

Emerging perspectives on behavioral competencies: an innovative measurement model, learning antecedents, and employability outcomes

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DOCTORAL THESIS

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Abstract

In recent decades, systematic comparisons between best and average performers have shown that the people who perform best in their job are those who manifest behavioral competencies, which are the ones related to emotional and social behaviors. Through the integration of theories from different fields, this thesis contributes to the current debate on behavioral competencies by providing a better understanding of their antecedents, outcomes, and measurement.

The persistent demand in the job market for professionals with higher behavioral competencies underlines the need for further research to understand, besides formal training, what else may enhance behavioral competencies. Drawing on experiential learning theory, the first study, based on a sample of graduates, reveals that a range of real life extracurricular activities seem to predict different clusters of behavioral competencies.

The second study assesses the impact of behavioral competencies on the way graduates approach their career and the effect that this approach has on employability. Results indicate that behavioral competencies are critical not only for professionals to succeed in their careers, but also for students to better orient themselves in the career path and increase their employability.

The third study aims at effectively measure behavioral competencies for both developmental and evaluation purposes. It develops a measurement instrument intended to update, enlarge and overcome the limits of existing scales. Based on literature review and additional empirical investigation, a new comprehensive competency framework is proposed and the related scales are developed and validated.

The quality of this research is critically assessed and possible limitations and threats to validity are presented. Moreover, implications for research and managerial and educational implications are provided. Finally, future research lines are recommended.

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1

Introduction

1. Introduction

Behavioral competencies are defined as “related but different sets of behavior organized around an underlying construct, which we call the ‘intent’” (Boyatzis, 2009: 750). They comprise emotional, social and cognitive abilities that have been associated with effectiveness, particularly when manifested by people in leadership positions (Abraham 2006; Emmerling and Goleman 2005; Rosete and Ciarrochi 2005). They showed to be accurate predictors of personal and professional success (Boyatzis, Rochford, and Cavanaugh, 2017; Sigmar, Hynes, and Hill, 2012) and nowadays they are considered one of the most valuable characteristics in the workplace (Azevedo, Apfelthaler, and Hurst, 2012). However, despite the recognized relevance of behavioral competencies in the organizational context, the labor market has frequently emphasized the existence of a behavioral skills gap (Azevedo et al., 2012; Gault et al., 2010; McKinsey and Company, 2012), which reveals that individuals do not display the behavioral competencies desired by organizations and needed to be effective. The aforementioned behavioral skills gap calls for the need to focus the attention on young generations entering the labor market.

This thesis contributes to the analysis of this issue: i) by considering complementary ways – specifically extracurricular activities – in which young individuals can develop behavioral competencies, so as to be equipped with the competencies they need; ii) by assessing whether behavioral competencies affect the way young individuals approach their career decisions and ultimately their employability; iii) by examining and proposing a way to effectively assess behavioral competencies.

Practically, this thesis was conducted to find ways to help young individuals better moving toward the labor market by developing and exploiting their behavioral competencies.

Theoretically, this thesis is intended to advance research on behavioral competencies by investigating the concept according to three related perspectives: behavioral competencies’ antecedents, outcomes and measurement.

The first perspective looks at the determinants of behavioral competencies. The literature has highlighted that the development of behavioral competencies is a complex phenomenon and requires a change in people's habitual behavior (Boyatzis, 2008b; Cherniss and Goleman, 2001). Previous studies underlined the need for engaging in experiential activities and being involved in a process of reflection, feeling, and practice in order to obtain a real behavioral change (Boyatzis, 2009; Hoover et al., 2010; Kolb, 1984). Accordingly, researchers started to develop, implement and test the effectiveness of formal training activities based on Experiential Learning Theory in higher and executive education settings (Boyatzis et al., 2002; Hoover et al., 2010; Landau and Meirovich, 2011). However, the number of people that can access this type of training is still limited, as the number of *avant-garde* educational institutions that have integrated traditional education with behavioral competencies development programs is limited. This entails that in order to develop behavioral competencies, most people still rely on their personal experiences that, in the case of young individuals, are not work related, nor even related to the hard skills focused educational system. Previous studies suggested that a way in which young individuals can practice and develop behavioral competencies is by actively participating in extracurricular activities (Padilla-Angulo, 2017; Rubin, Bommer, and Baldwin, 2002). Intuitively, this notion has been widely used in HR hiring practices assuming higher behavioral competencies for those individuals that participated in extracurricular activities. However, no study has comprehensively and empirically investigated the effect of extracurricular activities on different types of behavioral competencies.

Hence, the first aim of this thesis is *to assess the effect of extracurricular activities on different clusters of behavioral competencies in a sample of graduates.*

Focusing on determinants of behavioral competencies and on young individuals, the first aim of the thesis is intended to contribute to a better understanding of the ways in which behavioral competencies can be developed. This can be practically helpful in reducing the behavioral skills gap frequently emphasized by the labor market, as well as in better guiding recruiting practices.

The second perspective adopted concerns the outcomes of behavioral competencies. The importance assigned to these competencies in the last decades was driven particularly by their ability to explain variability in performance (Boyatzis 2008b). A considerable number of studies focused on showing the effect of behavioral competencies on performance across different settings (see for example Boyatzis, Lingham, and Passarelli, 2010; Hopkins et al. 2015; Williams 2008). Other authors found behavioral competencies associated with life and career satisfaction (Amdurer et al. 2014), mental well-being (Sharma, 2011), and career success (Gerli, Bonesso, and Pizzi, 2015; Poon, 2014). Most studies draw attention to the performance and career achievements of adult workers, while limited consideration has been given to career outcomes for newly graduates who are about to approach the labor market. Specifically, this thesis wants to investigate if behavioral competencies shape the way graduates approach their career and if this affects their employability.

To address this gap, we focused on the emerging body of research on protean career orientation that defines a non-traditional way of approaching one's career path, which is consistent with the current turbulent job market context (Briscoe and Hall, 2006). Indeed the current employment conditions especially for young individuals are characterized by a high level of ambiguity regarding one's career path and expectations. In order to deal with this ambiguity, careers have become increasingly directed by the individual rather than by the organization and affected by the person's intrinsic values. This approach was defined by scholars as "protean" (Hall, 1976). Literature on protean career orientation relates the construct to two behavioral competencies (self-awareness and adaptability) (Hall, 2004). However, the role of these competencies is still under debate, very few empirical studies have been undertaken to test their impact (Gubler et al., 2014), and no studies have questioned if other behavioral competencies contribute to the adoption of a protean career orientation. Moreover, we wanted to investigate if having a protean career orientation supports young individuals on entering the labor market, considering its effect on employability according to both its subjective and objective domain.

Therefore, the second and third aims of the thesis are:

To assess the effect of different clusters of behavioral competencies on protean career orientation

To assess the effect of protean career orientation on employability

The second and third aims of the thesis are in line with the need to better understand how to support graduates' approach to labor market entry and career decisions.

The third perspective concerns behavioral competencies' measurement. A number of survey-based assessment tools are already present in the literature, however, the current instruments present some limitations: a) they assess one specific competency or a relatively restricted set of competencies, which limits the possibility to assess a wide variety of behaviors that can influence effectiveness in different settings, and may lead to the assessment of competencies with not-compatible instruments; b) some models were developed in the 80s and 90s, which calls for a reconsideration of the skills needed to be effective in the current organizational environment; c) some scales refer exclusively to working/company settings, which make them not applicable to different target people; d) most scales privilege internal consistency rather than complexity of the constructs, underestimating their possible sub-dimensions. In order to overcome these limitations, the fourth aim of this thesis is *to develop and validate a new competency framework and scale to assess a comprehensive set of behavioral competencies*. This aim is driven by the need to adopt an updated, comprehensive and validated instrument to assess behavioral competencies for both developmental and evaluation purposes.

1.1 Structure of the thesis

This thesis comprises five chapters. Chapter 2 (study 1) opens an investigation on behavioral competency development, tackling the first aim of the thesis. In this chapter, the role of extracurricular activities in predicting graduates' behavioral competencies is examined. The study disentangles the effect of different extracurricular activities such as volunteering, cultural activities, sport, and experiences abroad on different clusters of behavioral competencies related to the ability to understand and manage emotions and relationships and to cognitive abilities.

Chapter 3 (study 2) examines the outcomes of behavioral competencies in terms of career orientation. It develops and tests a model that helps explain the relationship between behavioral competencies, protean career orientation, and employability. This chapter addresses the second and third aims of the thesis.

Chapter 4 (study 3) focuses on the issue of measurement of behavioral competencies. It shows the process and results of a scale development study aimed at developing and validating a new comprehensive framework and measurement model of 31 different behavioral competencies.

Chapter 5 presents the synthesized findings of the three studies, and discusses their implications. It presents the main contributions to research and practice, and the general limitations and threats to validity. Finally, this chapter concludes the thesis with opportunities for future research.

1.2 Research methods

In all three research studies presented in the thesis a quantitative empirical approach was adopted. Epistemologically, the investigator and investigated are considered independent entities. The three studies look for relationships between existing constructs, derive hypothesis from theory or logical arguments, and tests for confirmation or disconfirmation of that hypothesis. As remarked in the description of the aims of this thesis, the focus is on the “effect” of independent variables on dependent variables.

In study 1, we adopt a more exploratory approach and challenge accepted wisdom promulgated in the extant literature by empirically analyzing relationships that have been rarely tested in previous studies. In study 2, we propose and test new relationships between established constructs. In study 3, we describe a scale development process identifying new ways of measuring existing constructs.

Survey tools were used to collect self-report measures and peer-reviewed measures. Several data collection processes were undertaken in order to:

- a. Obtain data on students’ past extracurricular activities (study 1)
- b. Obtain data on graduates’ protean career orientation and employability (study 2)

- c. Obtain data on variables related to behavioral competencies (Social desirability, Personality traits, Life satisfaction, Perceived employability, Career satisfaction, Performance) (study 3)
- d. Obtain data on behavioral competencies as frequency of adoption of certain behaviors (studies 1, 2 and 3)

Data on behavioral competencies were collected through peer-evaluation in study 1 and 2, while self-report measures were used in study 3.

Data for study 1 and 2 were obtained in collaboration with the Ca' Foscari Competency Centre, the research center on behavioral competencies of Ca' Foscari University. Data for study 3 were collected with the help of both the Ca' Foscari Competency Centre and the Leadership Assessment and Development (LEAD) program at ESADE Business School.

As described in the following chapters, data were explored and analyzed to verify model assumptions. The methods used to tackle the thesis research questions included different types of analysis (e.g. Partial Least Square – Path Modeling, Structural Equation Modeling, Exploratory Factor Analysis, Confirmatory Factor Analysis, Correlations).

Table 1.1 summarizes the research methods used in the three studies.

	Study 1	Study 2	Study 3
Type of study	Empirical study	Empirical study	Scale development
Empirical approach	Quantitative	Quantitative	Quantitative
Sample size	n = 324	n = 120	Study 1 n = 90 Study 2 n = 325 Study 3 n = 237 Study 4 n = 370 Study 5.a n = 237 Study 5.b n = 87
Analysis/technique	Partial Least Square – Path Modeling	Structural Equation Modeling	Exploratory Factor Analysis, Confirmatory Factor Analysis, Correlation
Measures	Self-report Peer-reviewed	Self-report Peer-reviewed	Self-report

In chapter 2 and 3, a 360-degree assessment was used for peer-reviewed measures. This evaluation system has been recognized as “one of the most remarkable innovations in leadership development over the past 20 years” (Hezlett, 2008, p.703), even if it is not without criticism. The main critique regards the fact that this assessment system, born to enhance leadership development, sometimes was not creating measurable change (Siefert, Yukl and McDonald, 2003). A smaller amount of studies refer to problems related to raters’ response bias. For example, Helzett (2008) states that raters’ interpretation of the rating scales used may be affected by their exposure to the instruments. Another problem regards the ability of the rater to assess some of the ratee’s behaviors. In a 360 degree assessment with bosses, peers and subordinates involved, Scullen, Mount, and Judge (2003) found that subordinates’ ratings tend to be more highly correlated across dimensions than other rates’ evaluation. This may suggest that the subordinates’ performance constructs could be less well-developed and the assessment less precise due to their smaller experience. In order to prevent ratings affected by limited ability to evaluate a behavior, in both studies presented in Chapter 2 and 3 we gave to rates the possibility to choose the “I don’t know” option whether they were not able to assess a behavior. In order to address the issue of rater accountability described by London, Smither, and Adsit (1998), different instruments has been developed, such as notification of rater errors (e.g., incomplete responses), or identification of anomalous rating patterns (e.g., extremely high or low rating average, responses all of one value) (Bracken, Rose, and Church, 2016). Similar instruments were adopted in the studies presented in this thesis.

One of the main advantages in the use of 360-degree feedback tools, is that each rating perspective provides unique insight into the individual receiving feedback. It allows to reveal the interpersonal nature of the individual beyond his/her singular perspective (Taylor, 2014). This may lead to low agreement across raters. Some authors reported that agreement between raters is usually relatively low (London and Beatty, 1993; Waldman and Atwater, 1998) and tend to increase when the purpose of the assessment is developmental (Hensel et al., 2010). However, Helzett (2008, p.708) observes that in Mount and Scullen (2001) “although the percentage of observed rating variance attributable

to the idiosyncrasies of individual raters was fairly high, the amount of variance in ratings due to the feedback recipient's performance was estimated to be 68% when ratings were based on information provided by one boss, three peers, and three subordinates". Generalizability of the factor structures across rater perspectives was also supported in Scullen et al. (2003). Hensel et al. (2010) suggest that these differences may depend on the number of raters included in the 360 degree assessment. According to Taylor (2014), the main issue concerning multi-rater assessment does not have to do with inter-rater agreement, but with not taking into account the context. If the purpose of the assessment is to gain awareness about one's behaviors and develop one's competencies, according to the author, it would be better not to limit the multi-rater feedback to specific contexts (i.e., the workplace), but to include multiple contexts (i.e., at work, at home, in the community, with friends, in volunteer roles, etc.), because the multiple selves of a person make up one's current competence and potential as seen from the combination of all the life contexts in which that person participates (Taylor, 2014). In order not to limit ratings from a specific perspective, and due to the target sample of the studies, we adopted Taylor's view in the following chapters.

Another limit of 360-degree assessment, according to Helzett (2008) is a common lack of discriminant validity. According to the author as leadership behaviors are highly related, we may expect that the dimensions of feedback instruments will not demonstrate high discriminant validity. The same argument can be used for behavioral competencies assessment. To address this issue in Chapter 2 and 3 we adopted an internationally validated instrument and we provided the results concerning measurement models and factor analysis.

Moreover, as 360-degree assessments requires also a self-assessment measure, they have been criticized with the same arguments used for self-assessments: using being biased, and inflated measures (Baumeister, 2005; Taylor, 2014). In Chapter 2 and 3 self-assessments were not used.

As stated above, the main critique to the 360-degree feedback regards its ability to lead to sustainable change of the person's behaviors. Assessing behavioral change after receiving a 360-degree feedback is beyond the aim of this study. Nevertheless, we can summarize a couple of suggestions to overcome

this criticism. First, we cannot assume that simply providing a feedback on one's behavior is sufficient to change one's behavior. Indeed 360-degree feedback may enhance one fundamental element for behavioral change, self-awareness, under some conditions. The first is defined by London et al. (1998) as ratee accountability. Increased self-awareness alone cannot generate change, so individuals must play an active role in the change process (Helzett, 2008). The second regards the acceptance of the feedback, which may be limited by self-protection or self-enhancement mechanisms. Previous studies, for example, indicated that less favorable ratings were related to beliefs that feedback was less accurate and to negative reactions (Brett and Atwater, 2011), and found that people tend to recall strengths more than weaknesses after a period of time (Smither, Brett, and Atwater, 2008). Feedback is usually analyzed in a self-other agreement perspective. Taylor and Bright (2011) challenge this common practice arguing that self-other rating congruence is seldom achieved and that it can lead to defensiveness. Third, the need of help and guidance in interpreting feedback information is strongly suggested (Luthans and Peterson, 2003), with the use of coaching as most effective enabling intervention.

2

Experiences that matter: Unraveling the link between extracurricular activities and behavioral competencies

2.1 Abstract

Emotional and social competencies (ESCs) have been shown to be extremely desirable in young people for successful entry into the labor market. Non-work personal experiences are often used as proxies to assess them in recruitment and selection phases. However, this inference is not based on clear scientific evidence. Drawing on experiential learning theory, this study investigates the impact of a range of real life extracurricular activities on the ESC portfolio of graduates. The empirical study showed that extracurricular experiences have different impacts on five clusters of ESCs. Practical implications on how to promote extracurricular experiences to foster ESCs are discussed.

Keywords: behavioral competencies, experiential learning, extracurricular activities, emotional and social competencies, competency development

2.2 Introduction

The current economic environment, characterized by increasing competition, flexibility, and continuous rapid change, has led companies to look for new employees with personal characteristics that go beyond their mere technical ability. Nowadays, people who want to enter the labor market are required to possess a set of behavioral abilities, namely emotional and social competencies, that enable them to pursue effectiveness (Beigi and Shirmohammadi, 2011; Brown, George-Curran, and Smith, 2003; Emmerling and Boyatzis, 2012; Emmerling and Cherniss, 2003; Williams, 2008; Zhang and Fan, 2013).

Employers give attention to these kinds of soft, general characteristics that increase employability, considering them relevant for both job performance and career development (Azevedo, Apfelthaler, and Hurst, 2012). Organizations look for people “who can have the largest positive impact on organizational strategy, productivity, and quality from a leadership role” (Daniel, 1992: 57). Recent studies on this topic have highlighted that the valuable characteristics include

factors like communication, interpersonal skills, leadership, adaptability, creative thinking, initiative, and analytical ability, rather than job-specific competencies and academic reputation (Coetzee, 2014; Finch, Hamilton, and Baldwin, 2013). However, the evidence of a behavioral skills gap, especially in the young workforce, has been widely attested across countries (Jackson, 2009). In order to reduce this gap and help young individuals be more attractive when entering the labor market, the question of how these competencies can be learned has become paramount.

