need for the change implementers to create strong ties with the receiving units for a successful change implementation. The density of strong ties, both at the unit level and at the leader level with the social network of the receiving unit were predictors of the use of change, indicating that both the leaders as well as the members of the unit as well as the unit leaders possess a central role, but independent, in influencing the use of change.

An ethnographic study developed by Macrì, Tagliaventi, and Bertolotti (2001) in a small Italian ladder factory used SNA to observe the process of a new information system. Based on an analysis of network alterations, the researchers identified coalitions against and in favor of the innovation. For example, the study results

observed that the business owner removed his approval of the changes when he noticed that actors with greater technical expertise were more sought after.

Another important branch of studies is the transmission of beliefs, attitudes, and practices by means of interpersonal ties in groups. Especially in the ambit of studies regarding social influence, two processes are commonly studied based on networks: convergence and contagion. Studies on convergence seek to explain attitudes and practices common to non-connected actors but that establish interaction standards similar to the network (Galaskiewicz & Burt, 1991). A classic work in this line is that of Erickson (1988) who uses the measure of structural equivalency to explain the formation of common attitudes.

The studies regarding contagion seek to explain the sharing of ideas, attitudes, and practices by means of durable interpersonal ties as information and influence conductors. The mutual influence of ties between group actors creates a crescent homogeneity and promotes the distribution of ideas and practices (Davis, 1991, Geletkanycz & Hambrick, 1997, Harrison & Carroll, 2002; Haunschild, 1994; Krackhardt & Killduff, 2002; Sanders & Hoekstra, 1998).

Studies regarding the use of knowledge and creation also elect the social interaction processes as an operations substrate to understand these phenomena (Brown & Duguid, 2000; Davenport & Prusak, 1998). One line (which suffers from a lack of rigorous empirical research) is based on practical communities (Brown & Duguid, 1991; Lave & Wenger, 1991; Tyre & Von Hippel, 1997; Wenger, 1998) in which new practices and concepts emerge from the interaction of individuals engaged in a common business. In this case, practical community processes are similar to those of the theory of traditional social influence (Friedkin, 1999), which emphasizes the homogeneity of beliefs, practices, and attitudes as resulting from group processes.

Research regarding the presence of homophilia in intra- and interorganizational relations evaluates the favorable and unfavorable effects of homophilia on individual, group, and organizational performance (e.g., Ibarra, 1997, Krackhardt & Stern, 1988, Reagans & Zuckerman, 2001). In principle, the high degree of cohesion in the ties between similars (a) facilitates the transmission of tacit knowledge (Cross, Parker, Prusak, & Borgatti, 2001, p. 229), (b) simplifies coordination (Ancona & Caldwell, 1992; O'Reilly, Caldwell, & Barnett, 1989), and (c) avoids potential conflicts (Pelled, Eisenhardt, & Xin, 1999).

We could erroneously conclude that the best escape to avoid organizational conflicts would be to guarantee homogeneity among members of work teams, but that is not what empirical studies prove. If homophilia is not a management goal, it can contribute as a mechanism to maintain status inequality for minorities within organizations. For example, we could cite studies by Brass (1985) and Ibarra (1997), where they show that if men have more power in an organization, the tendency is that the men networks would continue to concentrate control that powers mechanisms among themselves. This excludes women from the game and limits the availability of the social capital available to them. These processes occur due to the instigation of social categorization processes to "us" (*in-group*) and "them" (*out-group*) (Borgatti & Foster, 2003), increasing the tendency to favor one's own group and distance one's self from external groups (Tarrant, 2002).

The stimulus toward heterogeneity does not mean that management becomes easier in its day to day. Managing diversity also presents its obstacles, as Sicherolli, Medeiros, and Valadão (2011) point out. But, it is known that conviviality between distinct actors helps in the access to new ideas and ways of solving problems in environments under constant change (Krackhardt & Stern, 1988) and the internationalization of markets and production (Castells, 2006).

Conflicts between groups have been amply studied from the social network point of view. How do members of an organization perceive the level of conflict that enters their department and other departments in the organization? These perceptions can be based on direct or indirect interpersonal relations with persons from other departments. Each individual can be seen as a typical representative of a group, and each interpersonal interaction is perceived as part of the intergroup interactions. Therefore, the quality and frequency of interpersonal interaction can affect the perceptions of intergroup conflicts. In the same way, perceived conflict between groups can affect the quality and frequency of interpersonal interaction (LaBianca, Brass, & Gray, 1998).

Even though friendship between groups is not significantly related to the perceptions of intergroup conflict, negative relations between members of groups were associated with the high level of intergroup conflict. Perceptions of conflict between groups are also associated with the indirect relations by means of friends, and an amplification effect was revealed (Brass, 2014). A study performed by Zohar and Tenne-Gazit (2008) evaluated the relation between centralization, network nature, and organizational climate. They discovered that the centralization of the communication network was negatively related to the strength of the climate, while the centralization of the friend network was positively related to it.

The classic study by Granovetter (1973) identified that there was a relation between the ability to innovate and the strength of social structure ties. The author concluded that the weak ties (those people who did not maintain frequent contact or who were not among those most sought) many times were the most decisive for us to have new opportunities and to stimulate creative ideas than our strong ties (people with whom we maintain contact and most frequently meet). We understand this conclusion by means of two complementary aspects: (1) the stronger ties reflect the effects of the relation between similars, promoting a more standardized form of perceptions regarding the social context, compatible with information and attitudinal standards, and (2) weak ties connect us to other groups, giving opportunity to the effects of diversity and access to new information.

In summary, the existence of weak ties is essential to create bridges between subgroups of the same social structure, integrating social systems that, in its absence, become highly endogenous and with little capacity to innovate. In this direction, weak ties promote new ideas because they provide access to an ample gamut of people in diverse social circles and worlds of thought (Perry-Smith & Shalley, 2003). There is accumulated evidence that shows the positive effect of external weak ties on innovation with departments (Baer, 2010; Hülsheger, Anderson, & Salgado, 2009; Perry-Smith, 2006; Zhou, Shin, Brass, Choi, & Zhang, 2009). For example, in integrating the theory of social networks to the theory of leader-member

exchange (LMX), Wang, Fang, Qureshi, and Janssen (2015) found evidence that good exchanges between leaders and members mediated a positive relation between weak ties outside the group and innovative behavior.

In this context it is important to understand aspects that promote the information sharing of between organizational units. Organizational researches analyzed factors that inhibit knowledge sharing, such as the lack of direct relations and extensive communication between persons from different units, weak ties between units, relational factors in the search for information, etc. Research has shown processes and occasionally implications for the performance of the acquisition of declarative knowledge (know what) and processual knowledge (know how). However, less attention is given to the characteristics learned from the relations that affect the decision to seek information from other people. The probability of seeking information from another person is a function of (1) knowing what the other person knows, (2) valuing what the person knows, (3) being able to obtain opportune access to the thoughts of this person, and (4) perceiving that the cost of obtaining information from this person is not expensive. Also, the hypothesis that the cost variables, knowledge, access, and cost mediate the relationship between proximity and search for information (Borgatti, Brass, & Halgin, 2014).

The ability to innovate, in turn, is seen as a function of group ability in (1) obtaining non-redundant information from the social networks, (2) avoiding conformity pressure, and (3) sustaining confidence in developing potentially productive innovations. Group analysis suggests that these mechanisms exert effects on innovations by means of ties and the process of entrepreneur enculturation (Ruef, 2002).

13.5   ONA in Personnel Management

Individuals are motivated to interact with others for security needs, to receive acceptance and social support (Kadushin, 2012), and to achieve instrumental benefits (e.g., information) (Nahapiet, 2009). In this direction, social relations bring benefits to individuals who take advantage of the group environment. There is great evidence that sociability, approval, and pleasure to interact are similarly important to status and power for organization members (Nahapiet, 2009).

We chose four personnel management themes that can illustrate the relations between human resource subsystems with structure variables of social relations and their dynamics. They are recruitment and selection, socialization, training, and evaluation and performance.

Recruitment and selection are entrance processes for new organization members. Chapman, Uggerslev, Carroll, Piasentin, and Jones (2005) characterize the recruitment process as a set of activities that have the objective of influencing the number and profile of candidates seeking to work in the organization. Selection has the objective of evaluating which among the recruits possesses the adequate characteristics to occupy the position (Gondim & Queiroga, 2013).

In a detailed study developed by Fernandes, Castilla, and Moore (2000), it was possible to identify the consequences of using social networks in the recruitment and selection process for the enrichment of the organization social capital. In the researched organization, the selective processes took into consideration the recommendations made by employees, based on their relationship networks. As such, the employers offered a monetary bonus for the employees who "guessed" the hiring of new work colleagues. This bonus was offered when the candidate, selected based on an indication, established themselves in the company. This practice significantly reduced the cost of recruitment strategies, screening, and training, even with the investment in bonuses. In specific terms, a return of 416 dollars in cost reduction for an investment of 250 dollars in the bonus reflected a return rate of 67%. Besides this, the study identified similar intentions to remain among recommended employees and the employees that recommended them.

An aspect that demands attention in this mode of recruitment and selection is the tendency that the contacts of greater confidence of employees are similar, promoting a high degree of homogeneity in beliefs and practices or even aspects such as race, gender, and socio-economic level. Strategies of this nature should be associated with other selection practices that promote the presence of diversity in organizations. Heterogeneity favors creativity and innovation processes so valued and demanded in organizational routine.

After selection, integration into the network can have an important role in the socialization and development of ties between employees and the organization (Macambira, Bastos, & Rossoni, 2015). Shook and Fazio (2011) present a study whose objective was to identify factors that promote the integration of minority members. In general, blacks were less integrated into the social networks of white participants. Nevertheless, researchers observed that groups with less group anxiety presented a greater probability of integrating black people.

Besides the issues related to diversity, employee interpersonal styles can be decisive in delineating the position of this employee in the social structure, positively or negatively influencing the achievement of the team work objectives (Gurtman, 2009). Studies in this area have renewed the focus given to research involving personality. They define behavioral strategies adopted by people that delineate the manner people interact socially to achieve acceptance in the community they participate in (Lee, Yang, Wan, & Chen, 2010).

What causes the study of the relation between interpersonal styles and social networks even more complex is that each team has its own style profile to be valued. This impedes a standardized search for a profile dissociated from the context. Brito (2012) identified significant correlations between dimensions of interpersonal styles and central actor prestige; at the same time while analyzing different teams, those styles chosen as preferred by the group resulted in greater degrees of centrality, which changes from one group to another, shedding light on the mediation of cultural characteristics in this relation.

Even as such, there is also evidence that individuals with a higher scale in the factors of extroversion, openness to experience, and conscientiousness (degree of planned behavior, directed toward goals) were named more as goal and relationship

oriented leaders. However, those with a greater scale of amability (concern with social harmony) were more probable to emerge as leaders more oriented only toward the relationship. In terms of emerging followers, the group members who were more agreeable and less open to experience were less inclined to follow leaders oriented by relation. Though the individuals with high conscientiousness were more inclined to follow task oriented leaders (Emery, Calvard, & Pierce, 2013).

Along with the entrance and integration processes in an organization, studies of networks that emphasize the individual level also broach the theme of training. Different from other learning contexts, organization training practices have become the target of intense scientific production. Not just the training itself but the whole set of variables that precede relate to and are derived from training, development, and education (TD&E). Relating this set of practices to the study of social networks has promoted productive strategies in the direction of developing competencies and promoting innovation (Tomaél, Alcará, & Chiara, 2005).