Many educators agree that teaching social and emotional skills requires an emotional and experiential context (Dwyer, 2001; Kremer and McGuiness, 1998). According to Hoover, Giambatista, Soreson, and Bommer (2010: 193), “behavioral skills, associated cognitive schemas, and the emotional commitment needed to support such skills can be accomplished through the application of experiential methods based on whole person learning”. Experiential learning theory highlights the critical role of experience in effecting learning and change (Kolb, 1984; Ng, Van Dyne, and Ang, 2009). Following this approach, some institutions—but still a paltry number (Jaeger, 2003)—have tried to supplement their traditional educational activity by integrating experiential learning exercises into academic courses (Boyatzis, Stubbs, and Taylor, 2002; Hoover et al., 2010). Even more marginal has been the attention given to non-academic extracurricular activities in supporting learning in school and higher education (Moore, 2013). Besides educational programs, we want to investigate if there are other kind of experience through which students can foster their behavioral competencies. Taking into account that students have limited opportunities to practice ESCs in the workplace, as highlighted by Rubin, Bommer, and Baldwin (2002: 441), “one intuitive notion is that extracurricular activities are a place where students look to utilize, and perhaps refine and develop, their interpersonal skills”.

Non-work personal experiences are indeed the majority of experiences young individuals will have encountered, and are often used as proxies to assess personal abilities in phases of recruitment and selection. When no working experiences are available, HR managers, as a common practice, look for extracurricular activities of candidates, inferring the possession of some behavioral skills.

However, some authors highlight the fact that in many organizations hiring decisions are guided just by “good instinct” (Graham-Leviss, 2012: 9), as this inference is not based on clear scientific evidence which explains the relationship between certain types of extracurricular activity and greater behavioral competencies. This issue is particularly relevant if we consider that hiring the best qualified candidates is the most impactful HR function in terms of monetary and organizational outcomes (Konradt, Gabers, Böge, Erdogan, and Bauer, 2017).

This paper seeks to contribute to fill this void by answering the following research question: What extracurricular experiences impact on the ESCs of graduates?

In order to answer this question, we conducted an empirical study on a sample of 324 students at an Italian university in which we collected data on the graduates’ past extracurricular personal experiences and their level of ESCs through a 360 degree assessment. Our work advances the understanding of the determinants of behavioral competencies; specifically, we shed light on the role of different extracurricular activities (volunteering, cultural activities, experience abroad, sport) in promoting specific clusters of ESCs (self-awareness, self-management, social awareness, relationship management, cognitive competencies).

2.3 Theoretical background

2.3.1 Learning emotional and social competencies

Behavioral competencies are acknowledged as a more accurate predictor of personal and professional success than cognitive knowledge (Covey, 1996; Goleman, 1998a, 1998b; Sigmar, Hynes, and Hill, 2012), and have become one of the most important characteristics for people’s employability (Hogan, Premuzic, and Kaiser, 2013; Kulkarni and Chachadi, 2014). A behavioral competency is defined as a set of “related but different” behaviors “organized around an underlying construct called intent” (Boyatzis, 2009: 750) that “lead to or cause effective or superior performance” (Boyatzis, 1982: 23). Prior studies have contributed to identify those behavioral competencies that

distinguish outstanding from average performers across professions and sectors (Boyatzis, 2009; Emmerling and Boyatzis, 2012; Goleman, 1998b). According to these studies, five main clusters of competencies make the difference in terms of individual performance: self-awareness (the ability to understand one's own emotions and feelings and their effects on actions and decisions); self-management (the ability to manage and use one's own emotions); social awareness (the ability to recognize and understand emotional information about others); relationship management (the ability to manage emotions in interpersonal relationships); and cognitive competencies (the ability to think or analyze information and situations).

Scholars claim that behavioral skills need to be taught, adopting non-traditional methods in which the person is involved in an emotional and experiential context (Dwyer, 2001; Kremer and McGuinness, 1998). By involving participants in a process of reflection, interactive engagement, and practice, experiential learning techniques stimulate the cognitive, behavioral, and emotional dimensions of learning and behavioral change that are necessary to acquire emotional and social competencies (Hoover et al., 2010). Experiential learning is a holistic process in which the person adapts to the world through the integrated functioning of the person's thinking, feeling, perceiving, behaving, and interacting with the environment (Kolb, 1984; Ng et al., 2009). The model portrays two dialectically related modes of grasping experience - Concrete Experience and Abstract Conceptualization - and two dialectically related modes of transforming experience - Reflective Observation and Active Experimentation (Kolb and Kolb, 2005). The individual usually chooses and adopts a preferred mode, although the model idealistically depicts a learning cycle in which all modes are adopted. Concrete experiences represent the basis for reflection and observation. According to their perceptions, individuals attach meanings to their experiences, creating frameworks of knowing (Rigg, 2008). The meaning created transforms the action patterns, making people experiment with new behaviors (Yeo and Marquardt, 2015).

Experiential learning theory is based on some key pillars that challenge the traditional idea that learning is achieved through transmission of knowledge, and claim that learning is a process of

creating knowledge through the synergetic transactions between the person and the environment. Learning is fundamentally conceived as a process in which one is called upon to think, feel, perceive and behave shifting between the four modes (Kolb and Kolb, 2005).

In contrast with traditional educational activities mainly focused on transmission and on the “thinking” mode, extracurricular experiences provide students the opportunity to be engaged in concrete experiences that allow individuals potentially adopt all four modes. Extracurricular activities expose students to different environments that challenge their perceptions and behaviors. Through active involvement in extracurricular activities, students have the opportunity to identify, model and mirror appropriate behaviors to promote higher levels of critical thinking and reflection, which are essential to the development of behavioral competencies.

Instead of looking at artificially created experiential activities in the classroom during dedicated courses (Bonesso, Gerli, and Pizzi, 2015; Boyatzis et al., 2002; Hoover et al., 2010; Landau and Meirovich, 2011), this paper investigates if there is a relationship between real world extracurricular experiences and the level of behavioral competencies demonstrated by students, as natural experiences induce more reflective and revelatory ambience than forced or simulated experiences (Nair, 2011).

2.3.2 Extracurricular activities and ESCs

Learning is not just participating in training activities: it is also pursued through real life learning occasions. This kind of informal learning is based on daily life experiences and represents an important way for individuals to acquire attitudes, values, skills, and knowledge (Radcliffe and Coletta, 1989). According to Rubin et al. (2002), the importance of extracurricular involvement is broadly recognized. In fact, participation in extracurricular activities gives the opportunity to experiment with environments that are different from both home and academic ones from a cultural, organizational, and relational point of view. Extracurricular activities differ from straightforward leisure activities, because they imply the involvement of a person in a structured or semi-structured

organization, a commitment toward an objective that can be pursued alone or in a group, and the consequent activation of conscious behaviors addressing that objective.

Previous research supports a positive effect of participating in extracurricular activities on people development, especially in young age (Fredricks and Eccles, 2006). Prior studies showed positive association between extracurricular involvement and academic outcomes (e.g. Cooper et al., 1999; Eccles and Barber, 1999), as well as lower depression (Mahoney, Schweder, and Stattin, 2002), higher self-esteem and higher interpersonal competencies (Fredricks and Eccles, 2006). Participating in extracurricular activities should provide students the opportunity “to acquire and practice specific social, physical, and intellectual skills that may be useful in a wide variety of settings” (Eccles et al., 2003, p. 866). Previous research has found, for example, that students who participate in students’ associations possess better communication, initiative, decision-making, and teamwork skills (Padilla-Angulo, 2017), that managers who are more involved in extracurricular activities show higher decision-making, creativity, interpersonal skills, and resistance to stress (Howard, 1986), and that student’s overall extracurricular activity is positively associated with stronger communication, initiative, decision-making, and teamwork skills (Rubin, Bommer, and Baldwin, 2002). Besides the few studies mentioned above, the literature does not provide an extensive investigation of the role of different types of extracurricular activities in enhancing behavioral competencies, and most of the times relates the two constructs without providing empirical evidence. Several studies posit relationships that are theoretically sound, assuming that there is good reason to believe that the relationship exists. However, empirical analysis is scarce, and when present, it is inconsistent in terms of results. In this study we try both to differentiate the relationships of different types of extracurricular activities with multiple clusters of behavioral competencies and perform an empirical analysis.

In the literature, different types of extracurricular activity are identified: sport (Forneris, Camiré, and Williamson, 2015; Rubin et al., 2002), community service and volunteer work (Ward and Yates, 2012), community fundraising clubs (Forneris et al., 2015), internship and study abroad activities

(Ward and Yates, 2012), art club, drama club, and music (Forneris et al., 2015), on-campus clubs and fraternities/sororities (Forneris et al., 2015; Rubin et al., 2002; Ward and Yates, 2012).

In the Italian context most of the aforementioned activities are well-established even if no study specifically addresses the attendance level for different segments of the population. As for volunteering, a study conducted by the National Institute of Statistics estimated that about 12.6 percent of the population participated in volunteering activities, with the age group 55-64 years being the more active (15.9%) (ISTAT, 2014). As for abroad experiences, data on the participation to the Erasmus Programme showed an increasing tendency in the participation of Italian students. In 2015, Italy ranked fifth country in Europe for participants sending, and fourth country in Europe for participants receiving (European Commission, 2017). A recent report from the National Institute of Statistics provides some insights on the relationship between Italian people and sports. About 34.3 percent of the population practice sport activities. Younger people are the most active ones: 70.3 percent of people between 11 and 14 years old is involved in sport activities, 61 percent on continuative basis, while 9.3 percent occasionally. From 15 to 24 years old the attendance level starts decreasing, but it is still high (respectively 63.4% for the age group 15-17 and 54% for the age group 18-24) (ISTAT, 2017). Students associations such as fraternities and sororities are not present in the Italian context at any school and university level. Students often gather together only at the end of the academic path joining Alumni associations. Other types of on-campus associations propose activities that are attributable to the categories previously mentioned.

In this study we will focus on four main categories: volunteering, cultural activities, abroad experiences and sport.

Volunteer activity is defined as work done without monetary recompense (Freeman, 1996). As volunteering implies investing physical effort and sacrificing time dedicated to work or leisure activities without a monetary counterpart (Meier and Stutzer, 2008), many previous studies have focused on the motivation that leads people to undertake volunteering activities. Other authors have

focused on their effects, such as promoting a sense of democracy by increasing the sense of civic participation (Săveanu and Săveanu, 2008), and having a positive effect on individual wellbeing, with positive physical and mental health consequences (Thoits and Hewitt, 2001), leading to greater life satisfaction (Meier and Stutzer, 2008). In recent years volunteering has gained relevance in the European context also as a way to improve employability through skills development (European Commission, 2011), and has being promoted as one of the priorities for the European 2020 Strategy for Youth. Previous studies maintained that volunteering is a way to develop an active identity (Săveanu and Săveanu, 2013), by stimulating the assessment of one's abilities, values, interests, and place in the society (Brown-Liburd and Porco, 2011; Eccles et al., 2003). Dealing with situations of deficiency and need may lead the students contrast themselves and their status with the one of the people in need, acquiring awareness on personal characteristics, possibilities and resources they might otherwise take for granted. Moreover, volunteering activity may challenge one's values by making the person reflect on what would be his/her most important drivers in a state of deprivation, and on how important the values related to the volunteering activity actually are for him/her. Students gain the opportunity to get insight on the values of the volunteering association and to act out these values first exploring an identity within the system, and then re-constructing their identity also outside the system (Youniss and Reinders, 2010).

Volunteering may be a useful experience for personal development also because it allows students change their perception on "the other" (Youniss and Reinders, 2010). Facing real problems and personal and social difficulties may change students' frame of reference and perspective on people and their problems (Reed, 2001). Volunteers are fostered to understand different kinds of people, being helpful and taking care of their emotions and difficulties. This reflects both an emotional and cognitive empathy ability. Understanding people in need requires to adopt a different prospective, to explore motives and life paths that may be different from the ones the student is used to. Volunteers need to be aware that the way in which they manage the emotional interchange may affect the responsiveness and the perception of the person in need of being helped. Being aware of

others' emotions should be followed by actions directed toward satisfying the others' needs, thus adopting service orientation behaviors. Necessities should to be expressively addressed in order to obtain a higher satisfaction of the person in need. Craig-Lees, Harris, and Lau (2008) indeed found that volunteers demonstrate higher concern for the welfare of others than non-volunteers.

Besides the relationship with the people in need, volunteers need to manage the relationship with other volunteers. NGOs often lack "even the basic common sense management structures and principles" (Lewis, 2001, p.16), which entails that volunteers need high collaboration, teamwork, and management of power relationships in order to overcome the limits of the formal organizational structure.

Volunteer work may also require emotional regulation for dealing with emotionally taxing situations like poverty, disease, lack of sanitary or housing, aging. The volunteer is required to manage the flow of his/her emotions in situation that might be highly touching and might overwhelm him/her. Moreover, managing one's emotional reactions guarantee the persistence of a positive climate that may give relief to the people in need and favor the perception of being helped.

Under these considerations, we expect that:

H1: Students that have experienced volunteering more frequently demonstrate higher emotional awareness, self-management, social awareness, and relationship management competencies.

In the literature, cultural activities are recognized as improving people's development. Cultural activities are defined as activities related to fine arts such as music, theater, and visual arts, their study, understanding, and practice. In this study, we considered the participation to art, theatre and music associations. According to Snyder, Heckman, and Scialdone (2009), in order to fill the gap of 'people skills' in the education system, many educators are trying to connect art activities with traditional education methods since previous studies proposed some relationship between art exposure and the development of both creative and cognitive competencies in students (Burton, Horowitz, and Abeles, 2000; Snyder et al., 2009). Introducing an artistic way of thinking seems particularly useful in creating

the ability to interpret and holistically evaluate complicated, ambiguous situations. These specific abilities refer to cognitive behaviors: pattern recognition and systemic thinking. The former translates into coherently interpreting complex situations by illuminating the correspondences and relationships involved to see connections between information that is apparently unrelated. Arts education contributes to spur students seeks coherence among relationships within a complex form. For example, when creating a piece of art, students are required to make a qualitative judgement and to combine elements without the help of a rule of formula (Eisner, 1998). The latter is explained as the ability to understand and put in relation causes and effects. Eisner (1998, p.38) maintain that art activity may foster the creation of scenarios, and develop a “willingness to imagine possibilities.”

The literature recognizes a strong relationship between art and one specific social awareness competency, namely empathy. The roots of the word empathy come from the original term “Einfühlung”, defined as “as the tendency to have embodied or kinaesthetic experiences of the form, style, narrative, or emotional content of images or objects” (Gernot, Pelowski, and Leder, 2018, p.147). The original meaning of empathy was referred to the emotional perception of items including landscapes, furniture, sculptures, or architecture (Jahoda, 2005; Lanzoni, 2009). In the context of art, judgement is developed mainly through feelings (Nussbaum, 1995). Feeling into a work of visual art creates a more sincere and pleasurable experience and a better appreciation of the art work (Gernot et al., 2018). The relationship between art and emotions is complex, and concerns not only the ability to empathize with the art work, but also the ability of the artist to recognize his/her emotions and convey them in the art piece or performance, and the ability to recognize the emotions that others feel when experiencing the art piece or performance. According to Eisner (1998), art activities help developing the ability to recognize subjectivity in perceptions and to accept multiple perspectives.

As for self-management competencies, both achievement orientation and adaptability seem to be relevant. The first enables the artist being perseverant, ambitious and hard working to achieve dominance of an art or craft. The second characterize art work through the desire to explore ambiguity, to be willing to forestall premature closure in pursuing resolutions (Eisner, 1998). The

recent study of Gowda et al. (2018) showed with a pre-post test, that medical students, after participating to an art course, demonstrated higher tolerance for ambiguity, even if with modest effect size.

Lastly, in the phase of creation and development of events and exhibitions, the collaboration between professionals and the management of relationships between artists may be required.

Within the cultural environment, theater is frequently related to positive outcomes for personal development and reinforcement of learning in behavioral domains (Nair, 2011). For example, Jacques (2012: 247) states that “theatre has a long, well-established system of learning interpersonal skills”. Theatre arts is currently experiencing a rebirth in childhood education (Susman-Stillman et al., 2018), as well as appreciation in management education in which theatre techniques are used as change management tools (Lesavre, 2012). According to the author, all actor training techniques contribute to the development of some main abilities: listening, observing, self-awareness, collaboration, reciprocity, and the development of a sense of group harmony, which are necessary to put a performance on stage. Improvisations techniques in particular seem to enhance creativity and relationship-building (Dominguez, Howell-DePew, and Walters, 2007; Huffaker, Robertson, Hirsch, and Poynton, 2003; Lesavre, 2012).

As plays are often performed by a group of people, students are required to adopt behaviors that characterize teamwork, such as collaborating, helping each other, creating cohesion among members. This is especially true in theatre because the interplay of roles should work like a greased mechanism, and the mechanism should always work properly as when the performance is in play there is no possibility to stop and redo.

Theatre activity may require self and social awareness. For example, the actor needs to become aware about how his/her emotions and how they translate into non-verbal communication and movements. Moreover, he/she has to understand the perspective and the emotions of the role he/she will interpret. Playing a role also allows to strengthen flexibility for example modifying rules and

behaviors according to the pretend context, or pretend that one object stands for another. A recent study on children (Susmann-Stillman et al., 2018) showed the improvement of self-regulation through the experience of pretend play.

Another important outcome of theatre seems to be its impact on cognitive abilities. According to Jacques (2012), some common techniques, such as the “Yes, and . . .” technique, may help develop the ability to free the flow of ideas without internal judgment, thus increasing the ability to think in a nonlinear fashion. Moreover, theatre experiences may train students’ analytic abilities by deconstructing the different parts of the stories actors have to perform.

Among cultural activities, recent studies have also started to investigate the role of music and its effects on children’s development, considering its impact on cognitive and non-cognitive skills (Hille and Shupp, 2014) and on the improvement of social skills (Schumacher, 2009). According to Schumacher (2009), music activity is a way to improve social skills: if students play in a band or group, they need to interact directly with their peers in a context which is different from the class, and to be active in the achievement of a common goal. Synchronized activities, such as music, are related to foster feelings of social connection, specifically interpersonal trust and bonding (Chanda and Levitin, 2013). Previous studies based on lab experiments attempted to explain the role of music in creating social bonds by looking at its biological basis (see Chanda and Levitin, 2013). Similarly to theatre and art activities, music may require introspection and understanding of one’s own emotions in order to understand how to convey them to the audience through music.

Music practice tend to put to the test students’ self-management behaviors. Students need to deal with frequent error which may result in stressful situations.

Moreover, both listening to music and music lessons have been widely related to the enhancement of students’ cognitive abilities, even if empirical evidence is mainly based on correlational studies (see Shellenbergh et al., 2006 for a review). Previous findings claimed that listening to music enhance spatio-temporal reasoning (Rauscher, Shaw, and Ky, 1995; Wilson and

Brown, 1997), children cognitive performance and creativity (Schellenberg and Hallam, 2005; Shellenberg et al., 2007), and has been successfully used in aging rehabilitation (Särkämö, 2018). Previous studies tried to explain the mechanisms according to which music affects the cognitive system and leads to improved brain efficiency (Gupta, Bhushan, and Behera, 2018; Thompson, Schellenberg, and Husain, 2001). Music lesson and training have been associated to a variety of cognitive outcomes, ranging from spatial-temporal abilities (Rauscher, 1999; 2002) to visual perception and imagery (Brochard, Dufour, and Després, 2004), and verbal memory (Brandler and Rammsayer, 2003). The aforementioned findings support that music can improve cognitive abilities. This may be expanded also to logical association competencies. The study of Magne, Schön, and Besson, (2006) highlights that music lessons may help students perceive patterns. Findings show that musician children outperformed non-musician children in the detection of weak incongruities, both in music and language.

According to these considerations, we expect that:

H2: Students that have experienced cultural activities more frequently demonstrate higher self-awareness, self-management, social awareness, relationship management and cognitive competencies.

With the growth of an international dimension in both the professional and the academic fields, an experience abroad seems to have become a frequent choice among students. According to Ungar (2016), there is little doubt that experiences abroad can have benefits for all students. The global nature of today's world can be best appreciated with a personal experience outside one's own culture and context, which exposes students to the challenges of living in a foreign environment (Ng et al., 2009). This activity fits naturally under the concept of experiential learning (Sjoberg and Shabalina, 2010), as it leads students to learn how to manage activities across cultures without having specific formal training, and most of the times in complete autonomy. Living abroad is often connected to a period in which students study or work abroad, activity that is increasingly favored by schools and

universities. Sjoberg and Shabalina (2010) consider study abroad programs as a learning experience that is transformed through the active participation of the students, a process that entails observing, discussing, and questioning. Scarinci and Perace (2012) note that abroad experiences can result in a variety of outcomes, such as skill development and cognitive, attitudinal, and behavioral learning of the participants (Schuster, Zimmerman, Clinton, Schertzer, and Beamish, 1998). The reason that employers and recruiters look for graduates with international experience is not mainly because of language skills acquisition, but because of the ability to think and act coherently with a different culture and context, and the ability to manage relations with culturally diversified groups and to work in a team with people from different cultures and backgrounds (Jones, 2013).

An international experience offers students the opportunity to develop their self-awareness by reflecting on the emotional states generated by the culture shock and on the effect their cultural heritage had on their beliefs, values, and assumptions.

The cultural immersion students experience when undertaking a study or internship abroad period, expands students' worldview, reduces prejudice, and develops cultural sensitivity (DeRicco and Sciarra 2005; Hipolito-Delgado et al. 2011; Ishii et al. 2009). In order to reduce the cultural shock effects, students need to better understand others' behaviors and perspectives and challenge stereotypes, reflecting on the underlying reasons for cultural differences. An enhanced social awareness favor the ability to effectively manage one's behavior in a way that is better accepted by the foreign culture and creates favorable impressions. Adapting in a different cultural and organizational environment is an opportunity to develop an attitude toward change and to be able to face adversities (Sell, 1983). In fact, if on one hand the removal from their home environment provides students with freedom from familial or cultural constraints and expectations and gives them a stimulus to explore new possibilities and to experiment with different behaviors (Brown, 2009), it may, on the other hand, hide unexpected situations and difficulties to manage. The main challenges may include cultural differences, language difficulties, and independence. These situations appear to

be strong spurs for self-management competencies such as adaptability, achievement orientation, self-control, and positive outlook.

The exposure to different people, ideas, attitudes, and ways of learning and working is a chance to evolve the student's ability to build and manage relationships with people from different backgrounds, thus enhancing their social competencies. Understanding others and being able to create connections assume experimentation with empathic behaviors and awareness of others; working and interacting effectively with them needs the adoption of social management skills.

An international experience may also favor the development of cognitive competencies, since students have the possibility to evaluate cultural differences, gain holistic insights into a specific social system, and analyze and reflect on similarities and differences between cultures.

In respect of abroad experiences, we expect that:

H3: Students that have undertaken experiences abroad for a longer period demonstrate higher self-awareness, self-management, social awareness, relationship management, and cognitive competencies.

One of the most widespread extracurricular activities in modern society is sport (see, for example, Forneris et al., 2015). Moreno-Murcia, Hellin, Gonzalez-Cutre, and Martinez-Galindo (2011) summarize some of the benefits of doing sport recognized by social sciences: it promotes physical development (Malina, Bouchard, and Bar-Or, 2004), self-esteem (Fox and Corbin, 1989), and prevents physical and psychological problems such as obesity (Bar-Or et al., 1998), anxiety, and depression (Alfermann and Stoll, 2000; Fox, 2000). Moreover, Henderson, Olbrecht, and Polachek (2006) demonstrated that former athletes, on average, reported higher salaries than non-athletes, also in the long term. This may be due to the fact that sport activities represent opportunities to strengthen behavioral competencies related to both the self and the others. Firstly, sport activities are a way to strengthen the ability to manage oneself. Student athletes commit a great deal of time, energy, and emotional involvement to their sports (Sauer, Desmond, and Heintzelman, 2013), and need dedication

and discipline, which implies consciousness and often results in a great sense of achievement orientation. Especially during performances, matches and competitions, students have to manage and control their emotions and reactions. Moreover, in order to improve one's performance, it is necessary for the student to become aware of his/her strengths and limits, thus involving a process of self-reflection and self-evaluation.

Secondly, sport activities are often related to social management skills, such as leadership (Kniff, Wansink, and Shimizu, 2015), teamwork, and relationship management skills (Sauer et al., 2013), particularly in group based activities. Experience with college athletics is the environment in which many managers reported they had their first opportunity to implement group management tactics (Boyatzis and Elias, 2000). Moreover Watson, Connole, and Kadushin (2011) highlight that student athletes, regardless of the sport, continually provide mentoring to their team mates and receive mentoring from their coaches and peers alike. This implies the need for understanding the behaviors, emotions and needs of the other team players, as well as their possibilities and limitations.

Many sports may also give the opportunity to develop one's ability to recognize schemas. Some activities, such as soccer, which require insight in strategies and tactics, spur the individual to understand behavioral trends.

Therefore, our fourth hypothesis states that:

H4: Students that undertake sport experiences more frequently will demonstrate higher self-awareness, self-management, social awareness, relationship management, and cognitive competencies.

2.4 Method

2.4.1 Sample, data collection, and measures

The present study was carried out on a sample of 324 students enrolled in Master's degree programs in a public Italian university during the academic years 2014/15 and 2015/16. The sample

consisted of 71 percent females and 29 percent males. The high proportion of females can be explained by the gender composition of the students enrolled in this university (67.2 percent) (MIUR, 2017) whose didactic offerings embrace some disciplinary areas that are more attractive to female students. At a national level, Italian students enrolled in an academic degree during the academic year 2014/15 and 2015/16 were respectively 56.2 and 55.9 percent females. Sixty percent of the sample came from an economic-scientific field, while the remaining 40 percent from the humanistic-linguistic field.

All data on the study main variables and demographic variables were gathered through online survey.

As for extracurricular activities, we asked students the frequency with which in the past they participated in different types of extracurricular activity, using a scale from 1 (never) to 5 (more than twice a week). According to the theoretical framework, we identified ten extracurricular activities, and based on previous studies (see for example Eccles et al., 2003), we clustered them into four groups of activities: cultural activities (which comprehends activities in art, theater, and music associations); volunteering (including both secular and religious volunteering associations); activities abroad (which comprise study abroad and internships abroad); sport activities (which include individual and team sports, at amateur and agonistic level).

As for the ESCs assessment, the Emotional and Social Competency Inventory in the edition applicable to university students (ESCI-U) was used (Boyatzis and Sala, 2004). This model, which is a 360 degree instrument, consists of fourteen competencies organized into five basic clusters: self-awareness, self-management, social awareness, relationship management, and cognitive competencies. Three other competencies included in the previous version of the model (ECI – Emotional Competency Inventory) were integrated in the survey: consciousness, service orientation, and change agent. Prior research determined the reliability and validity of the ESCI-U scale as well as of the previous versions of the model, including in cross-cultural contexts (Boyatzis, Gaskin, and Wei, 2015; Boyatzis, Goleman, and Rhee, 1999; Boyatzis and Sala, 2004; Padilla-Meléndez,

Fernández-Gámez, and Molina-Gómez, 2014; Sharma, 2012). Table 2.1 describes each competency included in the model, which is assessed through behavioral indicators. Both students and external evaluators were asked to assess the frequency with which each student demonstrated 79 behaviors listed, using a scale from 0 (never demonstrated) to 10 (always demonstrated).

Table 2.1 - Definition of clusters and competencies included

<p><u>Self-awareness</u></p> <p>The ability to understand your own emotions and their effects, to know your abilities and limits</p>	<p>Emotional self-awareness (Emot SA)</p>
<p><u>Self-management</u></p> <p>The ability to manage and use your own emotions to be more effective</p>	<p>Achievement orientation (Achiev O)</p> <p>Adaptability (Adapt)</p> <p>Self-control (Self-C)</p> <p>Positive outlook (Pos Out)</p> <p>Consciousness (Consc)</p>
<p><u>Social awareness</u></p> <p>The ability to understand what people feel, their point of view, cultivating positive relationships</p>	<p>Empathy (Empat)</p> <p>Organizational awareness (Org Aw)</p> <p>Service orientation (Serv O)</p>
<p><u>Relationship management</u></p> <p>The ability to manage emotionally interpersonal relationships, clearly read social situations and relationships, interact without friction.</p>	<p>Conflict management (Confl M)</p> <p>Developing others (Devel O)</p> <p>Influence (Infl)</p> <p>Inspirational leadership (ILead)</p> <p>Team working (TeamW)</p> <p>Change agent (Change A)</p>
<p><u>Cognitive</u></p> <p>The ability to understand complex phenomena and recognize the underlying patterns in situations or events</p>	<p>Systems thinking (Syst Th)</p> <p>Pattern recognition (Patt Rec)</p>

Due to the bias that can usually characterize self-evaluations (Boyatzis et al., 2002; Taylor, 2010), we conducted the analysis on external evaluations only. Indeed, the use of the well-known 360 degree perspective makes it possible to integrate different observations and define a more comprehensive assessment. Due to the little work experience of the sample, raters from both the personal (family members, friends) and professional environments (fellow students, colleagues, superiors, coaches) were involved. The external raters were indicated by each student from among people who knew them well and saw them in action, and who were therefore able to assess their behavior. The tendency to inflate one's own evaluation by nominating raters that will be generous in grading was minimized by the fact that both students and raters were asked to seek and give an open and honest judgment in order to help the student carry forward a personal development process and identify their most and least demonstrated competencies. Moreover, to address the threat of reactivity, we assured individual disclosure of the results of the evaluation only to the student and anonymity for raters.

We included in the analysis only those students who completed both activities and had been evaluated by at least one external rater. We applied some criteria in order to restrict the sample to reliable respondents: we excluded from the analysis raters that presented 90 percent of answers or more with the same value, raters who demonstrated in their evaluation a difference of more than nine points between the set of items referred to one competency, and raters who declared they knew the student "not at all well". Moreover we checked for possible outliers using the method in Filzmoser, Maronna and Werner (2008).

2.4.2 Model

To test our hypotheses, we used a Partial Least Square-Path Modeling (PLS-PM), which consists of two parts: the measurement model, which allows us to analyze relationships among observed and latent variables, and the structural model that consider relationships between independent and dependent latent variables.

PLS-PM was adopted first, because it does not make assumptions on the data distribution (Fornell and Bookstein, 1982), therefore it allows for non-normal multivariate distributions. Second, it can process non-continuous variables (Fornell and Bookstein, 1982; Haenlein and Kaplan, 2004). Lastly, as it is a prediction-oriented variance-based approach, it seems to be preferable for exploratory analysis (Fornell and Bookstein, 1982; Hair, Sarstedt, Pieper, and Ringle, 2012; Henseler et al., 2014).

In the structural model, we considered as independent variables the student's participation in extracurricular activities and as dependent variables the five clusters of social and emotional competencies of the ESCI-U. In the measurement model, the five behavioral competencies clusters were considered as latent variables, as they cannot be measured directly. The competencies inside each cluster were considered as manifest variables.

Three control variables were included in the model: field of study as a dummy variable considering students enrolled in a business and economics/scientific or in a humanistic/linguistic study course, Bachelor's degree final grade, and gender. Gender differences are still under study in the literature, as contrasting results have been found (Hopkins and Bilimoria, 2008). The relationship between academic performance and emotional and social competencies was investigated mainly at high school level and adopting different conceptualizations and measures of Emotional Intelligence. Many studies report a positive relationship (e.g. Costa and Faria, 2015; Gil-Olarte Márquez, Palomera Martin, and Brackett, 2006; Parker et al., 2004), on the opposite, others found no relationship between the constructs (e.g. Esmond – Kiger et al., 2006).

2.5 Results

The analysis was carried out in three steps. Firstly, we performed an exploratory data analysis (correlations between main variables are presented in Table 2.2). The entire sample participated in sport activities, while 44.1 percent of the sample was involved in volunteering activities, 48.5 percent of the sample experienced cultural activities, and 42.3 percent of the sample undertook abroad

experiences. Frequencies of participation are summarized in Table 2.3. Secondly, we assessed the quality of the measurement model (Table 2.4). All factor loadings, except self-control and positive outlook in the self-management cluster, are greater than 0.7, according to the thresholds proposed by Hu and Bentler (2009). Self-control and positive outlook scored respectively 0.57 and 0.59 in the factor loadings. All competency clusters show a Cronbach's alpha greater than 0.7, and a Dillon-Goldstein rho greater than 0.87. Thirdly, we analyzed the structural part of the model provided by five regressions. The results of the inner model are summarized in Table 2.5.

Table 2.2 - Correlations between main variables

	Gender	Field of study	Bachelor degree grade	Volunteering	Cultural	Abroad	Sport	Emot SA	Achiev O	Adapt	Self-C	Pos Out	Consc	Empat
Field of study	0.272 *													
Bachelor degree grade	0.111	0.098												
Volunteering	0.184 *	0.128	0.084											
Cultural	0.103	0.278 *	0.106	0.199 *										
Abroad	0.131	0.203 *	0.099	0.136	0.119									
Sport	0.226 *	0.107	0.117	0.139	0.142	0.155								
Emot SA	0.625	0.640	-0.020	0.676	0.593	0.662	0.628							
Achiev O	0.636 *	0.555	-0.045	0.563	0.475	0.597	0.636 *	0.503 *						
Adapt	0.568	0.642 *	-0.108	0.548	0.595	0.556	0.565	0.417 *	0.672 *					
Self-C	0.664	0.582	-0.093	0.641	0.595	0.630	0.628	0.364 *	0.540 *	0.573 *				
Pos Out	0.556	0.630	-0.051	0.577	0.551	0.632	0.651 *	0.395 *	0.577 *	0.607 *	0.600 *			
Consc	0.475	0.503	-0.055	0.518	0.520	0.498	0.510	0.346 *	0.640 *	0.481 *	0.344 *	0.196 *		
Empat	0.648	0.599	-0.042	0.611	0.642	0.615	0.599	0.525 *	0.491 *	0.532 *	0.609 *	0.479 *	0.399 *	
Org Aw	0.466	0.513	-0.098	0.468	0.491	0.452	0.520	0.455 *	0.583 *	0.623 *	0.504 *	0.390 *	0.480 *	0.574 *
Serv O	0.514	0.483	-0.034	0.528	0.459	0.435	0.489	0.520 *	0.368 *	0.487 *	0.476 *	0.462 *	0.393 *	0.655 *
Confl M	0.542	0.557	-0.070	0.597	0.632 *	0.526	0.533	0.568 *	0.543 *	0.616 *	0.632 *	0.633 *	0.386 *	0.653 *
Devel O	0.579	0.596	-0.003	0.551	0.588	0.639	0.643	0.538 *	0.537 *	0.562 *	0.487 *	0.545 *	0.391 *	0.618 *
Infl	0.544	0.529	-0.039	0.481	0.423	0.474	0.488	0.610 *	0.589 *	0.621 *	0.475 *	0.535 *	0.340 *	0.547 *
I Lead	0.638	0.604	0.000	0.655	0.602	0.599	0.616	0.540 *	0.583 *	0.616 *	0.471 *	0.635 *	0.338 *	0.509 *
Team W	0.637	0.629	-0.026	0.569	0.603	0.612	0.588	0.475 *	0.571 *	0.657 *	0.474 *	0.508 *	0.491 *	0.590 *
Change A	0.474	0.501	-0.020	0.550	0.411	0.526	0.472	0.490 *	0.640 *	0.677 *	0.429 *	0.514 *	0.425 *	0.425 *
Syst Th	0.495	0.468	-0.031	0.509	0.469	0.463	0.479	0.417 *	0.527 *	0.553 *	0.450 *	0.420 *	0.447 *	0.432 *
Patt Rec	0.461	0.414	-0.017	0.435	0.455	0.387	0.444	0.435 *	0.520 *	0.496 *	0.420 *	0.365 *	0.373 *	0.473 *