Being that training is a planned procedure for the acquisition of new abilities adjusted to organizational objectives, its diffusion can be predicted by social network indicators. Burkhardt and Brass (1990) analyzed the diffusion of a system change in a company. The diffusion process was very close to network standards, with employees in structurally equivalent positions adopting behavioral changes at similar times. Papa (1990) noted that the speed of learning a new technology is positively associated with interaction frequency, size of network, and network diversity (number of departments and interacting hierarchical levels). Much learning occurs in the exchange of information between employees careful to apply the training. One of the characteristics that control this interaction is the previous performance of these employees; studies have shown that the greater the previous performance is, the more this exchange tends to become productive.

The very training context is also a time to build connections. Organizations can form training groups that cross different functional levels to promote network connections by means of different and heterogeneous groups. Supporting cross boundary interaction can occur by means of a rotation of responsibilities, promotions, and performance evaluations (Cross et al., 2010).

Performance evaluation is one of the personnel management mechanisms that can be described as procedure by which the progression of activities is reviewed and evaluated, with the objective of qualifying employee performance (Fletcher, 2008).

At the end of a 6-year study, Parker, Halgin, and Borgatti (2015) identified that the type of feedback (positive or negative) was a determining factor in the social capital dynamic. In this study, the authors identified that when an employee received positive feedback, their perception of self-efficacy increased and served as stimulus for them to intensify use of the social capital available in the workplace environment. As a feedback effect, this same employee ended up acquiring new information and developing an even better performance.

On the other hand, employees who received negative feedback retracted from building new relations, reduced the interaction frequency in previously formed ties, and increased dependency on stronger ties. In other words, there was a clear retraction of social capital, which suggests a scenario of redoubled attention.

The vision of interaction between organization members and the structure that emerges and at the same time constrains these interactions opens organization, team, and individual level intervention horizons to the manager. Any alteration on one of these levels expands to the others, remodeling the design of interactions and the organization. Understanding this complex and rich dynamic enables interventions on the foci where there is evidence between the standard actor interaction and the results of the organization as a whole.

13.6   Conclusions

We can say that informal social networks touch on and permit the study of many themes in organizations, such as culture, power, learning, performance, leadership, and innovation. But when we come to study organizational phenomenon under this perspective, we no longer tend to consider informal social networks as the focus of analysis but as a phenomenon that engenders the organization and through which all other phenomenon move.

Many organizational definitions integrate the theme of interactions and communication flow between people as the concept focus. Social units (Etzioni, 1989), communication and interrelation systems (Simon, 1945), and cooperative systems between people that communicate (Barnard, 1979) are found in the most traditional definitions of organizations. However, when analyzed in the context in which they are proposed, such definitions tend to privilege the individual agency in detriment to the organizational structure (Bastos & Barbosa, 2012).

According to Brass (2014), this is a predominant tendency in the area of organizational psychology that tends to focus on individual attributes and the impact of variables from the other two analysis levels, on the microlevel. In the other direction, many comprehensive organizational axes prioritize their structure and perceive them as entities that do exist independently of people and their actions (Bastos & Barbosa, 2012).

The process to overcome this dichotomy is found in the use of SNA in that it represents more than one methodological alternative to access the different levels (individual, group, and organization) (Borgatti & Foster, 2003). It constitutes a paradigm that understands the phenomenon under the optic of interaction between actors and the distinct levels of analysis configured based on this web of interactions.

Organization ONAs associated with the other organizational process study tools, help managers direct efforts where they are necessary, and act efficiently along central organization axes, such as culture, team and leadership management, and innovation. Associated with studies on culture, studies show how networks and culture articulate to undermine or support organizational change. For this association to promote organizational change, it is necessary to identify and influence key cultural operators, correct cultural fragmentation points on the networks, and identify values that need to become dominant (Cross & Thomas, 2008).

The identification of central players who adhere to desired cultural values allows placing them in key roles that permits the diffusion of these values. Besides the central players, the brokers or bridges between diverse subculture subgroups

contribute to the conciliation process of these different subcultures. Finally, people on the periphery with high adhesion to organizational values can be brought close to central leaders by means of mentoring.

The processes of culture change in organizations many times occur to subsidize innovations in organizational processes. Reaching interaction standards that stimulate innovation implies making expertise and resources accessible by means of networks within or even without organizations. Studies show three characteristics that can be present in networks and are main obstacles to innovation: the break in collaboration along functional lines, the actions of central members unreceptive to new ideas, and the absence of organization members who connect the organization with the outside world (Denning & Cross, 2010).

Building effective work teams is an important path toward achieving organizational changes with a view toward innovation. Diagnosis of intra- and intergroup relations by means of SNA supplies managers with the set of necessary information to maximize cohesion on teams and among critical organization personnel. For this to occur, it is needful to evaluate to see if the team is being influenced by the right voices, if the connection between team members favors the task, and if the team cultivates relevant external relations (Cross et al., 2010).

Mapping and analysis of informal social networks in the organization (ONA) directs management action to operate globally, better managing business performance. For this, the manager must reflect on their expectations as to results of the network in the context of their organization that its characteristics support organization strategy and/or identifies potential that allows the organization to respond to market opportunities (Cross & Thomas, 2008).

The dynamic view between these two expectations is related with the apparent contraposition between formal organizational structure and informal social networks. We call this contraposition apparent because we do not need to establish which of them should be sought. However, either informal relations can signal nonfunctional processes in the formal structure, or the nonfunctionality for being exactly in the distancing from the flows proposed by the formal structure. As such, actions cannot be directed in a determining way to align informal networks to the formal structure. This comparison is instrumental, but the main objective is to conduct this comparison and identify where there is no effectiveness. In this direction, the focus is in aligning informal networks and formal structures to organizational objectives in order to reach labor processes that promote better performance and results.

References

Allen, T. J. (1977). Managing the flow of technology: Technology transfer and the dissemination of technological information within the R and D organization.

Ancona, D. G., & Caldwell, D. F. (1992). Bridging the boundary: External activity and performance in organizational teams. *Administrative Science Quarterly, 37*(4), 634–665.

Baer, M. (2010). The strength-of-weak-ties perspective on creativity: A comprehensive examination and extension. *Journal of Applied Psychology, 95*(3), 592.

Barnard, C. I. (1979). *As funções do executivo*. São Paulo: Atlas. (Original work published in 1938).

Bastos, A. V. B., & Barbosa, W. (2012). Polaridades conceituais e tensões teóricas no campo da Psicologia: O falso paradoxo indivíduo/coletividade. *Psicologia: Ciência e Profissão, 32*(3), 662–673.

Borgatti, S. P., & Foster, P. C. (2003). The network paradigm in organizational research: A review and typology. *Journal of Management, 29*(6), 991–1013.

Borgatti, S. P., Brass, D. J., & Halgin, D. S. (2014). Social network research: Confusions, criticisms, and controversies. In D. J. Brass, G. Labianca, A. Mehra, D. S. Halgin, & S. P. Borgatti (Eds.), *Research in the sociology of organizations* (Vol. 40). Bradford: Emerald Publishing.

Brass, D. J. (1985). Men's and women's networks: A study of interaction patterns and influence in an organization. *Academy of Management Journal, 28*(2), 327–343.

Brass, D. J. (2014). A social network perspective on organizational psychology. In S. W. J. Koslowski (Ed.), *The Oxford handbook organizational psychology*. New York: Oxford University Press.

Brito, F. D. S. (2012). *Estilos interpessoais e participação em redes sociais em diferentes ambientes de trabalho* (Master's thesis). Retrieved from http://www.repositorio.ufba.br/ri/handle/ri/12028/

Brown, J. S., & Duguid, P. (1991). Organizational learning and communities-of-practice: Toward a unified view of working, learning, and innovation. *Organization Science, 2*(1), 40–57.

Brown, J. S., & Duguid, P. (2000). *The social life of information*. Harvard Business Press.

Burkhardt, M. E., & Brass, D. J. (1990). Changing patterns or patterns of change: The effects of a change in technology on social network structure and power. (Technology, organizations, and innovation). *Administrative Science Quarterly, 35*(1), 104–124.

Burt, R. S. (2002). The social capital of structural holes. *The New Economic Sociology: Developments in an Emerging Field*, 148–190.

Carley, K. (1991). A theory of group stability. *American Sociological Review*, 331–354.

Carpenter, M. A., Li, M., & Jiang, H. (2012). Social network research in organizational contexts: A systematic review of methodological issues and choices. *Journal of Management, 38*(4), 1328–1361. doi:10.1177/0149206312440119.

Castells, M. (2006). *A Sociedade em Rede* (9ª ed.). São Paulo: Paz e Terra.

Chapman, D. S., Uggerslev, K. L., Carroll, S. A., Piasentin, K. A., & Jones, D. A. (2005). A atração do candidato para as organizações ea escolha de emprego: uma análise meta-analítica dos correlatos dos resultados de recrutamento. *Journal of Applied Psychology, 90*(5), 928–944.

Cross, R. L., & Parker, A. (2004). *The hidden power of social networks: Understanding how work really gets done in organizations*. Boston, MA: Harvard Business School Publishing.

Cross, R. L., & Thomas, R. J. (2008). *Driving results through social networks: How top organizations leverage networks for performance and growth* (Vol. 265). San Francisco, CA: Wiley.

Cross, B., Parker, A., Prusak, L., & Borgatti, S. P. (2001). Knowing what we know: Supporting knowledge creation and sharing in social networks. *Organizational Dynamics, 30*(2), 100–120.

Cross, R. L., Singer, J., Colella, S., Thomas, R. J., & Silverstone, Y. (2010). *The organizational network fieldbook: Best practices, techniques and exercises to drive organizational innovation and performance*. New York: Wiley.

Cross, R., Rebele, R., & Grant, A. (2016). Collaborative overload. *Harvard Business Review, 94*(1), 74–79.

Davenport, T. H., & Prusak, L. (1998). *Working knowledge: How organizations manage what they know*. Boston, MA: Harvard Business Press.

Davis, G. F. (1991). Agents without principles? The spread of the poison pill through the intercorporate network. *Administrative Science Quarterly, 36*, 583–613.

de Nooy, W., Mrvar, A., & Batagelj, V. (2005). Exploratory social network analysis with Pajek (Structural analysis in the social sciences), illustrated edition ed.

Denning, S., & Cross, T. (2010). Changing culture through networks and narrative. In R. L. Cross, J. Singer, S. Colella, R. J. Thomas, & Y. Silverstone (Eds.), *The organizational network fieldbook: Best practices, techniques and exercises to drive organizational innovation and performance*. San Francisco, CA: Wiley.

Doreian, P., & Stokman, F. N. (1997). *Evolution of social networks* (Vol. 1). Psychology Press.

Emery, C., Calvard, T. S., & Pierce, M. E. (2013). Leadership as an emergent group process: A social network study of personality and leadership. *Group Processes & Intergroup Relations, 16*(1), 26–41. doi:10.1177/1368430212461835.

Erickson, B. H. (1988). The relational basis of attitudes. *Social structures: A network approach, 99*, 121.

Etzioni, A. (1989). *Organizações modernas*. São Paulo: Pioneira. (Original work published in 1964).

Fernandes, R. M., Castilla, E. J., & Moore, P. (2000). Social Capital at Work: networks and employment at a phone center. *American Journal of Sociology, 105*(5), 1288–1356.

Fletcher, C. (2008). *Appraisal, feedback, and development: Making performance review work* (4th ed.). New York: Routledge.

Flores, J., Ruiz, J. C., Alarcón, D., Alarcón, L. F., Salvatierra, J. L., & Alarcón, I. (2014). Improving connectivity and information flow in lean organizations: towards an evidence-based methodology. In *Proc. 22nd Ann. Conf. of the Int'l. Group for Lean Construction* (pp. 25–27).