* p < .05, ** p < .01

Table 2.2 (continue)

	Org Aw	Serv O	Confl M	Devel O	Infl	I Lead	Team W	Change A	Syst Th
Field of study									
Bachelor degree grade									
Volunteering									
Cultural									
Abroad									
Sport									
Emot SA									
Achiev O									
Adapt									
Self-C									
Pos Out									
Consc									
Empat									
Org Aw									
Serv O	0.418 *								
Confl M	0.565 *	0.653 *							
Devel O	0.532 *	0.701 *	0.705 *						
Infl	0.611 *	0.511 *	0.704 *	0.668 *					
I Lead	0.504 *	0.601 *	0.687 *	0.793 *	0.723 *				
Team W	0.583 *	0.597 *	0.659 *	0.645 *	0.591 *	0.704 *			
Change A	0.554 *	0.480 *	0.608 *	0.648 *	0.673 *	0.732 *	0.596 *		
Syst Th	0.564 *	0.402 *	0.509 *	0.580 *	0.591 *	0.530 *	0.517 *	0.553 *	
Patt Rec	0.586 *	0.384 *	0.518 *	0.616 *	0.611 *	0.510 *	0.408 *	0.570 *	0.574 *

* p < .05, ** p < .01

Table 2.3 – Frequency table extracurricular activities

	Volunteering	Cultural	Sport	Abroad	
Less than once a month	63	54	9	26	From 1 to 3 months
From 1 to 2 times a month	34	33	174	68	From 4 to 6 months
Once a week	28	51	48	22	From 7 months to 1 year
Twice or more times a week	18	19	93	8	More than 1 year
Total (sample%)	143 (44.1%)	157 (48.5%)	324 (100%)	124 (42.3%)	
Total did not participated (sample%)	181 (55.9%)	167 (51.5%)	0 (0%)	187 (57.7%)	

Table 2.4 - Measurement model

	Factor loadings					Cronbach's α	DG Rho	AVE
	<u>Self- awareness</u>	<u>Self management</u>	<u>Social awareness</u>	<u>Relationship management</u>	<u>Cognitive</u>			
Emot SA	1.00					1.00	1.00	1.00
Achiev O		.89				.85	.89	.57
Adapt		.87						
Self-C		.59						
Pos Out		.57						
Consc		.80						
Empat			.90			.79	.88	.70
Org Aw			.83					
Serv O			.77					
Confl M			.82			.93	.94	.73
Devel O			.88					
Infl			.85					
I Lead			.92					
Team W			.80					
Change A			.85					
Syst Th				.77		.73	.88	.76
Patt Rec				.96				

Table 2.5 - Structural model

	Estimate	Std Error	<i>p</i> -value	Supported
H1: volunteering – Self-awareness	-0.030	0.060	0.612	No
H1: volunteering – Self-management	- 0.025	0.059	0.678	No
H1: volunteering – Social awareness	0.053	0.060	0.382	No
H1: volunteering – Relationship management	0.003	0.060	0.957	No
H2: cultural – Self-awareness	0.078	0.059	0.185	No
H2: cultural – Self management	0.037	0.058	0.523	No
H2: cultural – Social awareness	0.061	0.059	0.302	No
H2: cultural – Relationship management	0.142	0.059	0.017 **	Yes
H2: cultural - Cognitive	0.104	0.060	0.082 *	Yes
H3: abroad – Self-awareness	0.062	0.057	0.272	No
H3: abroad – Self-management	0.163	0.056	0.004 ***	Yes
H3: abroad – Social awareness	0.103	0.057	0.074 *	Yes
H3: abroad – Relationship management	0.147	0.057	0.010 **	Yes
H3: abroad - Cognitive	0.155	0.058	0.008 ***	Yes
H4: sport – Self-awareness	- 0.005	0.057	0.937	No
H4: sport – Self-management	0.127	0.057	0.026 **	Yes
H4: sport – Social awareness	0.061	0.058	0.298	No
H4: sport – Relationship management	0.001	0.058	0.981	No
H4: sport - Cognitive	0.040	0.058	0.494	No
GOF	0.213			

***= $p < 0.005$, **= $p < 0.05$, *= $p < 0.1$.

Hypothesis 1 on volunteering was not supported. One possible explanation is offered by Freeman (1996), according to whom many people volunteer not because they want to, but because they feel under social pressure to do so. Undertaking these experiences without a deep personal motivation does not correspond to being involved in a holistic process in which the person fully interacts and adapts himself to the world (Kolb, 1984). Similarly, Roulin and Bangerter (2013) found that participation driven by external motives is more common in associative or volunteering activities rather than in sports or artistic activities. An alternative explanation could lie in that while sports, cultural activities and abroad experiences are often characterized by expectation of achievement, striving for excellence and seeking for better results or performance, which demand for higher self-regulation and adjustment, and higher social control and adjustment, in associative or volunteering activities the mere presence or contribution in itself is appreciated and expectation of outcomes is often lacking. Volunteering activities are often undertaken in more informal and less professional environments in which performance evaluation, feedback, and learning are not a priority. Indeed, some prior studies (see, for example, Holdsworth and Quinn, 2010) started to challenge the win-win view of volunteering activity, claiming that benefits of student volunteering are assumed rather than proven.

As for our second hypothesis, we found that participation in cultural activities has a significant impact on both the relationship management cluster (p -value = 0.017) and the cognitive cluster (p -value = 0.082), which shows partial support for H2. Activities related to fine arts usually imply the involvement of students in moments and exercises of interpretation in which they have to stress their reasoning, often adopting non-linear or aesthetic thinking. Cultural activities are also places for discussion and interaction between people. Students need to manage their relationship with the members of a band or orchestra or theater company, and often have to face the set of difficulties that emerges in social relationships. Our findings show that participation in cultural activities does not have a significant impact on self-awareness, social awareness and self-management competencies. This may be due to the fact that at low levels of professionalism, the player may be more focused on

performing and do things right, for example remembering lines, or not making errors, rather than on his/her and others' emotions. The emotional arousal may characterize more the spectator than the player. Reflecting on one and others' emotions may be easier with the help and stimulus given by a trainer, but not all trainers may have this sensitivity or competence.

As for self-management competencies, we might think that at a younger age these activities are undertaken for the pleasure of doing them, and limited emphasis on competition may limit the experimentation of self-management behaviors. Moreover, cultural environments are often very open to accept unusual and unexpected behaviors, which may not challenge enough self-management competencies.

When we focused on abroad experiences, we predicted a positive effect on self-awareness, self-management, social awareness, social management, and cognitive competencies (H3): all these relations are supported by our empirical analysis except the relationship with self-awareness. Abroad experiences seem to be powerful for the development of emotional and social competencies. Firstly, being independent, away from their comfort environment and being exposed to a different culture helps the student practice how to deal with diversity, how to manage relationships with people with different backgrounds. This is a great exercise to foster competencies related to social awareness and relationship management, and becomes an important feature especially for students who want to have a role in the global marketplace. However, bureaucracy, cultural distance, loneliness, and different habits may also create big challenges for students who live abroad and who have to rely mainly on their own psychological resources to overcome these difficulties. This trains their self-management competencies. Moreover, abroad activities showed a positive impact on cognitive competencies. No relationship was found instead with self-awareness, which may be explained by the fact that in a discomfort situation students are more focused on dealing with the environment - understanding it, adapting to it, and managing relationships - rather than dealing with themselves.

Concerning Hypothesis 4, partial support was found. According to our results, participation in sport activities leads to higher self-management competencies (p-value = 0.026), but we did not find

significant association with the other clusters. The category of sport activity used in the model includes both individual and team sports; nevertheless this dichotomy seems not to be the answer, as when we tried to separate the two constructs no significant difference was found. Previous studies focused on a global increase in emotional and social competencies due to sport activities (Sauer et al., 2013), but did not investigate the effect on different clusters of competencies. Findings show that the association with the relationship management cluster was not significant. This might be explained by the fact that behavior related to relationship management could be mediated by the rules of the game according to the different roles of team members or rules imposed by the coach. A similar argument can be used for the cognitive cluster. It may be that schemas are mainly studied and defined by the coach, and student passively implement them. Behaviors related to social awareness may be limited by competition, which can characterize both agonistic and recreational activities. Often, the achievement of the objective is more valued than the comparison and exchange of views with others. The impact on the self-management cluster is coherent with studies that attribute to sport the concept of discipline, which requires dedication, repetition, and achievement orientation. These characteristics, deeply embedded in sport activities, force students to deal with the necessity of controlling their positive and negative emotions, directing their own energy and ambitions, and finding new ways to improve.

Three main control variables were included in the model. As for gender, according to our results, female students demonstrate significantly higher levels of emotional self-awareness (p-value .000), self-management (p-value .001), social awareness (p-value .025), and relationship management competencies (p-value .012) compared with male students. Gender differences in the sphere of emotional and social competencies are still under discussion because no definitive results have been found. Our results support the group of studies that show higher scores for females (Austin, Evans, Goldwater, and Potter, 2005; Bindu and Thomas, 2006; Goldenberg, Matheson, and Mantler, 2006; Groves, 2005; Harrod and Scheer, 2005; Mandel and Pherwani, 2003).

The variable related to field of study demonstrated a significant relationship only with the relationship management cluster (p-value .048), showing higher scores for people belonging to the business and economics/scientific field. This may be because group activities are more common in business and economics and scientific courses than in the humanistic and linguistic ones, resulting in an opportunity to practice behavioral competencies related to social interaction.

Considering the Bachelor's degree final grade, no significant association was found on the level of emotional and social competencies possessed by students. This seems to highlight that the final Bachelor's grade measures knowledge and technical competencies, but does not give any important clue as to the level of emotional and social skills that a student possesses. Academic paths are often designed to make students develop knowledge and technical skills, but no room is left for the development of behavioral competencies in traditional academic courses. This implies the need for new programs that can help students develop behavioral skills from the very beginning of their academic path. Another consideration is the fact that recruiters and HR managers need to rely on information that is not included in the university final grade if they want to assess students' behavioral skills. Usually they rely on other information, such as extracurricular activities performed, using their common sense to infer skills. However, our results show that common sense may not be always right, and that some extracurricular activities may influence the development of some emotional and social competencies more than others.

2.6 Discussion

2.6.1 Contributions and implications

A big challenge in the development of emotional and social competencies consists in the necessary involvement of the student in contexts in which he/she can practice new behavioral repertoires, which is achieved through the application of experiential methods (Hoover et al., 2010). Previous studies focused on experiential learning activities assigned during courses (Landau and

Meirovich, 2011; Paladino, 2009; Vaatstra and De Vries, 2007), or devoted their attention to the impact of specific programs on competency development (McEnrue, Groves, and Shen, 2009; Sheehan, McDonald, and Spence, 2009), but did not take into account the role of personal extracurricular experiences in enhancing behavioral competencies. The small number of studies on extracurricular activities often analyzes activities individually and rarely includes empirical analysis. Our study contributes to fill this gap by taking into account a broad range of real life extracurricular activities, and by empirically examining their possible relationship with the competency portfolio of students. In so doing, we advance understanding of which activities that are not part of academic curricula influence students' emotional and social competencies, and which kinds of activity are associated with specific clusters of competencies. This study acquires an additional interest in terms of managerial implications, as inferring the possession of behavioral competencies from the presence of extracurricular activities in a student's curriculum vitae is a well-known common practice, which is nevertheless based more on a common feeling than on scientific inquiry. This study contributes to create a first step from which to develop more clear and scientific-based recruiting processes in which behavioral competencies become a real object of evaluation.

Lastly this paper provides some educational implications. Differences between learning processes used in and outside the classroom have been already mentioned in the literature (Paton, 2014), the latter providing students much broader, less familiar, and more flexible self-learning and social learning occasions (Moore, 2013). From the results of our research, these experiences shown to be significantly associated with clusters of emotional, social, and cognitive competencies, but not all activities seem to predict all types of competencies. Our claim is that higher education should promote these extracurricular activities inside or outside the university campus and support students through a critical reflection on how to acquire new tools to practice specific ESCs in real-world situations. For example, extracurricular activities could be promoted as part of the university campus offerings, and instructors in charge of these activities should be trained to help participants develop their emotional and social competencies. As for activities performed outside the campus, they could

become a stimulus for discussion in class, like professional and academic-related activities usually are—for instance, giving students the opportunity to reflect on their behavior in managing themselves and others. Indeed, extracurricular activities are beneficial especially if students are supported in critical reflection on their experiential activity, and in understanding how they can experiment with new behaviors and which the related outcomes are. In order to obtain a sustainable behavioral change, the role of coaches and teachers that act as sources of support and feedback becomes paramount (Boyatzis, Lingham, and Passarelli, 2010). Previous research provided empirical evidence that sustaining the individual with coaching sessions is necessary to achieve a long-lasting personal change (see Kampa-Kokesh and Anderson, 2001). Effective coaching helps the individual identify habitual scripts of behavior and understand their outcomes, reveal fresh insights about what drives one's behavior, convert those insights into observable behavior change (Brotman, Liberi, and Wasylyshyn, 1998). Stimulating individual learning and change especially through coaching with compassion, rather than coaching with compliance, resulted to be extremely beneficial (Boyatzis, Smith and Beveridge, 2013). The importance of training of teachers and adult supervisors should not be neglected. Literature in sports psychology in fact provides compelling evidence that supervisors and trainers can have also a negative effects on students' development if they are not trained to give feedback and emotional support (Eccles et al., 2003).

As development of behavioral competences requires practice, and sometimes the bigger challenge is to find a context to practice and the energy to persist in the practice of new behaviors (Boyatzis and McKee, 2005), it is important to encourage students to participate in activities that could foster the development of their behavioral competencies and make them aware of how to exploit this opportunity for their personal growth. Support from trained supervisors and coaches may highly moderate the effectiveness of this personal development.

2.6.2 Limitations and Future Research

Some limitations and recommended directions for future research can be identified. Firstly, we conducted our study in one university and our sample presents some limitations in terms of size and geographical composition. This may constitute a threat to the external validity of our study. As extracurricular activities can be conceived and practiced in different ways in other cultures, we suggest that future research should replicate this study in other cultural settings. Secondly, even if according to the literature we considered a comprehensive set of extracurricular activities, a more detailed analysis can be done in the future by considering different sub-categories of extracurricular activities, especially trying to analyze in depth the factors that lead to inconsistent results concerning the outcomes of volunteering, cultural and sport activity (Peachey, Zhou, Damon, and Burton, 2015). The latter would be extremely beneficial in its practical implications considering that, as shown by Tanguay, Camp, Endres, and Torres (2012), recruiters do inflate their perception of the teamwork and leadership skills of applicants according to the presence of team sport and team captain activities on their resumes. Future research would probably require a qualitative approach which enable to explore more in depth the characteristics and sub-categories of different types of extracurricular activities, the tasks required, and the relative encouraged behaviors. The clusters used in this study may comprise a variety of activities that require different sets of competencies that can be unwrapped using a finer level of analysis.

Finally, we would like to address the issue of causation often raised in this type of studies. Our assumption is that the choice of practicing a certain extracurricular activity may depend not necessarily on the fact that the person feels in tune with the activity due to behavioral competencies he/she has already acquired, but on the willingness of the person to try to practice behaviors in which he/she feels he/she has a gap. According to previous studies, behavioral competencies are personal characteristics that are not innate from birth but are learned and developed during life (Goleman, 1998a), especially during the phase of development of young individuals that are the target group of this study. The development of behavioral competencies is a growth process in which some kind of

contextual stimuli and experiences enhance in individuals behaviors related to the awareness and management of emotions and relations. Our study, which takes into account the intensity with which the extracurricular activity is performed, is coherent with the theories of ESC learning, according to which the more a behavior is practiced, the more it becomes the automatic response of our brain: therefore it translates into a common behavior and a persistent competency (Boyatzis, 2008; Goleman et al., 2002). In order to address this issue in greater detail, we suggest that future research adopts a longitudinal study that enables the researcher to track the individual before beginning, during, and after the abandonment of an extracurricular activity. However, it is important to emphasize the difficulty of performing such a design. Alternatively, we suggest the use of a quasi-experimental design with the use of pre- and post-tests on the level of ESCs and an intervention concerning the experience of an extracurricular activity, taking into account that in this case it would be difficult to conserve the richness of considering a comprehensive set of activities.

2.7 Conclusion

In conclusion, this study extends the literature on competency development by examining the impact of different extracurricular activities on specific clusters of behavioral competencies. Our findings support the effect of experiential extracurricular activities on the behavioral competencies demonstrated by the individual. This leads to relevant educational implications, especially in settings in which no specific training activities to develop behavioral competencies are provided.

However, the study also shows that not all extracurricular activities have the same influence on different types of competencies. We suggest further future research on the topic, also to better guide recruiting practices.

3

Relationship between behavioral competencies and protean career orientation and the effect on employability

3.1 Abstract

The contemporary unstable business environment is challenging the concept of the “traditional” organizational career in favor of a protean career attitude, which characterizes individuals with a strong sense of identity and personal values in guiding their career decisions. Despite the relevance of the protean career concept, empirical research has provided limited evidence on its determinants and outcomes as regards individuals who are at the early stage of their career path. The purpose of this study is to shed light on the behavioral antecedents of protean career orientation (PCO) and to investigate the effect of PCO on individuals’ employability. Data were collected on a sample of graduate students that were entering the labor market. Results, obtained through a Structural Equation Modeling analysis, provide new insights into the determinants of PCO, showing that – contrary to prior research that primarily focuses on two competencies, “self-awareness” and “adaptability” – other behavioral competencies shape the protean approach. Moreover, the findings found a positive relationship between PCO and subjective and objective measures of employability. Implications for career management and competency-based literatures are provided.

Keywords: protean career orientation; behavioral competencies; employability; perceived employability

3.2 Introduction

In recent decades, a series of economic, social, technological and market changes (Gubler, Arnold, and Coombs, 2014; Reitman and Schneer, 2008; Wong and Rasdi, 2015) have led to new perspectives on one's own career. Starting from the 1980s and 1990s, company downsizing, restructuring of organizations and increasing competition worldwide altered the old psychological contract between the organization and the employee, characterized by mutual expectations of loyalty and a long-term relationship with the prospect of career advancement controlled and planned by the organization (Hall and Moss, 1998; Rousseau, 1995). The traditional career ladder started to scale back and left room for "new" nontraditional career paths. Nowadays employment conditions are even more volatile and turbulent (Granrose and Baccili, 2006; Reitman and Schneer, 2008) and determine a high level of ambiguity regarding one's career path and expectations. In order to deal with this ambiguity, careers have become increasingly directed by the individual rather than by the organization and affected by intrinsic values rather than extrinsic motivations. Scholars defined this new approach to careers as protean, as derived from Proteus, the Greek god who was able to change his form at will (Briscoe and Hall, 2006; Hall, 1976). In contrast to traditional careers based on upward mobility, salary increases and responsibilities across a few organizations, this new concept defines career as a development of the self in which the employee is the agent who identifies individual career goals, which may be external to organizational goals and independent from organizational boundaries (Arthur, Khapova, and Wilderom, 2005). People who have a protean career orientation (PCO) tend to define their career in a self-directed way, basing their decisions on their own values and needs in the search for personal fulfillment and a feeling of pride (Briscoe and Hall, 2006). Despite the fact that the protean career concept was introduced in the 1970s, scholars highlight the scarcity of empirical research on the topic (Gubler et al., 2014). Specifically, extant studies have focused primarily on adult workers (e.g. Crowley-Henry and Weir, 2007; De Bruin and Buchner, 2010; Granrose and Baccili, 2006; McDonald, Brown, and Bradley, 2005; Park and Rothwell, 2009; Rastgar, Ebrahimi, and Hessian, 2014), neglecting the role that a PCO could play among individuals that are at the early stage of their

career path. Analyzing the protean career orientation of new graduates may open new questions on how it not only influences one's career management, but also affects the job market entry of young individuals. This is particularly relevant in contexts characterized by high youth unemployment (Sargent and Domberger, 2007).

Moreover, recent studies have underlined the need to better address issues regarding the antecedents and outcomes of a protean career orientation (Hirschi, Jaensch, and Herrmann, 2016; Hofstetter and Rosenblatt, 2017), since scarce attention has been given in particular to what could enable or help one to develop a protean career orientation (Gubler et al., 2014). In this regard, seminal contributions proposed that two competencies, namely self-awareness and adaptability, have a primary role in helping individuals to be more protean (Gubler et al., 2014; Hall, 2004). According to Hall (2004), these competencies are required simultaneously to spur individuals to take charge of their career and orient their learning path. Indeed, as demonstrated by Verbruggen and Sels (2008: 325), "being protean is not an innate trait," instead PCO can be nurtured by being willing to adapt to changing circumstances, self-correcting behaviors in response to new demands from the environment. Adaptability alone is not enough, since individuals also need a clear awareness of their personal values and capabilities (strengths and weaknesses), engaging in accurate personal reflection and assessment, to guide their career development (Hall, 1996, 2002; Verbruggen and Sels, 2008).

Despite these conceptual arguments that posit the relevance of these behavioral competencies, in a recent literature review, Gubler et al. (2014) pointed out that this relationship has hardly been empirically tested and is still controversial since some scholars consider self-awareness and adaptability to be consequences rather than antecedents of PCO (Hirschi et al., 2016). Furthermore, the literature has remained silent on the other possible behavioral competencies that may explain the variance in protean career orientation (Verbruggen and Sels, 2008). Over the last few decades, the positive impact of a variety of behavioral competencies in favoring successful individual performance across sectors and professional roles has been widely acknowledged in the literature (Boyatzis, 1982; Boyatzis et al., 2017; Gutierrez et al., 2012; Hopkins and Bilimoria, 2008; Koman and Wolff, 2008;

Ryan et al., 2009; Spencer and Spencer; 1993), but no research has investigated whether they are associated with protean career attitudes.

In addressing these gaps, the first contribution that our study aims to provide is to focus on the protean career orientation of individuals that are entering the labor market and to question a recent widespread perspective in the field that sees behavioral competencies as outcomes of protean career orientation rather than antecedents. In line with the seminal works on PCO, we propose that the two competencies described by Hall (2004) should be already possessed and manifested by new graduates in order to develop a protean career orientation, and that other related behavioral competencies may also affect this development. Indeed, individuals at the early stage of their career have not yet garnered sufficient professional experience to justify the acquisition of specific behavioral competencies due to the willingness to redefine their career.

A second contribution of our study lies in the investigation of the outcomes of PCO among new graduates. Because of their adult workers target, previous studies focused on career success as the main outcome of a protean career (e.g. De Vos and Soens, 2008), not taking into account whether having a protean career orientation may also support young individuals on entering the labor market. In order to address this issue, our research also explores the impact of protean career orientation on employability. Protean career orientation may help individuals maintain their employability in times of economic, organizational and employment hardship. However, only a few studies have recently addressed the point adopting a subjective dimension of employability, namely perceived employability (Zafar, Farooq, and Quddoos, 2017), and no studies have been conducted on the objective ability to obtain jobs. Our study adds to the literature by considering both dimensions of employability.

The main research question we aim to answer is: what are the behavioral antecedents and employability outcomes of protean career orientation for newly graduates?

Regardless the fact that young individuals may develop their career orientation based on limited experience, students entering the job market need to make their first critical career choices which will

be influenced by their preferred career orientation. The focus on a students' target population allows to investigate whether approaching one's career with a protean orientation favors one's employability and what are the enabling factors that help the student adopt a protean orientation.

To study this phenomenon we set up our empirical research in the Italian context, which was characterized by a deregulation process of the labor market that started in the '90s (Argentin and Triventi, 2011; Barbieri and Sherer, 2009; Destefanis and Fonseca, 2005), and has been recently shaped by institutional changes pursuing further flexibility in the labor market. Italy introduced deregulation and flexible forms of work for younger people and new labor market entrants (Cirillo, Fana, and Guarascio, 2017). The need for more dynamicity could have led young individuals to adopt a new career conception. However, at the same time, it is important to underline that the Italian occupational welfare model, "which generally gives access to the welfare rights only to holders of continuous full-time work contracts" (Barbieri and Sherer, 2009: 677), basically remained unchanged, thereby creating a difference between insiders and outsiders of the labor market and maintaining a permanent job as a strong element in shaping the ideal career configuration.

This paper is structured as follows. Drawing on the competency-based approach and on the literature on protean career and employability, the next section describes the theoretical framework and presents the hypothesis development. The following one describes the research method and the obtained results. Then, we discuss the findings and summarize the contribution to the understanding of the determinants and outcomes of protean career orientation.

3.3 Theoretical background

3.3.1 Protean career

Hall (1976) first described the concept of a protean career as a process shaped by the individual in which career choices were personal and underlying the search for self-fulfillment. Unlike traditional career approaches, a protean career is therefore *self-directed* (Briscoe and Hall, 2006); it is driven by

the person, not by the organization (Hall, 2004). The second attribute of the protean career construct is that it is *value driven* “in the sense that the person’s internal values provide the guidance and measure of success for the individual’s career” (Briscoe and Hall, 2006: 8). The tendency is to look for jobs that satisfy life needs, not only work needs (Reitman and Schneer, 2008), thereby giving career a more comprehensive self-realization meaning. Values, which guide individuals in the selection and evaluation of behaviors and situations across life sectors (Schwartz and Bilsky, 1987), become a fundamental part in career choices.

The criteria for measuring success are more psychological than objective, which means that personal accomplishment of one’s own goals set according to one’s values replaces the idea of success based on growing salaries, hierarchical advancement and power (Hall, 2002, 2004). This is described by Hall (1996: 10) as “the path with a heart,” which takes the place of the traditional hierarchical climbing path.

A protean career is characterized by freedom (Hall, 2004) in defining one’s career path, by growth (Hall, 2004) in the sense of continuous learning of the individual toward the achievement of their personal objective, and by a sense of calling and the perception of being successful by pursuing one’s own values. This also implies that the individuals may redirect the career from time to time in order to meet their personal needs, which makes the career path nonlinear (De Bruin and Buchner, 2010; Sargent and Domberger, 2007).

The adoption of a protean career approach also implies a change in the psychological contract with the organization, creating the expectation that the organization will help the individuals meet the requirements for their new conceptualization of a successful career (Bailyn, 1989). This implies that the organization is expected to provide opportunities for personal growth, to help the individuals perform a challenging work, to take into account their development and improvement and to give them the opportunity to perform a work that matters to them (Hall and Moss, 1998). Moreover, new expectations concern the issue of work and nonwork integration and the importance of living a balanced life (Granrose and Baccili, 2006).

As clearly described by Gubler et al. (2014), a major distinction needs to be made between the subjective and behavioral components of a protean career. The former (protean career orientation) refers to an individual attitude or orientation towards defining one's career in a self-directed value-driven way (Briscoe and Hall, 2006), which entails adopting a protean prospective when considering one's career (Sargent and Domberger, 2007) in order to exercise greater control over a highly uncertain environment, and being more suitable for an increasingly competitive job market (Direnzo, Greenhouse, and Weer, 2015). The latter (protean career path) refers to an implemented career path developed in a protean way, characterized by a series of learning cycles that are managed by the worker. This study will focus on individuals' protean career orientation, given that the target of the study comprise individuals at the early stage of their career path.

3.3.2 Protean career and behavioral competencies

When defining a protean career, Hall relates it to two main competencies “that help equip individuals to be more protean: adaptability and identity (or self-awareness)” (Hall, 2004: 6).

Adaptability is crucial in achieving career effectiveness in a changing environment (Creed, McPherson, and Hood, 2011), indeed the individual must be able to adapt and must be willing to adapt to thrive in contexts in which stability is no longer ensured (Enache, Gonzales, Castillo, and Lordan, 2012; Gubler et al., 2014). Adaptability helps the individual redirect the path according to external stimuli, without waiting for external support (Hall and Moss, 1998), and without being terrified by change. It is conceived as a self-initiated skill (Inkson, 2006) that reflects the ability to change according to the need (Baruch, 2004; Niles, Herr, and Hartung, 2002).

A protean career orientation also requires self-awareness about what one's personal interests, needs, abilities and values that drive the career path are. Self-awareness is also the ability to form accurate self-perception by gathering external feedback (Gubler et al., 2014) and to identify the fundamental aspects that characterize ourselves and the personal values we want to follow in our decision and with our actions. This awareness enables choices based on clear values and objectives

(Hall and Moss, 1998). It gives the individuals a sense of security (Enache et al., 2012) in perceiving that they are going down a path that is in line with their fundamentals, and helps in coping with situations not in line with their values and objectives (Hall and Moss, 1998).

In most research the two competencies are both considered requirements for a successful protean career (Mc Donald et al., 2005), or qualities needed simultaneously to develop a protean career (Hirschi et al., 2016), or competencies that facilitate continuous learning (Waters et al., 2015), which result in a higher level of career self-directedness (Verbruggen and Sels, 2008). Despite a consensus on their being intertwined, due to different conceptualizations and measures of both protean career orientation and competencies, in the literature there is no definitive answer on how the two constructs are related (see Hirschi et al., 2016).

According to previous studies (e.g. Verbruggen and Sels, 2008), our proposition considers adaptability and self-awareness to be enablers and antecedents of a protean career orientation. Indeed, if the individuals are not personally flexible, and do not show adaptability behaviors, it is unlikely that they will adopt a protean career attitude, which implies the possibility of frequent changes of role or environment that they are not able to manage. At the same time, it is difficult to believe that the individuals will approach their career thinking about pursuing their own values if they are not aware of what their values and strengths are, because it would result in a frustrating situation. As stated by Buchner (2007), self-awareness and adaptability in the protean career framework are referable to self-awareness and adaptability competencies captured in the emotional and social intelligence literature. These competencies are behavioral manifestations of emotional and social intelligence, and refer to the awareness and management of one's own and others' emotions (Boyatzis, 2009, 2011). Therefore, we posit that:

H1a: Protean career competencies (self-awareness and adaptability) positively influence protean career orientation.

In the literature no studies have examined whether, besides self-awareness and adaptability, other emotional and social competencies may influence the adoption of a protean career orientation. Career growth, which is one of the main values of a protean career (Hall, 2004), requires the ability of self-management. Moreover, as stated by Hall (1996), this new career orientation requires connections and interactions with others, thereby implying the ability to manage relationships. One of the important emotional competencies linked to self-directedness is achievement orientation (Segers, Inceoglu, Vloeberghs, Bartram, and Henderickx, 2008), which reflects the ability to take concrete initiatives for, and be committed to, a continuous improvement toward the accomplishment of challenging objectives (Boyatzis, 2009). Protean career orientation presupposes the willingness to pursue a continuous personal growth through learning cycles in which the workers tends to increase their performance (Hall, 1996). Gasteiger (2007) empirically showed that managers with a high protean career orientation tended to strive for personal growth. Being able to act in order to improve one's performance increases the likelihood of thinking that, even if challenging and unsecure, it would be possible to pursue a value-driven career. According to motivation orientation theory, individuals who attain learning goals view tasks in terms of effort rather than ability (Wiegand and Geller, 2005), which makes them less threatened by failure "because failure reflects on their effort rather than their ability" (Martin, 2002, p.39). Therefore, they see failure as diagnostic feedback that can lead to improvement at a later time (Middleton and Midgley, 1997), and respond to setback with effort and proactive strategy, persisting with optimism and energy.

This ability to perceive problems more as challenges to overcome than as obstacles and the ability to create a positive vision of the environment that surrounds the individuals and of their own future is defined in the competency literature as positive outlook (Boyatzis, 2009). Individuals with positive expectations about future events are more likely to assume a proactive career orientation since they perceive career changes not as threats but as opportunities for learning and professional advancements (Fugate, Kinicki, and Ashforth, 2004). A positive outlook seems necessary to believe that despite the uncertainties of the job market, one will be able to direct and manage one's career effectively and in

line with one's values. Both competencies characterizing learning goal attainment may influence the adoption of a protean career orientation, thus, we maintain that:

H1b: Learning goal competencies (achievement orientation and positive outlook) positively influence protean career orientation.

Even if protean career-oriented people are more focused on the self, social competencies related to effectively understand the environment and influence others may also explain the adoption of a protean orientation toward career. The ability to recognize power relationships, the values and culture that regulate organizations (Boyatzis, 2009, 2011), which is defined as organizational awareness, may foster the attitude toward examining the environment and different organizations, interpreting their values and culture, in order to identify the companies in line with one's own values. Moreover, we state that people who demonstrate persuasion and inspirational leadership will also have a stronger attitude toward a protean career. As pointed out by Briscoe and Hall (2006), having a protean orientation not only means being oriented towards directing oneself, but also learning to provide guidance for other people. For people who are able to persuade, guide and inspire not only themselves but also others, following a career path in line with values and objectives may be easier, due to the ability to create consensus around these values, inspiring and convincing others to follow their guidelines. Finally, in the protean career concept, the constant presence of change is also a fundamental issue. In order to adopt a protean perspective, people need to be open to change (Gasteiger, 2007) and to be able to deal with it. This is described as the ability to be a change catalyst, not being afraid of change, but rather favoring it despite opposition (Carter and Chu-May, 2012). Briscoe et al. (2012) found a positive relationship between active coping with change and the self-directed aspect of protean career orientation. The competency of being a change catalyst encompasses the ability to recognize the need for change and remove barriers to change, which may be extremely helpful in understanding when the career path needs to proceed to the next step or how the current situation may be changed in order to better satisfy the individual's personal needs. When facing a

situation that is contrary to the principles of the workers, they will be able to make changes in their work and life (Hall and Moss, 1998). Therefore, we expect that:

H1c: Competencies related to understanding and influencing the environment (organizational awareness, influence, inspirational leadership and change catalyst) positively affect protean career orientation.

3.3.3 Protean career orientation and employability

Looking at the outcomes of protean career orientation, most studies have focused on its relationship with subjective or objective career success (Gubler et al., 2014). Only recently some researchers have started to analyze the impact of a protean career on employability. Very different definitions of employability are present in the literature. In general, employability is considered an indicator of the chance to work (Forrier and Sels, 2003), in which “work” can be seen from a full-employment institutional perspective, with the organizational view of matching labor supply and demand, and with the individual meaning of having the chance of a job or a career (Thijssen, Van der Heijden, and Rocco, 2008). Another definition given by McArdle et al. 2007 (p. 248) states that employability is “the ability to gain and maintain employment, both within and across organizations.” This ability is examined by some authors as a set of individual characteristics (including attitudes, expectations and behaviors) that the individual puts in place both in the labor market and on the job and are considered determinants of employment chances (Peck and Theodore, 2000).

Measures of employability consider both a subjective dimension, which refers to the individual perception or belief that one will obtain sustainable employment appropriate to one’s qualification level (Rothwell, Herbert, and Rothwell, 2008), and an objective dimension, which relies on the individual ability to obtain and retain jobs either in the current organization or with a different employer (Lysova, Jansen, Khapova, Plomp, and Tims, 2018). In contrast to employment, which assumes a static perspective, the concept of employability presents a dynamic and future-oriented nature. As underlined by Clarke (2017: 794), “employability increases the likelihood of successful

movement in and across the internal or external labor market and of finding employment that matches current attributes, provides opportunities to develop skills and capabilities to enhance future job prospects, and leads to job satisfaction and career success.”