Freeman, L. C. (2011). The development of social network analysis–with an emphasis on recent events. In J. Scott & P. J. Carrington (Eds.), *The Sage handbook of social network analysis* (pp. 26–54). Los Angeles: Sage.

Friedkin, N. E. (1999). Choice shift and group polarization. *American Sociological Review*, 856–875.

Friedkin, N. E., & Johnsen, E. C. (1990). Social influence and opinions. *Journal of Mathematical Sociology, 15*(3-4), 193–206.

Friedkin, N. E., & Johnsen, E. C. (1997). Social positions in influence networks. *Social Networks, 19*(3), 209–222.

Galaskiewicz, J., & Burt, R. S. (1991). Interorganization contagion in corporate philanthropy. *Administrative Science Quarterly*, 88–105.

Geletkanycz, M. A., & Hambrick, D. C. (1997). The external ties of top executives: Implications for strategic choice and performance. *Administrative Science Quarterly*, 654–681.

Gondim, S. M. G., & Queiroga, F. (2013). Recrutamento e Seleção de Pessoas. In: Borges, L. O. & Mourão, L. (Orgs.). *O trabalho e as Organizações: atuações a partir da Psicologia*. Porto Alegre: Artmed.

Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology, 78*(6), 1360–1380.

Grant, A. M., & Parker, S. K. (2009). 7 redesigning work design theories: The rise of relational and proactive perspectives. *The Academy of Management Annals, 3*(1), 317–375.

Guillaume, Y. R., Dawson, J. F., Woods, S. A., Sacramento, C. A., & West, M. A. (2013). Getting diversity at work to work: What we know and what we still don't know. *Journal of Occupational and Organizational Psychology, 86*(2), 123–141.

Gurtman, M. B. (2009). Exploring personality with the interpersonal circumplex. *Social and Personality Psychology Compass, 3*(4), 601–619.

Hanneman, R. A., & Riddle, M. (2005). *Introduction to social network methods*. Riverside, CA: University of California, Riverside (published in digital form at http://faculty.ucr.edu/~hanneman/).

Harrison, J. R., & Carroll, G. R. (2002). The dynamics of cultural influence networks. *Computational & Mathematical Organization Theory, 8*(1), 5–30.

Hassen, M. T. (1999). The search-transfer problem: The role of weak ties in sharing knowledge across organization subunits. *Administrative Science Quarterly, 44*(1), 82–111.

Haunschild, P. R. (1994). How much is that company worth?: Interorganizational relationships, uncertainty, and acquisition premiums. *Administrative Science Quarterly*, 391–411.

Homans, G. C. (1950). The Human Group New York. *Harpers*.

Hülsheger, U. R., Anderson, N., & Salgado, J. F. (2009). Team-level predictors of innovation at work: A comprehensive meta-analysis spanning three decades of research. *Journal of Applied Psychology, 94*(5), 1128.

Ibarra, H. (1997). Paving an alternative route: Gender differences in managerial networks. *Social Psychology Quarterly, 60*(1), 91–102.

Kadushin, C. (2012). *Understanding social networks: Theories, concepts, and findings*. New York: OUP.

Katz, N., Lazer, D., Arrow, H., & Noshir Contractor. (2016). Network theory and small groups. *Small Group Research, 35*(3), 307–332.

Krackhardt, D., & Hanson, J. R. (1993). Informal networks: The agency behind the chart. *Harvard Business Review, 71*(4), 104–111.

Krackhardt, D., & Killduff, M. (2002). Structure, culture and Simmelian ties in entrepreneurial firms. *Social Networks, 24*, 279–290.

Krackhardt, D., & Stern, R. N. (1988). Informal networks and organizational crises: An experimental simulation. *Social Psychology Quarterly*, 123–140.

Kumbasar, E., Rommey, A. K., & Batchelder, W. H. (1994). Systematic biases in social perception. *American Journal of Sociology, 100*(2), 477–505.

LaBianca, G., Brass, D. J., & Gray, B. (1998). Social networks and perceptions of intergroup conflict: The role of negative relationships and third parties. *Academy of Management Journal, 41*(1), 55–67.

Lago Júnior, M. W. (2015). Redes como instrumento de intervenção organizacional: estudo em uma empresa de tecnologia da informação. In: Bastos, A. V. B., Regis, H. P., & Loiola, E. (Org.), *Analise de redes sociais no contexto organizacional.* Edufba. P. 561–579.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press.

Lee, Y. H., Yang, L. S., Wan, K. M., & Chen, G. H. (2010). Interactive effects of personality and friendship networks on contextual performance. *Social Behavior and Personality: An International Journal, 38*(2), 197–208.

Lemieux, V., & Ouimet, M. (2008). *Análise estrutural das redes sociais*. Lisboa: Instituto Piaget.

Lozares, C., Roldán, P. L., Verd, J. M., Martí, J., & Molina, J. L. (2011). Cohesión, Vinculación e Integración sociales en el marco del Capital Social. Redes-Revista hispana para el análisis.

Macambira, M. O., Bastos, A. V. B., & Rossoni, L. (2015). Redes sociais e o vínculo com a organização: como a estrutura dos vínculos explica o comprometimento, o entrincheiramento e o consentimento. *Revista Psicologia: Organizações e Trabalho, 15*(2), 109–122.

Macrì, D. M., Tagliaventi, M. R., & Bertolotti, F. (2001). Sociometric location and innovation: How the social network intervenes between the structural position of early adopters and changes in the power map. *Technovation, 21*, 1–13.

Marin, A., & Wellman, B. (2011). Social network analysis: An introduction. In J. Scott & P. J. Carrington (Eds.), *The Sage handbook of social network analysis* (pp. 26–39). Los Angeles: Sage.

McPherson, M., Smith-Lovin, L., & Cook, J. M. (2001). Birds of a feather: Homophily in social networks. *Annual Review of Sociology, 27*, 415–444.

Nahapiet, J. (2009). Capitalizing on connections: Social capital and strategic management. *Social Capital: Reaching Out, Reaching In*, 205–236.

Katz, N., Lazer, D., Arrow, H., & Noshir Contractor. (2016). Network theory and small groups. *Small Group Research, 35*, (3), 307–332.

Nery, V. D. F., & Neiva, E. R. (2015). Variáveis de contexto e respostas à mudança organizacional: testando o papel mediador das atitudes. *Psicol. teor. pesqui, 31*(2), 259–268.

O'Reilly, C. A., III, Caldwell, D. F., & Barnett, W. P. (1989). Work group demography, social integration, and turnover. *Administrative Science Quarterly*, 21–37.

Papa, M. J. (1990). Communication network patterns and employee performance with new technology. *Communication Research, 17*(3), 344–368.

Parker, A., Halgin, D. S., & Borgatti, S. P. (2015). Dynamics of social capital: Effects of performance feedback on network change. *Organization Studies, 37*(3), 375–397.

Pelled, L. H., Eisenhardt, K. M., & Xin, K. R. (1999). Exploring the black box: An analysis of work group diversity, conflict and performance. *Administrative Science Quarterly, 44*(1), 1–28.

Perry-Smith, J. E. (2006). Social yet creative: The role of social relationships in facilitating individual creativity. *Academy of Management Journal, 49*(1), 85–101.

Perry-Smith, J. E., & Shalley, C. E. (2003). The social side of creativity: A static and dynamic social network perspective. *Academy of Management Review, 28*(1), 89–106.

Rand, D. G., Arbesman, S., & Christakis, N. A. (2011). Dynamic social networks promote cooperation in experiments with humans. *Proceedings of the National Academy of Sciences, 108*(48), 19193–19198.

Reagans, R., & Zuckerman, E. W. (2001). Networks, diversity, and productivity: The social capital of corporate R&D teams. *Organization Science, 12*(4), 502–517.

Ruef, M. (2002). Strong ties, weak ties and islands: Structural and cultural predictors of organizational innovation. *Industrial and Corporate Change, 11*(3), 427–449.

Sanders, K., & Hoekstra, S. K. (1998). Informal networks and absenteeism within an organization. *Computational & Mathematical Organization Theory, 4*(2), 149–163.

Scott, J. (2000). *Social network analysis: A handbook* (2nd ed.). Newberry Park: Sage.

Shah, P. P. (2000). Network destruction: The structural implications of downsizing. *Academy of Management Journal, 43*(1), 101–112.

Shaw, M. E. (1964). Communication networks. *Advances in Experimental Social Psychology, 1*, 111–147.

Shook, N. J., & Fazio, R. H. (2011). Social network integration: A comparison of same-race and interracial roommate relationships. *Group Processes & Intergroup Relations, 14*(3), 399–406. doi:10.1177/1368430210382127.

Sicherolli, M. B., Medeiros, C. R. O., & Valadão, V. M. Jr. (2011). Gestão da diversidade nas organizações: uma análise prática das melhores empresas para se trabalhar no Brasil. III Encontro de Gestão de Pessoas e Relações de Trabalho – EnGPR (Anais). João Pessoa, PB.

Simon, H. (1945). "Administrative behavior. A study of decision-making processes in administrative organization" traduction française par Pierre-Emmanuel Dauzat, 1983. *Economica*.

Snijders, T. A. (2001). The statistical evaluation of social network dynamics. *Sociological Methodology, 31*(1), 361–395.

Sparrowe, R. T., Liden, R. C., Wayne, S. J., & Kraimer, M. L. (2001). Social networks and the performance of individuals and groups. *Academy of Management Journal, 44*, 316–326.

Tarrant, M. (2002). Adolescent peer groups and social identity. *Social Development, 11*(1), 110–123.

Tenkasi, R., & Chesmore, M. C. (2003). Social networks and planned organizational change: The impact of strong ties on effective change implementation and use. *The Journal of Applied Behavioral Science, 39*(3), 281–300.

Tomaél, M. I., Alcará, A. R., & Chiara, I. G. (2005). Das redes sociais à inovação. *Ciências da Informação, 34*(2), 93–104.

Tyre, M. J., & Von Hippel, E. (1997). The situated nature of adaptive learning in organizations. *Organization Science, 8*(1), 71–83.

Wang, X., Fang, Y., Qureshi, I., & Janssen, O. (2015). Understanding employee innovative behavior: Integrating the social network and leader-member exchange perspectives. *Journal of Organizational Behavior, 36*(3), 403–420. doi:10.1002/job.1994.

Wasserman, S., & Faust, K. (1994). *Social network analysis: Methods and applications*. Cambridge: Cambridge University Press.

Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge: Cambridge University Press.

Wimmer, A. (2008). The making and unmaking of ethnic boundaries: A multilevel process theory. *American Journal of Sociology*, 113(4), 970–1022. Recovered on September 18, 2015, from http://www.jstor.org/stable/10.1086/522803

Wimmer, A., & Lewis, K. (2011). Beyond and below racial homophily: ERG models of a friendship network documented on facebook. *American Journal of Sociology, 116*(2), 583–642.

Wölfer, R., Faber, N. S., & Hewstone, M. (2015). Social network analysis in the science of groups: Cross-sectional and longitudinal applications for studying intra- and intergroup behavior. *Group Dynamics: Theory, Research, and Practice, 19*(1), 45–61.

Zhou, J., Shin, S. J., Brass, D. J., Choi, J., & Zhang, Z. X. (2009). Social networks, personal values, and creativity: Evidence for curvilinear and interaction effects. *Journal of Applied Psychology, 94*(6), 1544.

Zohar, D., & Tenne-Gazit, O. (2008). Transformational leadership and group interaction as climate antecedents: A social network analysis. *Journal of Applied Psychology, 93*(4), 757. doi:10.1037/0021-9010.93.4.744.