Both a protean career and employability underline mobility and continuous personal development as elements of the new career environment. However, no empirical studies have been conducted to test the impact of PCO on measures of objective employability. Protean self-directedness may lead individuals to scan the environment frequently in order to have more chances to identify job opportunities that fulfill their expectations (Bozionelos and Bozionelos, 2015). In addition, self-managing one’s career induces individuals to seek and exploit by themselves opportunities for improving knowledge and acquiring new skills that are demanded by the market, thereby enhancing their employability (Bozionelos and Bozionelos, 2015).

Even when considering re-employment, Waters et al. (2014) emphasized that self-directedness helps concentration and control over uncertain periods, and a protean career orientation helps a person clarify and express his/her values during unemployment and to retain a sense of identity (Zafar et al., 2017). The value-driven aspect of a protean career should also favor the setting of appealing and personal rewarding goals, which in turn will make the individual more motivated and perseverant in their achievement. Employability benefits from perseverance and motivation, which are very important and appreciated characteristics and facilitate employment (Bozionelos and Bozionelos, 2015).

Under this considerations we expect that:

H2: People with higher protean career orientation will show higher objective employability.

Other authors looking at employability have focused more on its subjective side, which “concerns the workers’ perceptions about available job opportunities” (De Cuyper et al., 2014: 537). Perceived employability is the perception of employment possibilities with the current employer (i.e. on the internal labor market) or with another employer (i.e. on the external labor market) (De Cuyper and

DeWitte, 2008, 2010; Rothwell and Arnold, 2007). According to Berntson, Sverke, and Marklund (2006), the sense of being employable, the capacity to evaluate one's ability to get a job or a new job, is one of the most critical aspects of major organizational changes. A few recent studies have investigated the relationship between protean career orientation and perceived employability (Zafar et al., 2017), finding a positive relationship. Individuals who self-direct their career are expected to focus on continuous learning, increasing the perception of being employable (Lin, 2015). Furthermore, individuals' values driving their careers are aimed at pursuing meaningful career goals guided by motives, and needs that are aligned with their personal aspirations. Therefore, they are spurred toward a process of professional growth that positively influences perceived employability.

Therefore, we expect that:

H3: People with higher protean career orientation will show higher perceived employability.

3.4 Method

3.4.1 Sample and data collection

The initial sample of the research comprised a group of 424 Italian master's students who, between 2013 and 2016, took part in elective courses aimed at acquiring awareness regarding the importance of behavioral competencies. During the courses, at time 1, all students took part in a 360-degree assessment of their behavioral competencies. In fall 2016, at time 2, we asked all participants to complete an online survey concerning the other variables of the study described below. Thus, first, we introduced temporal separation in the collection of variables; second, we considered a time frame in which students needed to approach the job market more closely and derive employability perceptions through market comparisons and response (DiRenzo and Greenhaus, 2011).

Despite the use of reminders to encourage participation, the answer rate in the second data collection was about 30 percent of the initial sample. This is mainly explained by the absence of incentives for students to answer the questionnaire. We collected 120 complete answers. Seventy-two percent of

the sample were females, with an average age of 27; 66 percent of the sample comprised students with an economic-scientific background, and 34 percent had a humanistic-linguistic background. The time delay between time 1 and time 2 ranged from 9 to 38 months.

We addressed the potential nonresponse bias by checking for differences between the group of respondents and the group of nonrespondents on several key attributes: age, gender, field of study and final grade for their Bachelor's degree (Lindner, Murphy, and Briers, 2001; Miller and Smith, 1983). No significant differences were found when comparing the average age (p -value = 0.269), and no significant difference was observed in the proportion of females and males in the two groups (p -value = 0.910). The proportion of students coming from the two categories of the disciplinary field of study was not significantly different between the two groups (p -value = 0.557). The null hypothesis of an equal mean of the final grade for the Bachelor's degree failed to be rejected (p -value = 0.145).

3.4.2 Measures

Behavioral competencies. Seven out of the eight competencies analyzed were assessed through the Emotional and Social Competency Inventory – University Version (ESCI-U), which is a 360-degree assessment measure based on behavioral indicators (Boyatzis and Sala, 2004), namely self-awareness, adaptability, achievement orientation, positive outlook, organizational awareness, leadership and influence. The competency “Change Catalyst” was measured using the previous version of the model (ECI – Emotional Competency Inventory). Previous research determined the reliability and validity of the ESCI-U scale as well as of the previous versions of the model, including cross-cultural contexts (Boyatzis, Goleman, and Rhee, 1999; Boyatzis and Sala, 2004; Padilla-Meléndez, Fernández-Gámez, and Molina-Gómez, 2014). The eight competencies analyzed and their definition are summarized in Table 3.1.

Due to the bias that can usually characterize self-evaluations (Taylor, 2010), we conducted the analysis on external evaluations only. The external raters were indicated by each student. We asked

students to nominate people who knew them well and saw them in action, and were therefore able to assess their behavior. External raters could belong to both the personal and the professional sphere in order to integrate different observations and define a more comprehensive assessment, thereby addressing the problem of single response bias. The tendency to inflate one's own evaluation by nominating raters that will be generous in grading was minimized by the fact that raters were asked to seek and give an open and honest judgment in order to help the student carry forward a personal development process and identify their most and least demonstrated competencies. Moreover, external evaluators were assured of complete anonymity. We applied some criteria in order to restrict the sample to reliable respondents and excluded from the analysis raters that presented 90 percent of answers or more with the same value, raters who demonstrated in their evaluation a difference of more than nine points between the set of items referred to one competency, and raters who declared they knew the student "not at all well". Moreover we checked for possible outliers.

Protean career orientation. We relied on the scale proposed by Baruch (2014). In contrast to the Briscoe et al.'s (2006) traditional measure, this scale was more appropriate for the sample of the study because it does not address situations that are referable exclusively to an already developed career path. As suggested by the author (Baruch, 2014), for a shorter version of the scale applicable to a students' population, two out of seven items were dropped. The five items adopted refer to conceiving one's career in a self-direct, value driven, flexible way (e.g. "For me, career success is how I am doing against my goals and values", "I am in charge of my own career", "Freedom and autonomy are driving forces in my career", Baruch, 2014 p. 2708). Participants were asked to use a seven-point Likert scale ranging from 1=strongly disagree to 7=strongly agree.

Perceived employability. We adopted the four items formulated by De Witte (1992), which have already been used in many previous studies (see, for example, De Cuyper, Bernhard-Oettel, Berntson, De Witte, and Alarco, 2008; De Cuyper et al., 2014; Guest, Isaksson, and De Witte, 2010). Answers were given on a seven-point Likert scale.

Objective employability. As was common practice in previous studies (see, for example, Kanfer, Wanberg, and Kantrowitz, 2001; Koen, Klehe, Van Vianen, Zikic, and Nauta, 2010), employability was measured by the number of job offers received from time 1 to time 2 that are coherent with the student's idea of a future career. This measure embodies a future-oriented nature, namely the likelihood of identifying and realizing career opportunities.

Control variables. Previous studies emphasized that demographic variables may have an impact on protean career orientation; however, results were not always consistent. For example, in the study of Segers et al. (2008), no differences between men and women were observed in terms of being self-directed, while women appeared more value driven than men. On the other hand, Hofstetter and Rosenblatt (2017) found that men tended to be more protean oriented. Therefore, we included gender in the analysis. As for age, previous studies pointed out that in contexts in which younger individuals are considered more attractive for the labor market, they perceive themselves as more employable (De Vos, Forrier, Van der Heijden, and De Cuyper, 2017). In contrast, older people may display higher perceived employability because they rely on their experience. We also included as a control variable the field of study, measured as a dichotomous variable in which 0 = economic-scientific field of study, and 1 = humanistic-linguistic field of study, due to its possible impact on perceived employability (Rothwell et al., 2008), but also on employability. Graduates in different fields of studies may have a different perception of being employable and may have different job opportunities in the labor market. Moreover, we took into account the time delay between time 1 and time 2 calculated in number of months. We think it may affect the number of job offers obtained by an individual.

Table 3.1 - Behavioral competencies included in the study and definitions

<p><i>Self-awareness:</i> capacity to be in tune with your inner self and being aware of one's own emotions, strengths and weaknesses and guiding values.</p> <p><i>Adaptability:</i> capacity to manage different needs without being distracted or wasting energy, adapting flexibly to new challenges, readily metabolizing change, thinking promptly when facing new information or situations.</p> <p><i>Achievement orientation:</i> capacity to ask yourself for high quality standards to try to constantly improve your results, setting challenging and measurable goals, calculating risks and acquiring and transmitting continuously new ways to improve.</p> <p><i>Positive outlook:</i> capacity to read a momentary failure as an opportunity rather than a threat, perceiving others in a positive way and having confidence in future and change.</p> <p><i>Organizational awareness:</i> capacity to locate and decipher social networks and power relations, being able to understand the "political" balance in any organization and guiding values and unspoken rules that govern the behavior of its members.</p> <p><i>Influence:</i> capacity to turn to a partner in a persuasive way, procuring the support of key people and building a network of support for an activity, being able to turn to others in a convincing and compelling way.</p> <p><i>Inspirational leadership:</i> capacity to lead others triggering phenomena involving emotional resonance, instilling a sense of pride and inspiring people through a compelling vision, bringing out their best aspects.</p> <p><i>Change catalyst:</i> capacity to recognize when a change is necessary, defending the need to change even when facing obstacles and finding practical solutions for its adoption. Personally leading the change.</p>

Source: Boyatzis and Goleman 2007; Boyatzis, Gaskin and Wei 2015

3.4.3 Analysis

To test our hypotheses, we followed a three-step procedure that allowed us to test our theoretical model using Structural Equation Modeling (SEM).

First, in order to simplify the model and reduce the number of parameters, we used Partial Least Squares-Path Modeling (PLS-PM) to assess the measurement model of the three independent variable factors (competency clusters). The loadings obtained for each competency cluster are presented in Table 3.2. We calculated a score for each competency cluster using the weights obtained from factor analysis.

Table 3.2 - Competency clusters factor loadings

	Protean career competencies	Learning goal competencies	Understand Influence environment competencies
Self-awareness	.65		
Adaptability	.97		
Achievement orientation		.96	
Positive outlook		.88	
Organizational awareness			.69
Influence			.90
Inspirational leadership			.90
Change catalyst			.88

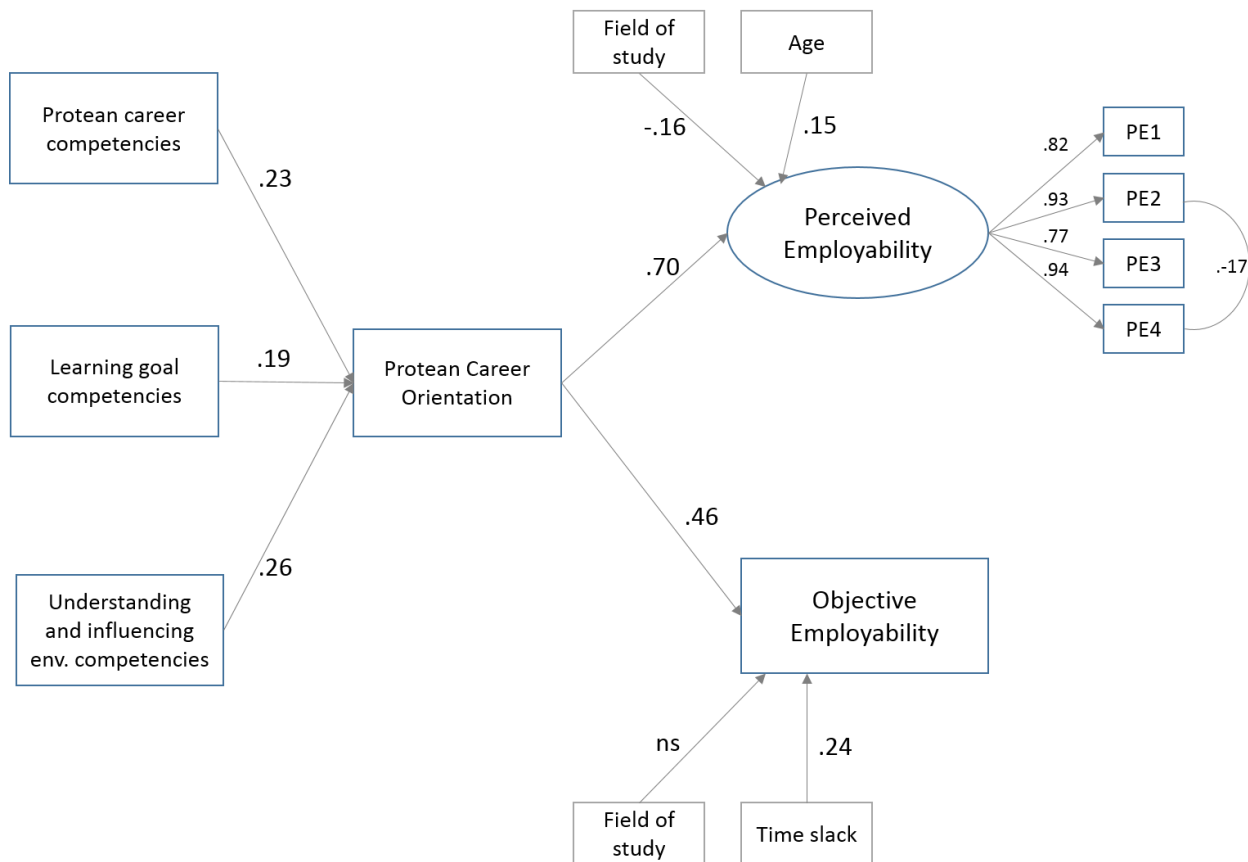
Second, we assessed the mono-dimensionality of the two scales used to measure protean career orientation and perceived employability. As regards PCO, confirmatory factor analysis showed that the construct is not mono-dimensional. Indeed, analyzing the items of the scale, they relate to different facets (Bisbe, Batista-Foguet, and Chenhall, 2007) that constitute PCO: being coherent with objectives and values, being responsible for career and development, freedom and autonomy, and flexibility at the workplace. The absence of mono-dimensionality was also pointed out with other scales measuring PCO, such as Briscoe et al. (2006) (Baruch, 2014). Theoretical weights that delineate the importance of each item are not present in the literature. Therefore, we used PLS-PM, which allows the amount of explained variance to be maximized (Quereshi and Compeau, 2009) in order to obtain factor scores.

The scale we used to measure perceived employability resulted in being mono-dimensional. Loadings ranged from .77 to .93, and the Cronbach's alpha was .95.

Third, we used SEM to test the theoretical model summarized in Figure 3.1. The scores obtained for the three clusters of competencies and PCO were entered as observable variables. Gender, age,

field of study and time delay between time 1 and time 2 were initially entered as control variables. Gender was not found to be related to outcome variables, therefore it was removed.

Figure 3.1 - The relationship between behavioral competencies, PCO, employability and perceived employability (SEM model)



Standardized solution (ns, non-significant)

3.5 Results

Descriptive statistics and correlations of the main variables of the study are reported in Table 3.3.

Global fit indexes [Satorra-Bentler chi-square $\chi^2=33.81$, $df=36$; root mean square error of approximation (RMSEA)=.00; CI (RMSEA)=.00 - .06, PCI=.90; standardized root mean square residual (SRMR)=.03; comparative fit index (CFI)=1.00] show good model fit according to the criteria presented in Hu and Bentler's (1999) (Table 3.4).

Table 3.3 - Descriptive statistics and correlations

		M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1	Emotional Self-awareness	7.50	0.84												
2	Achievement orientation	8.29	0.71	.504**											
3	Adaptability	7.68	0.76	.389**	.733**										
4	Positive Outlook	7.61	1.00	.385**	.701**	.693**									
5	Organizational Awareness	7.80	0.59	.423**	.601**	.724**	.518**								
6	Influence	7.07	0.69	.412**	.601**	.677**	.582**	.602**							
7	Inspirational Leadership	7.28	0.96	.431**	.637**	.731**	.683**	.537**	.811**						
8	Change catalyst	7.46	0.85	.429**	.689**	.653**	.553**	.539**	.659**	.652**					
9	Protean career orientation	5.62	0.84	.062	.361**	.174	.202*	.091	.278**	.317**	.366**				
10	Perceived employability	4.75	1.45	-.045	.237**	.177	.192*	.007	.208*	.239**	.342**	.593**			
11	Objective employability	2.09	2.18	-.063	.061	.077	-.006	-.007	.159	.106	.218*	.292**	.334**		
12	Time slack	24.68	7.70	.007	-.137	.039	-.016	-.082	.136	.065	.017	-.007	-.048	.234*	
13	Age	27.26	3.57	.061	.023	.124	-.027	.092	.037	.010	.087	.012	.090	-.118	.325**
	N	120													

^ p<.10, * p<.05, ** p<.01, *** p<.001

Table 3.4 - Model global fit indexes

	SB- χ^2 (df)	RMSEA	CI _{RMSEA}	PCI	CFI	SRMSR
Model1	33.81(36)	.00	.00; .06	.90	1.0	.03
	(a)	(b)	(c)	(d)	(e)	(f)

Note: (a) Satorra-Bentler chi square (degrees of freedom); (b), (c), (d) RMSEA, confidence interval, and probability of close fit for RMSEA; (e) Comparative Fit Index; (f) Standardized root mean square residual

In analyzing detailed diagnostics, we detected an item specificity due to the wording of two items of the scale on perceived employability. Consequently, we allowed for correlation between the two error terms.