Chapter 14
Expatriates: The Multinationality of Multinational and National Firms

Maria Luisa Mendes Teixeira, Maria das Graças Torres da Paz, Bruno Felix von Borell de Araújo, and Michel Mott Machado

14.1 Introduction

The economic worldization has brought to multination and national firms operating in markets of different cultures opportunities to expand businesses as well as challenges to human resource management.

Challenges to human resource management regard supplying and maintaining the staff with skilled executive officers and professionals capable to efficaciously work in different cultural contexts. To make right decisions, managers resort to different sources of information, including the best practices disseminated in the market or successful histories of other corporate actors. Scientific knowledge, associated to practical knowledge, could contribute to improve the quality of managers' decisions in the perspective of evidence-based management (Barends, Rousseau, & Briner, 2014).

This chapter aims to review the organizational and social psychology literature involving the phenomenon of expatriation comprising the different types of expatriates, patterns, and antecedents of adaptation. Each topic presents the results of

M.L.M. Teixeira (✉)
Universidade Presbiteriana Mackenzie, São Paulo, Brazil
e-mail: malluluisa@gmail.com

M. das Graças Torres da Paz
Universidade de Brasília, Brasília, Brazil
e-mail: torrespaz@uol.com.br

B.F. von Borell de Araújo
Fucape Business School, Espírito Santo, Brazil
e-mail: bfelix@fucape.br

M.M. Machado
Universidade de Mogi das Cruzes – UMC, São Paulo, Brazil
e-mail: michelmottmachado@gmail.com

surveys that, in our view, could shed some light upon practices of human resource management.

The chapter is organized in three parts. The first one discusses the concept of multinationality, its applicability to national and multinational firms, and the different orientations of multinational management (ethnocentric, polycentric, geocentric, and pluralist) as well as the relationship of each of them with each type of expatriate (organizational, inpatriate, voluntary, and qualified immigrants). The second part approaches the main adaptation models and their limitations, suggesting new surveys and practices. The third part presents the main antecedents of individual and organizational expatriates' adaptation. The conclusion of the ideas exposed is presented by the end of the chapter. This chapter is expected to assist the decision-making on human resource management in multinational businesses.

14.2 Multinationality of Firms

14.2.1 Multinationality Management Models

The multinationality of a multinational firm (which operates in more than one country) is far from being an easy task. We can consider several parameters to characterize it: number of countries, percentage of investment, and percentage of own capital invested in each subsidiary in each country, among others. But the way of thinking about foreign peoples, ideas, and resources is crucial to infer the degree of multinationality in a firm (Perlmutter, 1969). In a world of geocentric economy characterized by mobility beyond boundaries and technological progress of countries, one could say, in the light of Perlmutter's (1969) proposed concept of multinationality, that a corporation operating in one single country (national) may have multinationality traits if it employs individuals from different countries because it believes this is the most responsive strategy for its business. This strategy is very usual in the segment of universities, for example.

Four attitudes can be identified among executive officers based on decisions made regarding multinationality management: ethnocentric attitudes, home country oriented; polycentric, host country oriented; geocentric, world oriented (Perlmutter, 1969); and pluralist which comprises all the previous ones (Novicevic & Harvey, 2001).

For the ethnocentric approach, what is right, natural, and valid in a culture is considered to be universal and is imposed on the other, based on the assumption of cultural superiority (Sinkovics & Holzmüller, 1994). Executive officers of multinational firms that follow the ethnocentric perspective understand that if something works in the culture of their country, it will also work in other countries. What works well in the company's head office will also work in its subsidiaries in other countries, and only the citizens from the origin country of the firm should hold key offices. Authority, decisions, and relationships with the subsidiaries are dictated by the orders issued by the head office. Attitudes toward foreigners are of superiority,

considering the citizens of other countries as little competent, little reliable, and "second-order" citizens (Perlmutter, 1969).

The ethnocentric orientation is not an exclusive privilege of executive officers from multinational firms. It can be found in any culture and guide executive officers of national firms toward different pathways: Refuse to hire foreign professionals or hinder them from taking on key positions in the corporation, or impose the country's cultural aspects that intertwine the organization.

Executive officers that follow the polycentric orientation do believe cultures are different, foreigners are hard to understand, and people from each country know the best way to manage to them. The subsidiaries of multinational firms should conform to local identity to the maximum extent and work virtually as independent bodies. Being profitable is the priority. Executive officers are from the country of each subsidiary, and human resource management follows the local modus operandi. In these corporations the local executive officers may feel somehow abandoned by the central management, but those in the head office are proud because the company is identified with the local nationality. Polycentric corporations may face difficulties when it comes to general management that could favor local ethnocentrism (Perlmutter, 1969).

Executive officers oriented to geocentrism do not believe in the superiority of any culture or in the hard coexistence of citizens in different cultures to achieve the intended outcomes of multinational firms. What minds more is the competence of people to solve corporate problems regardless of the origin country. A firm whose subsidiaries are not satellite (ethnocentrism) of the head office or independent units (polycentrism) but that operates as an integrated whole focused on goals, in which each actor contributes in a unique way to the competence of all. In national firms the geocentric management is characterized by the appraisal of competence, regardless of the professional's country of origin, and by the openness to seek for competent professionals from other countries. The technological advance, e-communication development, new ways of thinking on the side of more flexible and democratic relationships, the importance of new consumer markets, and the need to better know the cultures that host the subsidiaries are powers that end up influencing the links between the head office and the organizational units spread abroad. This gave rise to another model of relationship in multinational firms, the pluralist, which integrates the centric approaches (ethnocentric, polycentric, geocentric) and incorporates the appraisal of executive officers in the subsidiaries (inpatriates) as agents of knowledge transfer from the subsidiaries and their culture to the head office. This kind of relationship strengthens the links of trust while keeping the head office centrality, integrating the differences inherent to the subsidiaries in a web of heterarchical relations (Novicevic & Harvey, 2001).

The pluralist approach of multinational management implies the integration of head office and subsidiaries through expatriates from the head office to the subsidiaries (organizational expatriates, OEs), as well as of inpatriates that come from subsidiaries to the head office. This contributes to the integration of knowledge, to the reduction of information asymmetry, and to the global strategic coordination and management (Novicevic & Harvey, 2001). The pluralist model highlights the

role of the OEs, inpatriates, and other types of expatriate to integrate the business system. In the next section, we will address the different types of expatriates and multinational management approach, comprising the ethnocentric, geocentric, and pluralist approaches. The polycentric approach will not be discussed in association with expatriates because, on the borderline, it is a functional structure in which managers and professionals are not expatriates because they come from the country that hosts each subsidiary (local nationals).

14.2.2   The Origin of the Term "Expatriate" in Management and the Challenges of the Ethnocentric Management

The term "expatriate" has its etymological root in the Latin *ex-patria* and concerns all individuals that reside in another country than their origin country (González & Oliveira, 2011). It was first used in the seventeenth century to refer to those who left their countries to make a life in another country or those who were exiled (McNulty & Brewster, 2017a). In the business world, the early concerns about management of expatriates in the academic literature arise after the Second World War, mainly due to the economic expansion of the USA that demanded sending American managers to other countries to implement and manage new plants. By that time, the assumption was that if a professional is competent in the USA, he/she will also be competent in any other destination country, transposing the local perspective and economy to the international economy, following an ethnocentric direction.

In the scope of management and in the ethnocentric perspective, the term "expatriate" concerns the manager or professional transferred by the head office, which supports him/her, to work in a foreign subsidiary (EO) for a 5-year period to achieve an organizational goal (Tharenou, 2015). Other authors such as Aycan and Kanungo (1997) prefer other time spans, longer than 6 months and shorter than 5 years, while to Harrison, Shaffer, and Bhaskar-Shrinivas (2004), the duration should be based on the task to be performed or the organizational goal to achieve.

The decision on the expatriation period should consider the goals to be achieved and the cost, as it can be as high as twice the expatriate's wage (Rioux, Bernthal, & Wellins, 2000). These costs increase if we consider the family role in the adaptation and performance of the expatriate (Simonelli & Araujo, 2016; Trompetter, Bussin, & Nienaber, 2016). Expatriation costs are not limited to wage and support to the expatriated individual but also comprise costs related to the support to expatriate the family. The high costs of the expatriation process and of supporting an employee in another country than that of the head office do not ensure high returns on the investment made (McNulty & Tharenou, 2004).

It is worth noticing that the term "expatriate" has not been always used. It has been labeled as corporate expatriate, organizational expatriate, international assignee, and assigned expatriate, among many others (McNulty, 2016), probably because of the broad meaning of the word "expatriate" (*ex-patria*).

By middle twentieth century, management principles were considered universal, which is the assumption of the ethnocentric approach, and if a practice deviated from these principles, it should be changed. This assumption falls apart in the last decades as cultural diversity, singularity of cultures, and impact of cultural values on management become known (Hofstede, 2001). The ethnocentric approach of multinational management seems to be weakening over time. Early in the 2000s, the HR Benchmark Group of the Development Dimensions International surveyed 206 corporations and found the development of leaderships to work in different cultures as main priority and that more than 80% of respondents used expatriate agreements to work at different units located in different countries (Rioux et al., 2000). Sixteen years later, the report by Brookfield Global Relocation Services showed progress, but little less than half of the companies surveyed used to seek for external talents (Douiyssi & Aldred, 2016).

The scenario of globalized economy demanded multinational firms to adopt new mechanisms that enabled understanding the cultural complexity to capture and implement the different opportunities, notably from emerging markets, and expand the competitive capacity—purposes that the unidirectional vision adopted by the ethnocentric management cannot meet. One of these mechanisms is the inpatriation of executive officers transferred from subsidiaries to the head office to share the sociocultural knowledge of the different cultures in which they work. This will be approached in the next topic.

14.2.3 Inpatriates and the Contribution to Pluralistic Management

The rise of emerging economies opened opportunities for multinational firms that had to resort to inpatriation to learn about local contexts and facilitate the local adaptation of global strategies. Inpatriates are executive officers or professionals transferred from the subsidiaries to work in the multinational head office (Harvey, 2011). Knowledge transfer is enabled as the boundaries of relationship are expanded through the intermediation of social ties built by inpatriates in the head office and the social ties they built in the subsidiaries. Boundary expansion is crucial for the firms to connect knowledge and make it more broadly available among different units (Reiche, 2011).

Literature varies regarding the length of such migration. According to some authors, the reassignment of inpatriates in the head office can be permanent or semi-permanent when the intention is to enhance the head office with knowledge and expertise from the subsidiaries to keep pace with the development of emerging economies that begets opportunities to expand business activities. However, temporary inpatriation prevails because it streamlines the transfer of knowledge from subsidiaries to head office and from head office to subsidiaries and to other subsidiaries than the inpatriates' origin subsidiary as they are reassigned to new positions (see Reiche, Harzing, & Kraimer, 2009 and the authors mentioned by them).

The inpatriation process contributes to develop the corporations' core competences to operate in different national markets and cultures, as it supplies the company's head office with executive officers from different national cultures, building the pluralistic management.

The assignment of organizational expatriates to subsidiaries to share the head office culture and control and of inpatriates from subsidiaries to the head office to share the local context culture is a complementary option available for multinational firms to expand their activities and increase competitiveness. This option could be added with others such as self-initiated expatriates and qualified immigrants. These options are also available to national corporations willing to expand exports and increase competitiveness in the global market, in a geocentric management perspective.

14.2.4 Self-Initiated Expatriates (SIE) and Their Contribution to the Geocentric Management

By the end of the 1990s, a new type of expatriates deserved the attention of academics: those who by their own initiative and expenses wanted to have experience abroad, motivated by a wish to know new places, or improve their quality of life by obtaining gains in other countries and then return to their origin country (Inkson, Arthur, Pringle, & Barry, 1997). These expatriates were later named self-initiated expatriates (SIEs) (Cerdin & Selmer, 2014).

Collings, McDonnell, Gunnigle, and Lavelle (2010) suggest the hiring of SIEs as an alternative to reduce expatriation-related costs. The hiring of this type of expatriates could be an important alternative response to the need for personnel with cross-cultural experience (Reiche & Harzing, 2015).

The geocentric direction proposes hiring the best professional regardless of his/her nationality (Reiche & Harzing, 2015). When describing the SIEs characteristics and comparing them to the EO considering the corporations' needs to have personnel working abroad, Tharenou (2013) suggests a mixed composition of EOs and SIEs.

The OEs (organizational expatriates) know the culture and have specific knowledge about how to conduct businesses. This is crucial for the coordination and transfer of knowledge from the head office to subsidiaries mainly in the case of startup abroad. The positions that demand technical knowledge and of middle management are more suitable for SIEs, because they are high-qualified professionals with international experience and network. However, they are not suitable for offices that demand deep knowledge of local culture such as human resource management and positions of high trust such as positions in finances (Tharenou, 2013).

Some authors point out that, because of individualism, nonconformism, self-direction, proactivity of the SIEs, and their willingness toward greater mobility, they tend to be less committed and could be hard to be managed. On the other hand, they tend to be more easily adapted to the culture of the destination country, maybe

because they invested in the preparation to live in that country. This is a feature that attracts corporations' interest (Doherty, 2013).

The SIEs are not a monolithic group, and, as such, academics should endeavor to clarify this concept, since they can be eventually confused with qualified immigrants (Doherty, 2013). In order to clarify the concept, we highlight the work by Cerdin and Selmer (2014) that propose four criteria: (a) self-initiated international relocation, (b) regular employment (intentions), (c) intentions of a temporary stay, and (d) skilled/professional qualifications. The four criteria should be simultaneously comprised so that, in a given moment, a worker can be considered a SIE or not, differentiated from the other categories of migrants (Cerdin & Selmer, 2014) like, for example, the immigrants.

The model proposed by Cerdin and Selmer (2014) allows the identification of who is not a SIE but does not allow defining the categories of migrants that make up the group of non-SIEs. This demands complementary criteria. And why would we need criteria to clearly identify each group of migrants? Because it allows the study of the behavioral tendency of each of them and generates knowledge to help corporations to select the best professionals to work at subsidiaries in different countries.

These demands have led academics to study the behavior of expatriates in an attempt to characterize subgroups according to different criteria, many times without characterizing their specificities, assigning them different denominations, and causing conceptual confusion (see, e.g., Tharenou, 2015; McNulty & Brewster, 2017b).

A category that does not fall into the SIE is that of qualified immigrants (QIs), i.e., migration resulting from social and political factors, associated to technology advance and expansion of economy in a geoeconomic direction. This category is an important option to corporations considering the demand for qualified professionals to take on positions in different countries. This category is approached in the next topic.

14.2.5 Qualified Immigrants (QIs) and Their Contribution to the Geocentric Multinational Management

The QI is gaining importance in the internationalization of the multinationals' organizational operations and is a competitive advantage. However, in studies about immigrants, the concept has taken on different meanings, generating confusion to practitioners and policy-makers when they try to apply the results. Based on a literature review comprising 82 articles published from 2005 to 2014, Tharenou (2015) proposed a concept of QI with four main traits: They are managers, professionals, or technicians with bachelor's degree in their origin country; they migrated by their own to stay long period in the destination country to improve their living conditions. They put its focus on better life and the decision to migrate for long time to another country. Both aspects differ these immigrants as concerns, motivations, and

intentions of the SIES, according to Cerdin and Selmer's (2014) criteria, despite their good education and the intention of getting a regular job.

Cerdin, Abdeljalil-Diné, and Brewster (2014) proposed a typology of immigrants based on two dimensions of what they felt they lost in the origin country or won in the destination country as a result of migration. This gave rise to four categories: (a) felicitous migration, high losses in the origin country and high gains in the destination country; (b) dream migration, low losses in the origin country and high gains in the destination country; (c) chance migration, low losses in the origin country and low gains in the destination country; and (d) desperate migration, high losses in the origin country and low gains in the destination country.

All groups, except for "chance migration," feel compelled to abandon their countries for different reasons. The "desperate migration" feels that leaving their countries is the only way to survive. "Chance migration" is not exactly a group that feels compelled to leave the country but a group that seizes an opportunity. "Dream migration" admires another country than theirs and dreams about migrating to that country. The "felicitous migration" is compelled to migrate to improve living conditions and perceives he/she will have high losses but also high gains in the destination country. According to the survey, "dream migration" is more inclined to be integrated to the culture of the destination country, followed by the "felicitous migration" and "chance migration" groups that are also very prone to be integrated. "Desperate migration" showed to be the less prone for integration. Inclination to integration was moderated by the expectations in relation to gains in the destination country and support of the employing organization. The broader positive gap between expected and perceived gains and stronger organizational support increases the inclination toward integration. The identification of these types of immigrants based on their histories of losses and gains with expatriation could help managers to better select qualified immigrants to fill in skilled job positions (Cerdin et al., 2014).

Corporations and governments endeavor to attract the scarce talents, trying to influence the migratory flow of skilled workers, regardless if SIEs or immigrants, through policies to attract them, while individuals pursue the best options. The number of immigrants with at least high education, even if unfinished, increased 130% between 1990 and 2010, generating to corporations the opportunity of attracting talents (Kerr, Kerr, Ozden, & Parsons, 2016). The needs to reduce expatriation-related costs resulting from the difficulties of getting adapted to other cultures and the higher number of skilled professionals in the international labor market offer organizations the possibility of reviewing the ethnocentric orientation. The integration of SIEs and QIs in the internationalization of the firms' activities considering competence as core requirement for hiring shows that geocentric orientation tends to increase participation in the multinationality profile.

Regardless of the reasons for expatriation, all pass by a period of adaptation that is crucial to individuals and companies. In the next topic, we will approach different models of adaptation of expatriates found in literature, considering the pros and cons of their application in the firms.

14.3   Expatriates Adaptation Models: Pros and Cons

Studies about the adaptation of expatriates date back to the second half of the twentieth century. The model by Black, Mendehall, and Oddou (1991) is one of the most cited in literature (more than 1800 citations in Google Citations by the end of 2016). It is a development of previous works carried out by Black and collaborators.

14.3.1   About Black's, Mendehall's, and Oddou's (1991) Model

Black et al. (1991) start from the review of literature about domestic adjustment resulting from transfers in the country and international adjustment, integrating them in one single model. In this model, adjustment has three facets: (a) adjustment at work (related to tasks and responsibilities inherent to the office performance), (b) interactional adjustment (related to the interaction with people in the host country), and (c) general adjustment (related to the foreign environment in general, which is connected to living conditions in the host country). According to the authors, the antecedent factors of successful expatriation are expected to be related to each of these aspects, and some aspects are more important for adaptation in domestic transfers than in international ones. For example, factors related to work and the organizational culture would have greater impact on adjustment to work than on interactional or general adaptation. General adaptation will probably be more important in expatriation than in a transfer in the country. Besides these two facets, the model proposes that adaptation takes place in two dimensions: degree and mode.

When approaching the degree of adjustment to work, Black (1988) proposes two concepts: (a) subjective fitting, degree of psychological comfort in the new role and to which extent the person feels adapted to the role; and (b) objective fitting, to which extent the person masters the role and can prove adaptation through performance. The model proposed by Black et al. (1991) fails in clearly defining the degree of adjustment and lacks theoretical support. These deficiencies have been pointed out by several authors (see Hippler, Caligiuri, & Johnson, 2014).

The person-environment fit concept was used by Haslberger, Brewster, and Hippler (2013) to support a concept of expatriates' adjustment. The authors propose three dimensions of adjustment, cognitions, feelings, and behaviors, and each dimension is accessed by two standards, external and internal to the expatriate.

Regarding the adjustment mode, Black (1988) defines it as the means that individuals use to fit into the new role. Previous literature points out that individuals can change their attitudes and behaviors to fit the new role or change the new role to better fit it to their expectations. Although knowing how expatriates adjust abroad is an important aspect, it has been little studied in literature and was not properly defined. Lineberry (2012) suggests using the model of two dimensions of acculturation strategy and attitudes proposed by Berry (1997).

14.3.2 About Berry's (1979) Acculturation Model

Acculturation corresponds to the phenomena that occur when individuals from different cultures get in touch, promoting more changes on a group than on the other. When they get in touch with a new culture, persons or groups can be concerned about maintaining their own culture or try to keep contact with individuals from the new culture in a pursuit for engagement. These directions on how to keep contact with other cultures may give rise to different action strategies, depending on the group being considered: dominant or non-dominant culture. When individuals of the non-dominant culture decide to preserve the way of acting characteristic to their culture, they adopt the "detachment" strategy, attempting to privilege contacts with other individuals of their own culture. When they decide to interact and accept values and rules of the new culture, "assimilation" is the strategy adopted. When the two groups are interested in preserving their cultures but also interact and participate in the other group's activity, values, and rules, "integration" will be the acculturation strategy. If the two groups are little interested in preserving their culture or have little interest or possibility to keep a relationship with the others, the "marginalization" strategy is then defined (Berry, 1997).

The four aforementioned acculturation strategies assume that individuals from the non-dominant cultures are free to select the strategy they will adopt. However, culturally dominant individuals or groups can impose a detachment strategy on the non-dominant culture through segregation processes. The same happens when pressure for assimilation comes from the dominant culture which could generate pressure cooker on those who share the non-dominant culture (Berry, 1997).

Lineberry (2012) proposed that the two dimensions of the acculturation strategies—cultural maintenance and engagement—should be analyzed considering three aspects: adjustment at work, interactional adaptation, and general adaptation. In a study performed by the author comprising 100 expatriates, the cultural maintenance dimension was negatively related to general adaptation and adjustment at work and no significant in relation to adjustment at work. The engagement dimension was positively associated only with cultural interaction and was not significant to the aspects of adjustment at work and general adaptation.

Toh and De Nisi (2007) point out that studies on the adaptation of expatriates have mainly focused on the expatriate and complain about the shortage of survey about what motivates the locals in the host country to support the expatriates. One of the few exceptions is the work by Takeuchi (2010) that proposed studying the expatriates' adaptation based on stakeholders: family, OEs, and nationals from the destination country.

14.3.3 Models Focused on the Destination Country

Some studies have tried to discuss the expatriates' adaptation considering aspects of the destination culture. Araujo, Teixeira, and Malini (2013) and Araujo, Teixeira, da Cruz, and Malini (2014) follow the same line and discuss the adaptation of OEs and

SIEs in the context of the Brazilian culture. The first paper analyzed the phenomenon of foreignism and Gulliver complex to understand how the Brazilians engaged with North American, European, and Latin American OEs and SIEs. The second paper approached the Brazilians' behaviors as elements that facilitate or hinder cultural adaptation considering the aspects Black et al. (1991) model.

Varma, Pichler, and Budhwar (2011) found that the perceived cultural similarity influences the Chinese's willingness to support expatriates and draw attention to the required surveys on attitudes of locals toward expatriates. Bonache, Langinier, and Zárraga-Overty (2016) are surprised with the shortage of research about the locals' stereotypes regarding expatriates, mentioning that the few studies in this line have only approached the QIs.