Examination of the path in the final model supports the hypothesis of the influence of the three competency clusters on PCO. The structural equation for Hypotheses 1a, 1b and 1c showed a problem of multicollinearity, with the protean career competencies cluster being highly correlated (>.90) with both the learning goal competencies and understanding and influencing the environment competencies clusters. This implies that point estimates and significance cannot be interpreted; however, r^2 is a reliable measure of the percentage of variation of the dependent variable explained by the independent variables. The three clusters of competencies together explained 28 percent of the variance of PCO. To cope with multicollinearity, we removed the variable protean career competencies from the model and found that the positive effect of the other two clusters explained 19 percent of the dependent variable, implying that 9 percent of the variance is explained by protean career competencies. In Figure 1, the estimates concerning the impact of competency clusters on PCO are obtained by running two different models in which respectively only protean career competencies, and only learning goal and understanding and influencing the environment competencies were included.

Hypothesis 2 was also strongly supported by the findings, highlighting a positive significant impact of PCO on perceived employability (p-value=.00). The results, summarized in Figure 1,

show that also age (p-value=.00) and the field of study (p-value=.00) have a significant impact on perceived employability, describing students from the economics and science field with higher subjective employability.

Hypothesis 3, which posits the relationship between PCO and objective employability, was also supported (p-value=.00). Differences between time 1 and time 2 (p-value=0.00) also affect objective employability, showing that graduates who might have had more time to explore the labor market, as expected, received a higher number of job offers.

3.6 Discussion

3.6.1 Theoretical implications

This study addressed the recent call for a more in-depth investigation of the antecedents and outcomes of the protean career orientation concept. Our findings made a number of contributions both to the competency-based field, by analyzing relevant outcomes of the display of behavioral competencies, and to the career management field, by suggesting that the set of behavioral competencies that can influence a protean career orientation may be broader than the one previously considered in the literature. Moreover, it has advanced the research on protean careers by analyzing what the effects of being protean oriented may be on employability.

Firstly, we theoretically and empirically clarify the relationships between PCO and three main clusters of behavioral competencies. Previous literature in the field focused only on adaptability and self-awareness – defined in this study as protean career competencies – often without including them in empirical analysis (Gubler et al., 2014). Our findings not only provided support for the positive effect of adaptability and self-awareness, but also confirmed that the use of a broader set of behavioral competencies enables young individuals entering the labor market to approach their career in a self-managed and value-driven way. Specifically, the

results suggest that being able to manage oneself to pursue learning goals, and to understand and influence the environment, leads individuals to be more inclined to adopt a protean career orientation. Therefore, besides being able to adapt to changing demands and being aware of one's own identity, self-directed and value-driven careers are promoted by competencies that enable individuals to set and measure challenging goals and to perceive events in a positive way with confidence in the future and change. The findings also highlighted the relevant role of capabilities that allow individuals to recognize the values and cultures of organizations and how they affect the way people act and behave, of the ability to lead and influence others, and recognize and promote change personally.

Secondly, beyond shedding light on the relevance of behavioral competencies in promoting a protean career orientation, we analyzed a more complex nomological network, which takes into account the effect of protean career orientation on perceived employability and employability in terms of job offers. The results concerning perceived employability are consistent with previous recent studies (Lin, 2015; Zafar et al., 2017), showing that people who conceive career in a protean way also feel they are more employable. The second significant result highlighted that the number of job offers is greater for those graduates who are more protean career oriented. Therefore, our study contributed to identifying an aspect that enables young individuals at the early stage of their career to be more attractive and more successful in their job search. Protean individuals direct their personal development according to the changing market demands becoming more attractive for employers. Moreover, a protean individual is more likely to actively search for job opportunities rather than wait for opportunities to come up. This also happens because job offers may not be in line with their values and growing objectives, so they need to look for something that is consistent with their personal needs. In so doing, adopting a protean career orientation favors the seeking of an

individual-organizational fit (O'Reilly, Chatman, and Caldwell, 1991) already postulated by the major theories of vocational choice (Holland, 1985; Super, 1957).

3.6.2 Practical implications

The present research carries practical implications from educational and managerial perspectives. First, since “being protean” is not an innate trait but a malleable orientation, it can be promoted by developing the portfolio of behavioral competencies. Favoring the adoption of a protean approach by young people helps them assume control over their careers and empowers them in the realization of their full potential independently from the organizational context. Dedicated programs and career services provided by higher educational institutions may help young individuals conceive their career as a calling, and make career choices with discernment according to their inner values and needs. Second, the fast-moving economical context is now characterized by short learning cycles, which can rapidly make acquired technical skills obsolete. This implies that young individuals need to be able to take charge of their career in a flexible way, with a willingness to change and improve over time. In order to develop a protean career orientation, people need to be equipped with behavioral competencies that are seldom formally trained. Much more attention must be given to behavioral competency development in higher institutions in order to help young people approach the labor market in a more conscious and protean way. In terms of managerial implications, to ensure effective recruitment of graduates with a protean career orientation, employers are advised to assess their behavioral competencies, which have been shown to positively influence this value-driven and self-directed approach to career management. Moreover, during the recruitment process employers should devote attention to the personal values of candidates and investigate the fit with the values of the organization. Finally, to be more attractive for individuals with a protean career

orientation, employers may clarify to candidates how the organization can support them in their continuous learning goals and career advancement in line with their personal aspirations.

3.6.3 Limitations and future research directions

Our paper has some limitations that should be addressed in future research. First, our study focused only on graduates' protean career orientation, without exploring whether the protean orientation is then exploited in a career path driven by protean characteristics (as suggested by Gubler et al., 2014). Future studies should adopt a longitudinal design in order to analyze whether behavioral competencies influence not only the orientation toward a protean career, but also the actual implementation of this orientation. A longitudinal design may also provide the opportunity to verify if, after the first working experiences, a protean career orientation drives the willingness of improving or acquiring new competencies, following the idea of learning cycles attained by protean career oriented individuals (Hall, 1996). This implies creating a circular model in which the relationship between protean career and behavioral competencies is explained by a process in which behavioral competencies are inputs and outputs of the protean career orientation.

Second, the results are based on a sample of students from a single university in Italy. Although we found it to be an interesting context of study, future cross-cultural studies may replicate this research in order to assess the generalizability of findings in other contexts.

This study specifically adopts an individual level perspective, however, it is essential to underline that some external macro level factors may play as constraints in shaping one's career orientation (Arnold and Cohen, 2008). In previous studies, the external context has been mainly analyzed referring to cultural characteristics (Sullivan and Arthur, 2006). Contrasting individualistic countries, where the protean career orientation construct was developed, with collectivistic countries, a small set of studies tried to investigate if protean career orientation is

culture-bond. Findings of a study on managers in Singapore tend to support the generalizability of self-oriented career orientation across cultures (Chay and Aryee, 1999). Similarly, Agarwala (2008) showed that Indian management students demonstrated higher protean career orientation than conventional career orientation. Looking at other cultural attributes, Segers et al. (2008) found that individuals living in low masculine cultures were more value-driven, while people living in low power distance cultures were more self-directed. Besides cultural characteristics, other external boundaries forces has been mainly neglected (Arnold and Cohen, 2008). Forrier, Sels, and Stynen (2009) identify structure of risks and opportunities, the opportunities to maintain and enhance one's movement capital, and shock events as three main structural restrictions to transitions in career. Moreover, labor market regulation and unemployment rate may influence career orientation. Under the assumption that the key to jobs growth lay in more flexible labor markets, starting from the 90's, not only Italy, but also many other European countries started a deregulation process of the labor market (Heyes and Lewis, 2014). Despite a common deregulation path undertaken by European countries, Italy presents some peculiar labor market entry characteristics, such as higher difficulties in market entry and higher youth unemployment (Scherer, 2005). Annual youth unemployment rate in 2016 was 37.8 percent, compared to the 18.7 percent European average (International Labour Organization, 2017). In 2005, Scherer highlighted also a higher career stability once entered the labor market in the Italian context. However, due to the deregulation of the labor market, in the period 2002-2015 the amount of young individuals with fixed-term contract increased 26 percentage points, and in 2017 occupation increased mainly due to fixed-term contracts (+26.3 percent) and apprenticeship (+ 25.9 percent) (International Labour Organization, 2017).

High unemployment rates may have a negative influence on the development of protean career orientation in young individuals, as it may result in the willingness of finding a job regardless its consistency with one's own values and aspirations. Indeed, pessimism over economic and

career mobility can challenge the confidence of being able to practice one's autonomy and demonstrate competence. However, the study conducted by Briscoe et al. (2012) in the midst of the economic crisis, in a region of the U.S. in which unemployment rate grew 277 percent in one year, showed that, as in stable economic situations, self-directed protean attitudes were directly related to performance, career success, and psychological well-being. The authors (Briscoe et al., 2012) maintain that protean career attitudes may help employees cope with uncertain career environments. However, the impact of protean career attitude in contexts of chronic unemployment is still unclear.

Third, other socio-economic variables may influence the adoption of a protean career orientation, such as socio-economic class, which may be positively related to a protean orientation, and parents' job positions, which some previous studies showed to be associated with children's career aspirations (Agarwala, 2008). We therefore suggest to take these variables into account in future research.

Lastly, possible extraneous variables, such as self-confidence, self-efficacy, or personality traits, may influence both protean career orientation and perceived employability, thus need to be acknowledged as threats to the validity of the statistical conclusions.

3.7 Conclusion

In conclusion, the current study examined the effect of behavioral competencies on protean career orientation and the positive outcomes of protean career orientation in terms of employability in a sample of newly graduated students. The study findings build on previous research, supporting the importance of possessing the competencies of adaptability and self-awareness to enable individuals to adopt a protean orientation. Moreover, the study adds evidence on the fact that other behavioral competencies that were not previously considered by the literature enhance this career approach. We urge scholars to continue examining this

relationship, not only for theoretical reasons, but also to understand better how to help young individuals develop a meaningful value-driven and self-directed approach to their career.

Furthermore, this study shows that a protean career orientation leads to positive employability outcomes, not only in terms of the perception of one's ability to find a job, but also in terms of the number of job offers. This result is particularly meaningful in helping students face labor market entry. In order to address the external validity of these findings, we suggest replicating the study in settings characterized by different labor market conditions.

4

The assessment of behavioral competencies: Development and initial validation of a new framework

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4.1 Abstract

This paper adds to the current debate on behavioral competencies through the development and the validation of an instrument which aims at measuring a comprehensive set of 31 behavioral competencies. Based on literature review and empirical investigation, the developed instrument is intended to update and enlarge existing scales overcoming their limits. In order to test their validity and reliability, the newly developed scales were tested in five different studies on samples of students and practitioners from different cultural settings. Theoretical and practical implications are discussed.

Keywords: behavioral competencies, competency assessment, scale development, scale validation

4.2 Introduction

In the last decades, behavioral competencies have radically changed both the working and training environments by giving a new perspective on what mostly influences performance at the individual level. The research movement on behavioral competencies started in the '70s with the seminal work of Richard Boyatzis and subsequently David McClelland (1973), driven by dissatisfaction with the capacity of traditional intelligence measures to explain significant variances in performance. Indeed, behavioral competencies demonstrated to be a more accurate predictor of personal and professional success than cognitive knowledge (Covey, 1996; Goleman, 1998a, 1998b; Sigmar, Hynes, and Hill, 2012), general intelligence, or personality (Boyatzis, Rochford, and Cavanaugh, 2017), and are nowadays considered one of the most valuable characteristics in the workplace (Azevedo, Apfelthaler, and Hurst, 2012) as well as for people's employability (Hogan, Premuzic, and Kaiser, 2013). Moreover, from an educational and personal development perspective, the focus on behavioral competencies has put the

emphasis on the overall individual capacities rather than on specific technical skills (Mikulic, Crespi, and Radusky, 2015). Despite the relevance of this concept, measuring behavioral competencies has always faced some challenges: the existence of a big set of behavioral competencies and the complexity of these constructs. Most existing models and relative assessment measures focus on parsimony and redundancy as the main criteria, therefore they consider relatively small sets of competencies and narrow their evaluation to very similar behaviors, underestimating the complexity of some constructs, which may not be unidimensional, but constituted by multiple sub-dimensions (Bisbe, Batista-Foguet, and Chenhall, 2007). This may limit scholars' ability to reliably capture patterns of behavior that drive effectiveness. Moreover, many existing codebooks and models were developed in the '80s and '90s. Nowadays the complexity of the organizational contexts in which individuals are asked to act and make decisions requires due consideration and understanding of other competencies that have newly emerged as relevant. As such, the purpose of this paper is to develop and validate a new framework and scale to assess a comprehensive set of 31 behavioral competencies. By grounding the items both on scientific literature and empirical investigation, we aim to provide an instrument that scholars can use for research in this area.

In the next sections, we first review the state of the art and present the main characteristics of the new framework. Second, we describe the stages of scale development following five steps. In Stage I, we present the item generation processes. In Stage II, we describe item reduction and address reactivity threats and construct validity. In Stage III, we perform Exploratory Factor Analysis and analyze reliability. In Stage IV, we perform Confirmatory Factor Analysis and we group competencies according to second-order factors. In Stage V, we address criterion validity using two different samples. Finally, we discuss the contributions provided by the newly developed instrument and we present the general conclusions and limitations.

4.3 Defining the framework

The study of behavioral competencies represents one of the streams of Emotional Intelligence (EI) research. The concept of EI, as well as its measurement, has been subject to controversy for a long time (Spector and Johnson, 2006). Three main models dominate the field and are associated with different measurement strategies (for a more extensive review see Cherniss, 2010).

Bar-On's model on trait EI consists of five main components (intrapersonal skills, interpersonal skills, adaptability, stress management, and general mood) (Bar-On, 1997; Bar-On, 2006) and has been operationalized through the emotional quotient inventory (EQ-i), whose latest version was published in 2011 (EQ-i 2.0) measuring 15 EI skills (Ackley, 2016). Trait EI has been operationalized primarily through self-report measures, even if the last revision also includes a 360 assessment.

Another major model is based on the work of Mayer, Salovey, and Caruso (Mayer and Salovey, 1997), who consider EI as a mental ability. The four components of their model are: the ability to perceive emotions, the ability to use emotions to facilitate thought, the ability to understand emotions, and the ability to manage emotions. The measure associated with this model is an ability test (MSCEIT), which has right and wrong answers developed on the basis of consensus opinion in a general sample and the answers of 21 experts on emotions. MSCEIT is designed to measure an inborn skill: the ability to learn EQ skills, just as IQ measures the ability to learn various cognitive skills (Ackley, 2016).

The behavioral approach, based on the work of Boyatzis and Goleman (Boyatzis and Sala, 2004) and the influence of McClelland (1973) "refers to those competencies that are clearly linked to EI" (Cherniss, 2010: 115). A behavioral competency is defined as "a set of related but different sets of behaviors organized around an underlying construct called intent" (Boyatzis, 2009: 750). Therefore, the concept of competency encompasses both actions (which are

described as behavioral indicators) and the intent that moves individuals to manifest the behaviors (which is made explicit in the definition of the competency). Differently from the previous two approaches, the behavioral one “offers a theoretical structure for the organization of personality and linking it to a theory of action and job performance” (Boyatzis, 2009: 757). Indeed, these behavioral capabilities have been shown to enable people pursue effectiveness in the organizational context (Beigi and Shirmohammadi, 2011; Brown, George-Curran, and Smith, 2003; Emmerling and Cherniss, 2003; Emmerling and Boyatzis, 2012; Williams, 2008; Zhang and Fan, 2013), but also to contribute to higher levels of psychological and physical well-being and more satisfying interpersonal relationships (Bisquerra Alzina and Pérez Escoda, 2007; Pérez Escoda, Bisquerra, Filella, and Soldevila, 2010).

Previous studies distinguished four main areas according to which competencies can be categorized: knowing one’s internal states, preferences, resources, and intuitions (self-awareness cluster), the ability to recognize, understand, and manage one’s own emotions (self-management cluster), the ability to handle relationships and awareness of others’ feelings, needs, and concerns (social awareness cluster), and the ability to induce desirable responses in others (relationship management cluster) (Boyatzis, 2009). The ESCI (Emotional and Social Competency Inventory) was designed and refined in 2006 as an assessment tool of this model (Boyatzis, 2016) and consists of 12 competencies. The ESCI is conceived as a multi-source feedback assessment, or 360 assessment, which allows to assess competencies adopting a multiple perspective asking the supervisor, as well as peers and subordinates to complete the same type of questionnaire. Differently from other measures of Emotional Intelligence (see Ackley, 2016 for a review), the ESCI assesses emotional and social competencies based on the person’s behavior or actions, using behavioral indicators and evaluating the frequency with which a person manifests the specific behavior. This tool showed desired levels of reliability and initial validity (Wolff, 2008) and has been used in many research studies (among the most

recent, Mahon, Taylor, and Boyatzis, 2014; Miller, 2014; Quinn, 2015). Other instruments were developed adopting the behavioral approach, for example the Swinburne University Emotional Intelligence Test (Palmer and Stough, 2001), later known as GENOS EI (Stough and Gignac, 2009), which assesses seven different emotional and social skills, and the SECI (Mikulic, et al., 2015) which accounts for 9 different behavioral competencies. Besides these, other scales were developed in order to evaluate specific competencies, such as the Seligman attributional style questionnaire (SASQ), which measures optimism and resilience (Peterson and Villanova, 1988); the Toronto Empathy Questionnaire (Spreng, McKinnon, Mar, and Levine, 2011); the Connor–Davidson Resilience Scale (CD-RISC) (Connor and Davidson, 2003).

Although all these instruments are useful to evaluate behavioral competencies, and showed different validity and reliability attributes (see Cherniss, 2010; Ackley, 2016, Boyatzis, 2016), they seem limited in the range of competencies that they can assess and in the capacity to capture the skills that have been increasingly recognized in different streams of literature as those that support individuals in being effective in the present environment. As stated by Cherniss (2010) the “virtue of the broader models is that they bring together many of the emotional and social abilities that are important for success in school, work, and life into one framework” (Cherniss 2010: 114). Moreover, in recent years, economic, social, and cultural factors have shaped organizational activities, requiring a reconsideration of the skills necessary to be effective in this new scenario. These behaviors concern for example entrepreneurial behavior, innovation abilities, engagement in the group/organization, the ability to think outside the box or to think in a visionary fashion.