The development of a scale to measure national local attitudes with OEs—ATEX (Arman & Aycan, 2013)—advanced knowledge about this issue. The scale is made up by 24 items grouped in five factors that explain 49.33% of the variance: The first factor, "adaptation," comprises negative attitudes of local nationals in relation to the OEs. The second one, "transformational capacity," refers to the success of OEs in the development of new models to work and share knowledge and experience. The third one, "openness," represents the favorability of OEs' openness to new ideas, opinions, and peers. The fourth factor, "professionalism," represents different aspects of the OEs' professionalism. The fifth factor, "perceived justice of expatriate privileges," refers to how locals perceive the OEs' privileges. It is worth noticing that the "adaptation" factor has a power of 22% of explanation of variance, against the 27.11% of the remaining four factors together. The analysis of the factor items points out that local nationals identify in expatriates little readiness to be adapted to the local culture, because these last believe to come from a superior culture, in a notably ethnocentric orientation. Other studies have also identified negative attitudes of local nationals in relation to OEs because the first believe to be less appraised. Al-Waqfi and Forsten (2010) observed that employees of the Arab Emirates Union perceived to be negatively stereotyped by OEs in the labor market.

The review of literature on adaptation of expatriates shows that, in the theoretical point of view, there is a lot to be advanced regarding the construction and testing of the theory on the concept of adaptation of expatriates and its facets to generate consistent knowledge and instruct practice. There are increasing theoretical signs of the importance of considering local nationals' attitudes in relation to expatriates, the attitudes of the last in relation to the first ones in the expatriates' adaptation process, regardless if they are OEs, SIEs, immigrants, or inpatriates. The next topic approaches the most studied antecedents of the adaptation process in literature.

14.4 Antecedents to Transcultural Adaptation of Expatriates

The financial investments in expatriation programs and the international appointments play a core role in the corporations' internationalization process (McNulty & Tharenou, 2004). Academics and HR managers have devoted attention to

understand the factors that facilitate or hinder the adaptation of expatriates to the life abroad during their appointment (Awais Bhatti, Mohamed Battour, & Rageh Ismail, 2013; Hippler et al., 2014). This topic presents an integrative review about which antecedents of the OEs' transcultural adaptation have been more recurrently identified in literature.

The literature review allowed ranking the antecedents of transcultural adaptation according to two dimensions: analysis level—individual or organizational and temporal order of occurrence. The level of analysis presents factors at individual level referring to expatriate, as well as organizational level factors related to the firm that promotes the international appointment. The factors of temporal order may be identified as antecedents before or after the arrival at the destination country. The intersection of the two dimensions gives rise to four types of antecedents: factors of individual level and before the arrival abroad, factors of individual level and after the arrival abroad, factors of organizational level and before arrival abroad, and factors of organizational level after the arrival abroad. This classification is useful to analyze the adaptation of all types of expatriates approached in this paper: organizational and inpatriates that fit in all categories and SIE and qualified immigrants that fit in factors of individual level since they lack organizational support. It is also useful to guide the HR management practice in relation to expatriation. This topic approaches the first two ones. Because of their characteristics, the other two will be approached in topic four that comprises recommendations to the management practice.

14.4.1   Factors of Individual Level and Before Arrival Abroad

Personality Traits and Cultural Flexibility   In the last decades, many studies were carried out to evaluate personality traits as predictors of transcultural adaptation of expatriates. These studies consider the characteristics that facilitate adaptability and interaction with individuals as assets to individuals pursuing an international appointment (Koveshnikov, Wechtler, & Dejoux, 2014). The models to access the personality of respondents have varied, but the Big Five model prevailed. Following the classification found in this model, the traits of extroversion, amability, and openness have been identified as significant antecedents of transcultural adaptation of expatriates (Ornoy, Levi-Nishri, & Uziel, 2014; Remhof, Gunkel, & Schlaegel, 2014; Wang & Fang, 2014). According to the aforementioned studies, these traits make the professional more skilled to develop interactions with individuals of the destination culture, show empathy, and learn to interact according to the behavioral standards of the destination culture. Some studies have explored this characteristic under the label "cultural intelligence" and have also identified a positive relationship between this and the transcultural adaptation of expatriates (Ott & Michailova, 2016; Templer, Tay, & Chandrasekar, 2006).

Previous Experience Abroad The transcultural adaptation development process is expressed in the form of a learning curve (Jokinen, Brewster, & Suutari, 2008). This has led several researchers to claim that as individuals accumulate expatriation experiences, their capacity of adapting to the destination culture increases (Haslberger et al., 2013; Ramaswami, Carter, & Dreher, 2016). However, this relationship could be better understood if two moderating factors are considered:

1. The time spanned in between the international appointments. The shorter the time interval between appointments, the greater the chance that lessons learned in the previous experience are translated in increased capacity of adapting.
2. The nature of the previous appointment. If the latest expatriation experiences were similar to the next one in terms of task nature and characteristics of the destination country, the link between previous experience and transcultural adaptation tends to be stronger (Jun & Gentry, 2005).

14.4.2 Factors of Individual Level and After Arrival Abroad

After arriving in the destination country, some factors also tend to serve as predictors of transcultural adaptation. Among the predictors of individual level after arrival in the country of destination, it is worth mentioning two factors that have shown to be antecedents of transcultural adaptation: coping strategies and acculturation-related attitudes.

Coping Strategies Coping could be understood as the process of continued adaptation endeavored by individuals get cognitively and behaviorally adapted to internal or external demands (Lazarus & Folkman, 1984). These behavioral strategies are crucial to reduce the impact of the stress that individuals experience when interacting in a different culture and demand a repertoire of cognitive, affective, and behavioral flexibility that not every individual has (Haslberger et al., 2013; Von Borell de Araujo et al., 2014; Wu & Bodigerel-Koehler, 2013).

Acculturation-Related Attitudes The attitude of an expatriate individual in relation to how he/she will integrate with destination country culture is another predictor of individual level after arrival abroad. Some individuals adopt an attitude of cultural assimilation and follow the motto "different country, different habits." This attitude is a predictor of transcultural adaptation since it facilitates the development of drama skills that reduce the sticking points between expatriates and the persons with whom they interact in the destination environment (Caligiuri, Baytalskaya, & Lazarova, 2016). Another characteristic relevant in acculturation-related attitudes lays in the posture that individuals adopt regarding interaction with locals. While some expatriates adopt the attitude of seeking contacts and situations to connect with inhabitants of the destination culture, others understand that such interactions should be restricted to the maximum and only the essential contacts should happen. Studies suggest that an attitude less favorable to interactions with foreigners reduces the changes of transcultural adaptations (Aycan, 1997).

The selection of OEs is crucial to the success of any international appointment (Feitosa, Kreutzer, Kramperth, Kramer, & Salas, 2014). This is a risk activity that involves high investments and the need to reduce uncertainties about if an individual will satisfactorily perform the appointment (Ren, Harrison, Shaffer, & Bhaskar-Shrinivas, 2016). In the light of the OE, this selective process could be a milestone in the building of financial capital and career. This could lead individuals to try to manage the interviewers' impression to seem to have the characteristics expected from an OE (Baruch, Altman, & Tung, 2016). Considering this, the identification of antecedents of individual level before and after arrival abroad could help the organizations to more accurately define the selection criteria to pick these professionals. It could also be useful to select the professionals to be inpatriated. The same antecedents can contribute to develop research about other types of expatriates that are not supported by the organization, such as the SEIs and QIs.

14.5   Recommendations in the Organizational Scope for the Expatriates' Adaptation

The factors at organizational level concerning the period before the expatriate arrives abroad, and after the arrival to the country of destination, are themselves recommendations to manage the expatriation process. These factors are addressed in this topic.

14.5.1   Factors of Organizational Level and Before Arrival Abroad

The head office and subsidiary of the organization that leads the expatriation process have many responsibilities before the employee goes abroad. In this topic we explore some of these focuses of action that have shown to be relevant predictors of the transcultural adaptation of expatriates.

Transcultural Training The interactions between the expatriate and the individuals living in the environment of destination are subject to cultural shocks, mainly if the gap between social and work standards of the countries involved in expatriation is large (Jun & Gentry, 2005). As such, training about how to interact with individuals of other cultures, mainly when offered to the expatriate and to individuals of the culture of destination (Suutari & Burch, 2001), tends to provide them more predictability regarding the behavioral standards of those with whom they will interact. Based on the theory of attribution (Heider, 1958), the precision of this information tends to reduce the likelihood of misevaluations of the other's behavior and, therefore, improve transcultural adaptation.

Organizational Logistic and Social Support The support offered by the organization in charge of expatriation before the employee goes abroad also facilitates the expatriate's transcultural adaptation. Expatriation is a process that involves high levels of tension and uncertainty to the expatriate, because it changes routine aspects of life like housing, spouse's career, children's education, and asset development (Tanure, Barcellos, & Fleury, 2009). There is evidence that the logistical and social support provided to the expatriate reduces his/her stress before going abroad. This, in fact, has positive effects on the transcultural adaptation of the individual being expatriated (Kawai & Strange, 2014). Although this support is also offered after the arrival abroad, the support before going to the destination country deals with the expatriate's imagination, generating more anxiety and stress and making support even more relevant in the pre-expatriation period, mainly in the first appointment to abroad (Andresen, Biemann, & Pattie, 2015).

14.5.2 Factors of Organizational Level and After Arrival Abroad

After the expatriate arrives in the culture of destination, the organization is expected to remain responsible for the expatriation process.

Clear Career Management Process The decision to accept an international appointment is not a simple one, since the benefits to the employee are not always clear. Studies suggest that depending on the type of expatriation, expatriates may be isolated from the company's decision-making center, lose visibility in the organization, and take longer to climb to higher positions in the organization than employees that rejected invitations for expatriation (Nielsen, 2015; Ramaswami et al., 2016). Moreover, usually how and if the individual will be reallocated after the expatriation period is uncertain. Altogether, these factors make transparency in the career management process a relevant predictor of transcultural adaptation (Baruch et al., 2016).

Continued Organizational Support Even if most of the structural efforts to enable expatriation is made prior to the employee's travel abroad, the demands for support continue soon after the arrival, and meeting these facilitates the expatriate's adaptation (Pokharel, 2016). However, it is not uncommon for organizations to neglect the importance of this support considering the common understanding that after arriving abroad the expatriate must do his/her share in the process of adaptation and drive attention to reach results (Hansen & Rasmussen, 2016). However, there is evidence that consistent communication and support to unforeseen issues like routine bureaucratic matters and health problems, family members' adaption, and housing could also damage the transcultural adaptation process (Abdul Malek, Budhwar, & Reiche, 2015; Awais Bhatti et al., 2013).

In brief, this illustrative list of predictors for the transcultural adaptation of expatriates suggests that, after decades of empirical studies in different contexts, litera-

ture has consolidated some ideas. First, some characteristics of expatriates before and after going abroad effectively facilitate their adaptation. This increases the importance of the role played by the processes of recruitment and selection of these individuals. In second place, organizational actions before and after the expatriate arrives in the destination country entail the main benefit of reducing uncertainty and stress that, in turn, tend to improve the likelihood of a successful expatriation process.

References

Abdul Malek, M., Budhwar, P., & Reiche, B. S. (2015). Sources of support and expatriation: A multiple stakeholder perspective of expatriate adjustment and performance in Malaysia. *The International Journal of Human Resource Management, 26*(2), 258–276.

Al-Waqfi, M., & Forsten, I. (2010). Stereotyping of citizens in an expatriate-dominated labour market: Implications for workforce localisation policy. *Employee Relations, 32*(4), 364–381.

Andresen, M., Biemann, T., & Pattie, M. W. (2015). What makes them move abroad? Reviewing and exploring differences between self-initiated and assigned expatriation. *The International Journal of Human Resource Management, 26*(7), 932–947.

Araujo, B. F. v. B., Teixeira, M. L. M., & Malini, E. (2013). Estrageirismo e complex de Gulliver: Brasileiros na percepção de expatriados. *Organização e Sociedade, 20*(66), 461–478.

Araujo, B. F. V. B. de, Teixeira, M. L. M., da Cruz, P. B., & Malini, E. (2014). Understanding the adaptation of organisational and self-initiated expatriates in the context of Brazilian culture. *The International Journal of Human Resource Management*, *25*(18), 2489–2509.

Arman, G., & Aycan, Z. (2013). Host country nationals' attitudes toward expatriates: Development of a measure. *The International Journal of Human Resource Management, 24*(15). doi:10.1080/09585192.2013.763839.

Awais Bhatti, M., Mohamed Battour, M., & Rageh Ismail, A. (2013). Expatriates adjustment and job performance: An examination of individual and organizational factors. *International Journal of Productivity and Performance Management, 62*(7), 694–717.

Aycan, Z. (1997). Expatriate adjustment as a multifaceted phenomenon: Individual and organizational level predictors. *International Journal of Human Resource Management, 8*(4), 434–456.

Aycan, Z., & Kanungo, R. (1997). Current issues and future challenges in expatriate management. In Z. Aycan (Ed.), *Expatriates management: Theory and research* (pp. 245–260). Greenwich, CT: JAI Press.

Barends, E., Rousseau, D. M., & Briner, R. B. (2014). *The Evidence-based management: Basic principles*. Amsterdam: Center for Evidence-Based Management.

Baruch, Y., Altman, Y., & Tung, R. L. (2016). Career mobility in a global era: Advances in managing expatriation and repatriation. *The Academy of Management Annals, 10*(1), 841–889.

Berry, J. W. (1997). Immigration, acculturation, and adaption. *Applied Psychology: An International Review, 46*(1), 5–68.

Black, J. S. (1988). Work role transitions: A study of American expatriate managers in Japan. *Journal of International Business Studies, 19*(2), 277–294.

Black, J. s., Mendehall, M., & Oddou, G. (1991). Toward a comprehensive model of international adjustment: An integration of multiple theoretical perspectives. *Academy of Management Review, 16*(2), 291–317.

Bonache, J., Langinier, H., & Zárraga-Overty, C. (2016). Antecedents and effects of host country nationals negative stereotyping of corporate expatriates. A social identity analysis. *Human Resource Management Review, 26*, 59–68.

Caligiuri, P., Baytalskaya, N., & Lazarova, M. B. (2016). Cultural humility and low ethnocentrism as facilitators of expatriate performance. *Journal of Global Mobility, 4*(1), 4–17.

Cerdin, J., & Selmer, J. (2014). Who is a self-initiated expatriate? Towards conceptual clarity of a common notion. *The International Journal of Human Resource Management, 25*(9), 1281–1301.

Cerdin, J. L., Abdeljalil-Diné, M., & Brewster, C. (2014). Qualified immigrants' success: Exploring the motivation to migrate and to adjust. *Journal of International Business Studies, 45*(2), 151–168.

Collings, D. G., McDonnell, A., Gunnigle, P., & Lavelle, J. (2010). Swimming against the tide: Outward staffing flows from multinational subsidiaries. *Human Resource Management, 49*(4), 575–598.

Doherty, N. (2013). Understanding the self-initiated expatriates: A review and directions for future research. *International Journal of Management Reviews, 15*, 447–469.

Douiyssi, D., & Aldred, G. (2016). *Breakthrough to the future of global talent mobility. Brookfield global relocation services*. Accessed January 13, 2017, from http://globalmobilitytrends.brookfieldgrs.com/assets2016

Feitosa, J., Kreutzer, C., Kramperth, A., Kramer, W. S., & Salas, E. (2014). Expatriate adjustment: Considerations for selection and training. *Journal of Global Mobility, 2*(2), 134–159.

González, J. M. R., & Oliveira, J. A. (2011). Os efeitos da expatriação sobre a identidade: estudo de caso. *Cadernos EBAPE.BR, 9*(4), 1–14.

Hansen, Z. N. L., & Rasmussen, L. B. (2016). Mentorship of expatriates in transnational companies. *Journal of Global Mobility: The Home of Expatriate Management Research, 4*(2), 176–201.

Harrison, D., Shaffer, M., & Bhaskar-Shrinivas, P. (2004). Going places: Roads more and less traveled in research on expatriate experiences. *Research in Personnel and Human Resources Management, 23*, 199–247.

Harvey, W. S. (2011). British and Indian scientists moving to the United States. *Work and Occupations, 38*(1), 68–100.

Haslberger, A., Brewster, C., & Hippler, T. (2013). The dimensions of expatriate adjustment. *Human Resource Management, 52*(3), 333–351.

Heider, F. (1958). *The psychology of interpersonal relations*. New York: Wiley.

Hippler, T., Caligiuri, P., & Johnson, J. (2014). Revisiting the construct of expatriate adjustment: Implications for theory and measurement. *International Studies of Management & Organization, 44*(3), 8–24.

Hofstede, G. (2001). *Culture's consequences comparing values, behaviors, institutions and organizations across nations*. London: Sage.

Inkson, K., Arthur, M. B., Pringle, J., & Barry, S. (1997). Expatriate assignment versus overseas experience: Contrasting models of international human resource development. *Journal of World Business, 32*(4), 351–368.

Jokinen, T., Brewster, C., & Suutari, V. (2008). Career capital during international work experiences: Contrasting self-initiated expatriate experiences and assigned expatriation. *The International Journal of Human Resource Management, 19*(6), 979–998.

Jun, S., & Gentry, J. W. (2005). An exploratory investigation of the relative importance of cultural similarity and personal fit in the selection and performance of expatriates. *Journal of World Business, 40*(1), 1–8.

Kawai, N., & Strange, R. (2014). Perceived organizational support and expatriate performance: Understanding a mediated model. *The International Journal of Human Resource Management, 25*(17), 2438–2462.

Kerr, S. P., Kerr, W., Ozden, C., & Parsons, C. (2016). Global talent flows. *The Journal of Economic Perspectives Contents, 30*(4), 83–106.

Koveshnikov, A., Wechtler, H., & Dejoux, C. (2014). Cross-cultural adjustment of expatriates: The role of emotional intelligence and gender. *Journal of World Business, 49*(3), 362–371.

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer.

Lineberry, M. (2012). Expatriates' acculturation strategies: Going beyond "How Adjusted Are You?" to "How Do You Adjust?". Graduate Theses and Dissertations. http://scholarcommons.usf.edu/etd/4128

McNulty, Y. (2016). Why expatriate compensation will change how we think about global talent management. In Y. Guo, P. Dowling, & R. Hussain (Eds.), *Global talent management and staffing in MNEs*, *International Business & Management* (Vol. 32, pp. 123–148). Bingley: Emerald.

McNulty, Y., & Brewster, C. (2017a). The concept of business expatriates. In Y. McNulty & J. Selmer (Eds.), *Research handbook of expatriates*. London: Edward Elgar.

McNulty, Y., & Brewster, C. (2017b). Theorizing the meaning(s) of expatriate: Establishing boundary conditions for business expatriates. *The International Journal of Human Resource Management*. doi:10.1080/09585192.2016.1243567.

McNulty, Y. M., & Tharenou, P. (2004). Expatriate return on investment: A definition and antecedents. *International Studies of Management & Organization, 34*(3), 68–95.

Nielsen, J. R. F. (2015). Problem perceptions by top managers in distant subsidiaries. *European Journal of International Management, 9*(4), 484–509.

Novicevic, M. M., & Harvey, M. G. (2001). The emergence of the pluralism construct and the inpatriation process. *International Journal of Human Resource Management, 12*(3), 333–356.

Ornoy, H., Levi-Nishri, G., & Uziel, L. (2014). Relationship between the personality and gender and the adjustment to a foreign culture: Comparative research between expatriates and business trip travelers. *International Journal of Business Administration, 5*(3), 122.

Ott, D. L., & Michailova, S. (2016). Cultural intelligence: A review and new research avenues. *International Journal of Management Reviews, 00*, 1–21. https://doi.org/10.1111/ijmr.12118.

Perlmutter, H. (1969). The tortuous evolution of multinational enterprises. *Columbia Journal of World Business, 1*, 9–18.

Pokharel, B. (2016). Triumph over failure of expatriate in an International Assignments from the International Human Resource Management Perspective. *International Journal of Business and Management, 11*(5), 310.

Ramaswami, A., Carter, N. M., & Dreher, G. F. (2016). Expatriation and career success: A human capital perspective. *Human Relations, 69*(10), 1959–1987.

Reiche, B. S. (2011). Knowledge transfer in multinationals: The role of inpatriates' boundary spanning. *Human Resource Management, 50*(3), 365–389.

Reiche, S., & Harzing, A.-W. (2015). International assignments. In *International human resource management* (pp. 230–288). London: Sage.

Reiche, B. S., Harzing, A.-W., & Kraimer, M. L. (2009). The role of international assignees' social capital in creating inter-unit intellectual capital: A cross-level model. *Journal of International Business Studies, 40*(3), 509–526.

Remhof, S., Gunkel, M., & Schlaegel, C. (2014). Goodbye Germany! The influence of personality and cognitive factors on the intention to work abroad. *The International Journal of Human Resource Management, 25*(16), 2319–2343.

Ren, H., Harrison, D. A., Shaffer, M. A., & Bhaskar-Shrinivas, P. (2016). Beyond adjustment: Complex roles of personality and health-related strains in expatriate performance. *European Journal of International Management, 10*(1), 54–77.

Rioux, S. M., Bernthal, P. R., & Wellins, R. S. (2000). The Globalization of Human Resource Practices Survey Report. Development Dimensions International. *HR Benchmark Group, 1*(3), 1–17.

Simonelli, B. T., & Araujo, B. F. V. B. (2016). Adaptação de cônjuges e de expatriados e sua relação com o desempenho em designações internacionais. *InternexT – Revista Eletrônica de Negócios Internacionais da ESPM, 11*(2), 21–34.

Sinkovics, R., & Holzmüller, H. (1994). Ethnocentrism. A key determinant in international corporate strategy formulation? In: *EIBA International Conference*, 1994, Warsaw.

Suutari, V., & Burch, D. (2001). The role of on-site training and support in expatriation: Existing and necessary host-company practices. *Career Development International, 6*(6), 298–311.

Takeuchi, R. (2010). A critical review of expatriate adjustment research through a multiple stakeholder view: Progress, emerging trends, and prospects. *Journal of Management, 36*, 1040–1064.

Tanure, B., Barcellos, E. P., & Fleury, M. T. L. (2009). Psychic distance and the challenges of expatriation from Brazil. *The International Journal of Human Resource Management, 20*(5), 1039–1055.

Templer, K. J., Tay, C., & Chandrasekar, N. A. (2006). Motivational cultural intelligence, realistic job preview, realistic living conditions preview, and cross-cultural adjustment. *Group & Organization Management, 31*(1), 154–173.

Tharenou, P. (2013). Self-initiated expatriates: An alternative to company-assigned expatriates? *Journal of Global Mobility, 1*(3), 336–356.

Tharenou, P. (2015). Researching expatriate types: The quest for rigorous methodological approaches: Researching expatriate types. *Human Resource Management Journal, 25*(2), 149–165.

Toh, S. M., & De Nisi, A. S. (2007). Host country nationals as socializing agents: A social identity approach. *Journal of Organizational Behavior, 28*(3), 281–301.

Trompetter, D., Bussin, M., & Nienaber, R. (2016). The relationship between family adjustment and expatriate performance. *South African Journal of Business Management, 47*(2), 13–21.

Varma, A., Pichler, S., & Budhwar, P. (2011). The relationship between expatriate job level and host country national categorization: An investigation in the UK. *International Journal of Human Resource Management, 22*(1), 103–120.

Wang, C. H., & Fang, M. (2014). The effects of personality on host country nationals' helping behaviors toward expatriates. *International Journal of Intercultural Relations, 42*, 140–145.

Wu, W. Y., & Bodigerel-Koehler, M. (2013). The mediating effects of cross-cultural dynamic competencies on the relationship between multicultural personality and cross-cultural adjustment. *The International Journal of Human Resource Management, 24*(21), 4026–4045.

About the Editors

Helenides Mendonça is full professor at the Pontifical Catholic University of Goiás, Brazil, on work and organizational psychology. Her research interests embrace well-being, creativity, and innovative work behavior and its relationships with personal resources (employee mindfulness and coping), organizational culture (practices and justice), and performance.

Elaine Rabelo Neiva holds a bachelor's, master's, and doctoral degree in psychology at the University of Brasília and a PhD doctoral fellowship at the Complutense University of Madrid. Currently, she is a professor at the University of Brasília. She has experience in psychology, with emphasis on the following topics: organizational change, intervention for change, evaluation of change, organizational power, and organizational analysis. She holds a postodoctoral degree in the graduate program in social and organizational psychology at Teachers College, Columbia University, at New York.

Claudio V. Torres has a Ph.D. in Industrial-Organizational Psychology by the California School of Professional Psychology – San Diego (1999), was a visiting professor (sabbatical) at the Griffith University (Australia), University of Sussex (UK), and The Hebrew University of Jerusalem (Israel), and is currently a professor at the University of Brasilia – Institute of Psychology. His major research interests include cross-cultural psychology, basic human values, consumer psychology and diversity and inclusion in the workplace.

About the Authors

Marcos Aguiar de Souza holds a master's degree (UGF, 1995) and a PhD in psychology (UFRJ, 2003). He holds a postdoctorate in management, with emphasis on quantitative methods (ISCTE—Higher Institute of Labor and Management Sciences, 2013), Lisbon, Portugal. He is currently a board member of the Brazilian Society of Organizational and Work Psychology. E-mail: marcos.aguiar@pq.cnpq.br.

Silvia Amorim graduated in psychology at the Federal University of Juiz de Fora and is a cognitive behavioral therapy specialist. She holds a master's degree and has been a doctorate student at Salgado de Oliveira University, Niterói, Rio de Janeiro, with emphasis in work psychology, where she is involved in projects regarding aging at work and retirement. E-mail: silvia.miranda.amorim@gmail.com

António Caetano is full professor of organizational behavior and human resources at ISCTE—Instituto Universitário de Lisboa (ISCTE-IUL). His research has been focused on human resources management, entrepreneurship, social exchange, and well-being at work.

Laila Leite Carneiro is a psychologist, with a master's degree in organizational and work psychology and an ongoing PhD in the same institution, dedicated to the theme of worker well-being, organizational commitment, and voice in organizations. She works in the areas of professional guidance and people management consulting and also as a professor in university graduate and postgraduate courses of psychology.

Maria da Gloria Lima Leonardo holds a master's degree in psychology at the graduate program in psychology of Salgado de Oliveira University, Brazil. She is an executive secretary at the Federal University of Rio de Janeiro, Brazil.

Heila Magali da Silva Veiga completed her PhD and MS in organizational psychology at the University of Brasília, Brazil. She now holds a full-time academic post at the Federal University of Uberlândia, Brazil, as a professor in the Department of Psychology, having previously had a career outside academia as a management

consultant. Her research interests involve entrepreneurship, creativity in organizations, and proactive behavior, but also the use of psychometrics. E-mail: heila.veiga@gmail.com

Maria das Graças Torres da Paz holds a PhD in psychology from São Paulo University, Brazil, and a postdoctorate in social psychology from Complutense University of Madrid. She is associate researcher at the social, work, and organizational psychology postgraduate program of University of Brasília. She is supervisor of master's and doctorate courses. She develops research about culture, management, quality of organizational life, and personnel well-being.

Áurea de Fátima Oliveira is PhD in Psychology from the University of Brasília (1999). She is a Full Professor at the Federal University of Uberlândia and a member of the Working Group Organizational Culture and Health at Work of the National Association of Graduate Studies in Psychology (ANPEPP). She has experience in Work and Organizational Psychology, with emphasis on organizational behavior, organization culture and values, psychometrics, well-being at work, and human resources management.

Lucia Helena de Freitas Pinho França is a psychologist and holds a PhD at the University of Auckland (New Zealand). She is professor at graduate studies of psychology at Salgado de Oliveira University (UNIVERSO), Niterói, Rio de Janeiro, Brazil, and has been a senior consultant at the topic of older workers, ageism, intergenerational programs, and retirement planning program at several organizations in Brazil and overseas. E-mail: lucia.franca@gmail.com

Vinícius Carvalho de Vasconcellos holds a graduate degree in psychology from the Federal University of Rio de Janeiro, a master's degree in public health from Escola Nacional de Saúde Pública (Fiocruz), and a PhD in social and organizational psychology from the University of Brasília. He is human resource manager and a psychologist at Petrobras Inc. working with organizational climate, organizational commitment, and work engagement surveys. He is a professor at Petrobras University.

Gisela Demo holds a postdoctoral degree in management and organizations from the Anderson School of Management, University of California, Los Angeles, USA, and a PhD in organizational psychology from the University of Brasília, Brazil. She is an associate professor of the graduate program in management of the University of Brasília and also the leader of a research group (gpegpc.blogspot.com) that develops studies on HRM practices, organizational behavior, and customer/citizen relationship management.

Amanda Londero dos Santos is a professor at the Department of Psychology at the Pontifical Catholic University of Rio de Janeiro (PUC-Rio). She holds a master's degree in Psicologia Sociale, del Lavoro, and della Comunicazione and graduated in Scienze Psicologiche Sociali e del Lavoro from Università degli Studi di Padova (Italy). She is a PhD candidate in the graduate program in clinical psychology at PUC-Rio. She acted as substitute professor at the Federal University of Uberlândia.

Bruno Felix von Borell de Araújo is a professor and received his PhD in business administration from Universidade Presbiteriana Mackenzie. He currently serves as the editor in chief of the Brazilian Business Review. His research interests include identities at work, employee voice and silence, diversity at work, and expatriation.

Sônia Regina Pereira Fernandes is a psychologist with a PhD in public health from the Federal University of Bahia (UFBA). She is professor of the postgraduate program in psychology at UFBA. She works in the area of organizational and work psychology with emphasis on human factors at work and professional careers.

Maria Cristina Ferreira is a professor of work and organizational psychology at the graduate program in psychology of Salgado de Oliveira University, Brazil. She received her PhD in psychology from the Getulio Vargas Foundation, Brazil, and ran a postdoctoral stage in psychology at the University of Wellington, New Zealand. Her principal research profile is well-being at work, organizational culture, and organizational justice.

Leela Lacerda Francischeto is a PhD student in social, work, and organizational psychology at the University of Brasilia and a human resource manager. Her interests as a researcher and consultant are innovation and culture, human resource management, and learning. E-mail: leela.francischeto@gmail.com.

Sinésio Gomide Jr holds a PhD in psychology from the University of Brasília (1999). He is currently a full professor at the Federal University of Uberlândia. He is a member of the Working Group on Organizational Culture and Health at Work of the National Association of Graduate Studies in Psychology (ANPEPP). He has experience in the area of psychology, with emphasis on WOP (organizational behavior, psychometrics, well-being at work, and human resources management).

Magno Macambira holds a PhD in psychology from the Federal University of Bahia. He is a professor of the psychology postgraduate program at the Methodist University of São Paulo and develops studies in the area of psychology with a focus on organizational behavior. Actually, he is a member of the Working Group on Organizational Culture and Health at Work of the National Association of Graduate Studies in Psychology. E-mail: macambira04@gmail.com

Michel Mott Machado is a doctor in business administration from Universidade Presbiteriana Mackenzie. He is professor at Universidade de Mogi das Cruzes and Fatec Itaquaquecetuba. His research interests include organizations and interculturality; organizational dignity; inclusive diversity management; and public policies, migration, and minorities.

Simone Mafra is a professor at graduate studies of home economics at Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil. Her topics of interest include aging and social risk, work organization and aging, relation between younger and older adults, and other issues related to aging and family. She is the vice president of ASPEN—Brazilian Association of Studies and Aging Research. E-mail: sctmafra@ufv.br.

Telma Fernandes Mascarenhas holds a Mater's degree in Human Development. She is also a psychologist, a professor at Faculdade Ruy Barbosa in Rio de Janeiro and a Human Resources Manager. Her interests as a researcher and consultant are retirement planning, career planning, coaching, job orientation, team development, learning, training and development.

Iône Vasques-Menezes holds a PhD in psychology at the University of Brasília (2005). She has experience in education and research in the areas of social, organizational, and work psychology and research methodology. She is working mainly on the following topics: work, identity, and worker health. She is currently a full professor of the master's program and PhD in psychology at Salgado de Oliveira University (UNIVERSO). She has provided consulting and advisory services to different federal and state public administrations. He is a member of the Ethics Committee at Salgado de Oliveira University.

Luara Pressoti holds a master's degree in social and organizational psychology at the University of Brasília (UnB) and an undergraduate degree in psychology at the University of Brasília (UnB). She works mainly in the following subjects: cultural diversity, social inclusion, and juvenile delinquency.

Elisa Ribeiro completed her PhD and MS in social and organizational psychology at the Federal University of Bahia, Brazil. Her research interests involve social network analysis, group processes, and affirmative policies in universities. She is now a titular professor in the Psychology Department of Paulista University, São Paulo, Brazil. E-mail: ribeiro.emba@gmail.com

Laís Paranaíba Frattari Ribeiro is a psychologist with a specialization in inclusive, special, and political education from Candido Mendes University. She is a psychologist at the Public Ministry of the State of Minas Gerais (Brazil). She is a student of the master's degree in psychology at the Federal University of Uberlândia investigating the theme of engagement at work.

António Rosinha is a lieutenant colonel and professor of leadership and human resources management at the Portuguese Military Academy, Military University Institute and School of Business Communication (ISCEM), Lisbon, Portugal.

Susana C. Santos is a postdoctoral research fellow at the University of Florida (USA) and a researcher at ISCTE-IUL. Her main research interests are focused on the cognitive and psychosocial processes of entrepreneurship, at the individual and team level.

Juliana Seidl is a psychologist, a PhD student in social, work and organizational psychology at the University of Brasilia, and a visiting research scholar at the University of Florida. Her interests as a researcher and consultant are retirement planning and ageism and management of age diversity in organizations. E-mail: juliana.seidl@gmail.com.

Daizy Stepansky completed her PhD in communication and culture at the Federal University of Rio de Janeiro, UFRJ, Brazil, with the thesis: *Aging in Society and in the Media*. She holds also a master's degree in sociology from Instituto Universitário de Pesquisas, IUPERJ, Rio de Janeiro, Brazil, with the dissertation: *Aging in Brazilian Society*. She is a professor of the postgraduate program in sociology and law in the Fluminense Federal University and works for the UNDP as a consultant for studies on the Brazilian elderly population, including profile, rights, training projects, and social, economic, and cultural indicators. E-mail: daizystepansky@gmail.com

Maria Luisa Mendes Teixeira is a professor of the graduate business administration program at Universidade Presbiteriana Mackenzie. She received her PhD in business administration from São Paulo University and run two postdoctoral stages in social psychology at the Complutense University of Madrid and Lisbon University. Her principal research profile is human, organizational and cultural values, organizational dignity, and intercultural adaptation.

Index