Therefore in this study we want to overcome the tendency to create tools based on a limited set of emotional and social competencies. Indeed, a wider variety of behavior leading to successful outcomes occurs both in and outside the organizational context and needs to be assessed using a comprehensive tool that can evaluate these behaviors and can be adapted in a

flexible way according to the context. The second characteristic of this scale is that it is not intended to be focused only on MBA participants and managers, who have been the major target of existing scales, sometimes leading to tools that refer only to the organizational context and are not easily applicable to other environments. Some scales previously developed refer specifically to the organizational setting, and therefore are not easy to adopt in working environments different from companies, or with people who have little working experience. In contrast, this instrument was designed considering the possibility of applying it to different working and educational contexts. Moreover, differently from existing scales, which privileged internal consistency rather than variety of dimensions, this scale was defined taking into account the complexity of each included construct. In the item generation phase, we addressed all the highlighted gaps of the existing models.

4.4 Stage I: item generation

For the initial scale item generation, both deductive and inductive approaches were used (Hinkin, 1995). Concerning the deductive approach, an in-depth literature review was undertaken considering existing competency dictionaries/codebook which focused on the competencies needed to obtain effective results in leadership roles (e.g. Boyatzis, 1982; Boyatzis, 2009; Spencer and Spencer, 1993). Moreover, we searched for individual characteristics that drive effectiveness in emerging literature fields that analyze the behavioral aspects of innovation processes and entrepreneurship (e.g. Dyer, Gregersen, and Christensen, 2008; Puccio, Mance, and Murdock, 2011). On one hand, growing competition leads organizations to focus more and more on the generation and implementation of innovation processes, and recently an expanding body of literature has begun to analyze cognitive and exploration competencies that help individuals generate new ideas. On the other hand, the organizational shift to more horizontal and flat structures, implies employees' greater autonomy

and discretion. Analyzing entrepreneurship literature allowed us to explore behaviors related to self-management, autonomous decision making and implementation of activities. Furthermore, we considered contributions that provide a review of those behavioral capabilities currently perceived as the most important in the labor market by employers and recruiters (e.g. Azevedo et al., 2012; Robles, 2012), focusing on those that turned out to be predictors to job success.

As far as the inductive approach is concerned, we conducted an empirical investigation of effective managerial and entrepreneurial roles operating in different industries. From its original stream of research started in the '70s, the competency approach was derived inductively from work performance and effectiveness criteria (Boyatzis, 2009). The authors carried out 148 interviews of high performance entrepreneurs, new product development team members, and project managers adopting the Behavioral Events Interview technique (Boyatzis, 1998; McClelland, 1998) during the period 2015-2017. This technique is a development of the Critical Incident Interview technique (Flanagan, 1954), which is focused on gathering information on recent and specific events and has been widely used to obtain rich and detailed information on the context, behaviors, and strategies adopted by the interviewee, and to structure qualitative data (Chell, 2004; Campion et al., 2011). Interviews are based on the collection of a series of recent concrete events drawn from personal working experiences in which the interviewee felt effective. The interview protocol required each respondent to recall four to five critical situations describing the context, the people involved, what he/she thought, felt, said and actually did, the problems encountered, the solutions and outcomes (Dainty, Cheng, and Moore, 2005). The interview on behavioral episodes makes it possible to disclose behaviors without being affected by the distortion of social desirability (Rosete and Ciarrochi, 2005). The interviews were all recorded and transcribed verbatim and coded using Thematic Analysis (Boyatzis, 1998). The interviews were coded independently by the authors, in order to ensure reliability through multiple, independent data coding (Podsakoff et al., 2003). This process

allowed us to disclose especially those behaviors that were not previously captured by existing competency models, but consistently emerged in episodes of effectiveness. One example is the capacity to act consistently with the needs of the group and place the needs of the group above one's own, defined as Commitment towards the group. An illustrative quotation is: "the renewal of the culture and the main department processes was achieved mainly thanks to a continuous dialogue and sharing of objectives and by giving maximum availability to colleagues even outside the working hours." Moreover, field research enabled us to identify behavioral indicators that can be observed in different contexts. This also helped us define actions that can be activated in work and non-work settings for competencies that were previously identified in the literature, but were measured through strongly context specific scales (for instance, as illustrated below, Questioning, Observing, and Experimenting, from Dyer et al., 2008).

Integrating existing competency models with emerging competencies from the literature and from the empirical analysis, we defined a framework of 31 behavioral competencies. Following the recommended procedure (Hinkin, 1998), we first agreed on the definition of each competency based on literature review, we identified its main characteristics in terms of related behavior, and set boundaries to limit overlapping with other constructs. The authors developed six items for each competency establishing clear links between scale items and their theoretical domain.

The definitions and the main theoretical references for each of the 31 competencies included in the framework are presented in Table 4.1.

Table 4.1 - Literature review development of items

Competency	Definition	References
Self-awareness	The capacity to know and reflect on your own feelings, resources, and fundamental values	Goleman, 1995
Self-confidence	The capacity to believe in yourself and your abilities	Cox, 1964; Lampert and Rosenberg, 1975; Locander and Hermann, 1979
Empathy	The capacity to listen carefully and put yourself in the others' shoes	Spencer and Spencer, 1993; Brackett and Katulak, 2006
Organizational awareness	The capacity to understand the informal relationships, the values and rules of a group	Spencer and Spencer, 1993
Efficiency orientation	The capacity to evaluate the relationship between input and output and maximize the result minimizing resources	Boyatzis, 2009
Achievement orientation	The capacity to engage and act to achieve goals, measuring the progress made	Spencer and Spencer, 1993; Lee et al., 2003
Resilience	The capacity to bounce back from adversities and respond positively to them using your own resources	Morris, Webb and Franklin, 2011; Fletcher and Sakar, 2013
Initiative	The capacity to act before it is imposed by the situation and to actively seek opportunities	Boyatzis, 2009; Fay and Frese, 2001
Change orientation	The capacity to recognize the need for change, removing barriers and supporting its implementation	Messman and Mulder, 2012; Scott and Bruce, 1994; Boyatzis, 1982
Flexibility	The capacity to adapt by changing your behaviors in the face of change, unexpected or different situations	Boyatzis, 2009
Self-control	The capacity to retain control of your emotions and reactions in stressful or emotional situations	Boyatzis, 1982
Accuracy	The capacity to perform activities with order and precision	Spencer and Spencer, 1993;
Risk taking	The capacity to take risks and take responsibility for your decisions	Hung et al., 2012; Zhao, Seibert and Hills, 2005
Risk management	The capacity to identify in advance possible negative impacts of uncertain activities and contain losses	Morris et al., 2011
Persuasion	The capacity to convince other people of the value of your point of view	Boyatzis, 2009

Conflict management	The ability to solve conflicts between people	De Dreu and Van Vianen, 2001; Montoya-Weiss, Massey and Song, 2001
Team working	The capacity to collaborate with the members of a group and to feel part of it	Boyatzis, 2009; Salas et al., 2016
Developing others	The capacity to encourage, support and provide resources for the improvement and growth of other people	Boyatzis, 2009; Boyatzis et al., 2012
Networking	The capacity to create, maintain, and use personal relationships to achieve goals	Snell et al 2014; Boyatzis, 2009; Goleman 1998
Leadership	The capacity to lead a group, inspire and motivate it	Goleman, 1998
Customer focus	The ability to understand other people's needs paying attention to their satisfaction	Narver and Slater, 1990; Spencer and Spencer, 1993
System thinking	The capacity to break down complex problems and understand cause-and-effect relations between the parties	Boyatzis, 1982; Spencer and Spencer, 1993
Diagnostic thinking	The capacity to conduct an accurate examination of the situation, describing the nature of the problem	Puccio, Mance and Murdock, 2011
Pattern recognition	The capacity to recognize similarities among issues and make connections between concepts of different domains	Boyatzis, 1982; Baron, 2006; Gentner, 1989
Lateral thinking	The capacity to find solutions by adopting unconventional perspectives	De Bono, 1970; De Bono, 2015
Questioning	The capacity to ask questions in order to gather information and question the current situation	Dyer, Gregersen and Christensen, 2008; Messman and Mulder, 2012
Observing	The capacity to observe the environment around you and different contexts with the aim of finding new ideas	Dyer, Gregersen and Christensen, 2008; De Jong and Den Hartog, 2010
Exploring	The capacity to explore new ideas through experiments and trials	Dyer, Gregersen and Christensen, 2008
Visionary thinking	The capacity to create and articulate a clear picture of the future and define actions and objectives necessary to achieve it	Puccio, Mance and Murdock, 2011; Westley and Mintzberg, 1989
Commitment toward the group	Being responsible and acting for the good of the group	Spencer and Spencer, 1993
Integrity	Being consistent with yourself	Palansky and Yammarino 2007; Simons et al., 2015

Compared with existing models, new competencies that have been shown to be important nowadays have been included. One example is Lateral thinking, which expresses the ability to explore different ways of examining a challenging task instead of accepting what appears to be the solution and going forward (De Bono, 2015). Lateral thinking relates to moving across patterns in a self-organizing information system. Contrary to vertical thinking, which logically builds on existing patterns, lateral thinking seeks to restructure existing patterns by identifying different or unconventional ways and directions of solving a problem (Hernandez and Varkey, 2008). Even if it may be the basis of creativity, the two concepts are not overlapping as explained by De Bono (2015).

Another competency of interest is Integrity which has often been related to authentic leadership, and is often expected from people in responsibility positions (Palanski and Yammarino, 2007), but not always deployed. Previous studies discovered that behavioral integrity is related to performance as well as to positive behaviors and intentions of followers (Dineen et al., 2006; Peterson, 2004). Relying on the work of Palansky and Yammarino (2007), integrity can be classified into five general categories: wholeness, consistency of words and actions, consistency in adversity, being true to oneself, and moral/ethical behavior. The concept of wholeness, being very abstract and highly related to a character dimension, rather than with a specific behavior, has not been taken into account in the initial creation of items. In the item reduction process, we also intentionally decided to exclude the moral/ethical behavior from our assessment tool. While according to some authors the content of the word and consequent actions and its consistency with moral principles are essential to the definition of integrity (Monga, 2016), we expected what is socially considered moral to be too context and culture specific and easily influenced by social desirability. In this sense we distance our conception of integrity from the moral integrity defined by Mayer, Davis, and Schoorman (1995) which

requires enacted socially acceptable values, and we exclude, according to Simons (2002) an evaluation of moral content from the construct.

Some of the competencies included in the framework have been addressed by previous studies, but mainly by referring them to the organizational environment. This is the case, for example, for Customer focus, Observing, Experimenting, and Questioning. The literature and relative scales on Customer focus principally concentrate on customer satisfaction and complaints (Das, Paul, and Swierczek, 2008), the collaboration and relationship with sister departments (Conduit and Mavondo, 2001), and behaviors in selling activity (Stock and Hoyer, 2005). However the capability of identifying, understanding, and satisfying people's needs can also be applied in a more general context. Building on the definition given by Spencer and Spencer (1993), we developed some general items related to the ability to focus efforts and research on the satisfaction of the needs of the client or any other individual.

When describing the behaviors related to innovative actions, Dyer et al. (2008) also provide a scale for assessing Questioning, Observing, and Experimenting. However, also in this case, some items (as for example "I am constantly asking questions to understand why products and projects underperform" and "I regularly observe customers' use of our company's products and services to get new ideas") are too focused on the competitive organizational environment to be applied in a wider range of contexts. Christensen, Dyer, and Gregersen (2011) conceive questioning as the capacity to frequently ask questions, particularly those that challenge the status quo and ask "what if" questions about the future. Literature on innovative work behavior (see for example Messman and Mudler, 2012; De Jong and Den Hartog, 2010) also uses the concept of challenging beliefs asking critical questions in what is called "idea generation". Similarly, this literature refers to Opportunity Exploration when defining the exploration of future opportunities by asking questions to keep informed about the latest development in or

outside the environment. Both perspectives have been taken into consideration in the development of items. As for Observing, we considered the ability of paying attention to everyday experiences in the personal context (Christensen et al., 2011) and outside it (Christensen et al., 2011; De Jong and Den Hartog, 2010). While for Experimenting, we relied on the initial definition of Dyer et al. (2008), modifying the items that seemed related to being adventurous and taking things apart, rather than to trying new things through the means of experiments.

As mentioned before, in some cases, the complexity of the construct resulted in a definition that includes more than one sub-dimension. For example, Empathy is often conceived in the literature as a complex ability (Decety and Jackson, 2004) encompassing both a cognitive and an affective component. On one side, empathy is described as the ability to understand the emotions of others by paying close attention to non-verbal as well as verbal communication (Brackett and Katulak, 2006). It comprises listening and posing questions to understand another's current feelings with sensitivity (Spencer and Spencer, 1993; Truax et al., 1966). It concerns the ability to identify and understand the other person's feelings, ideas, and situation (Dawson, 1992). Decety and Jackson (2004) identify the recognition and understanding of someone's emotional state and the relative affective response as one of the primary components of empathy. On the other side, the authors also define a second component of empathy related to the cognitive capacity to take the perspective of the other person. Other authors (see for example Galinsky, Wang, and Ku, 2008; Gerdes and Segal, 2009; Marks, 1988), agree on the perspective taking dimension of empathy, defining it as the ability to imagine what another person is feeling and thinking, to put oneself in the other's position, and understand his/her experience from his/her point of view. Both dimensions were considered in the development of items.

Another complex construct included in the framework is Self-awareness. Building on the work of Goleman (1998b), we identified three main characteristics of this competency: the capacity to understand one's own emotions, the capacity to reflect on and understand one's own resources, and the capacity to be aware of one's own fundamental values. However, differently from Goleman (1998b), we included in Self-awareness only features concerning "being aware of an internal aspect of the self," separating what he calls Self-confidence as a different construct. Self-confidence itself has been a concept highly debated in the literature, providing distinction between similar theoretical constructs. In this framework we adopted the accepted meaning of general context independent self-confidence (Cox and Bauer, 1964; Lampert and Rosenberg, 1975; Locander and Hermann, 1979).

4.4.1 Content and face validity

To address content validity, faculty members who are experts in the field of behavioral competencies were involved and asked to give their expert judgement. They were asked to check the link between the items and the theoretical domain, to control the omission of important sub-dimensions and the clarity of items, and give us suggestions necessary to improve the preliminary set of items (Hinkin, 1995).

In order to address face validity, two focus groups were carried out with Master's students and MBA students. This sample is consistent with the target population to whom the questionnaire is addressed and is considered an appropriate sample for this type of task (Schriesheim, et al., 1993). Taking into account the recommendations of Hinkin and Tracey (1999), the sample size was 30 people. Each of the two groups was randomly divided into 3 sub-groups and was given the name and definition of 10 or 11 competencies and, in a different envelope, the corresponding items in random order. Each sub-group was asked to match items with competencies (MacKenzie, Podsakoff, and Fetter, 1991), then at the end of the activity the

causes of each misspecification and the wording of items were discussed with each sub-group individually and recorded.

According to the results of the expert judgement and the two focus groups, we proceeded with the re-wording of items following the criteria suggested by De Vellis (2003): readiness, length, redundancy, and avoidance of use of the same words in items.

4.4.2 Questionnaire creation and pilot study

We created a questionnaire with the 186 items related to the 31 behavioral competencies presented in random order. Due to its length and in order to address common method variance (Podsakoff et al., 2003), we divided the questionnaire into four parts and distributed it through the platform Qualtrics on a weekly basis. Participants were randomly assigned to a group, and received the parts of the survey in different order. We asked each respondent to rate the frequency with which he/she had adopted a specific behavior (item) in their recent past (from 6 to 12 months) using a scale from 0 to 10, in which 0 represents “never” and 10 represents “always.” The use of a 0-10 scale showed to be better suited for European contexts compared with a 7-point Likert scale, it allows for more variability in the answers, and provides higher quality data for assessing the frequency of behaviors (Batista-Foguet et al., 2009).

In order to test the questionnaire we first conducted a pilot study (Study 1) with 94 Master’s students and MBA students from an Italian University. The average age of the pilot sample was 27 years old, females constituted 70 percent of the sample. The pilot study allowed us to monitor the time needed to complete the survey and the adequacy of the on-line instrument.

4.5 Stage II: item reduction and initial validation

Study 2 was conducted in order to tackle four main issues. The first is performing item reduction grounding both on theoretical and statistical criteria. The second regards reactivity and self-assessment measurements. Besides providing an extensive explanation of privacy and data treatment rules and stressing the use of assessment for developmental purposes only, we sought to determine if social desirability strongly affected the self-assessment of behavioral competencies. Third, the relationship with demographic variables is considered. The fourth issue concerns construct validity, addressed by analyzing the relationship between behavioral competencies and personality traits.

4.5.1 Study2

4.5.1 Sample.

The Study 2 sample consisted of 325 people, belonging to different categories: Master's students (42%), MBA students (13%), Alumni (28%) and workers belonging to different sectors (15%). This represents a convenience sample according to the target population of our instruments. The sample consisted of 72 percent females with a mean age of 26. To get more reliable answers, participants were involved in the study only on a voluntary basis. Moreover, a personalized feedback on the results of the questionnaire was provided to all participants.

4.5.2 Measures.

Behavioral measures. As described above, we presented the 186 items of our measures in random order asking the participants to rate the frequency with which they had adopted a specific behavior (item) in their recent past (from 6 to 12 months) using a scale from 0 to 10.

Social Desirability. Due to the tendency of respondents to provide overly positive self-descriptions in the case of self-assessment (Steenkamp, De Jong, and Baumgartner, 2010), we adopted a social desirability scale to address the threat of reactivity. We used the Marlowe–

Crowne Social Desirability Scale (M-C SDS, Crowne and Marlowe, 1960) using the Italian version of Manganelli Rattazzi, Canova, and Marcorin (2000). This scale aims to assess the need for social approval (Crowne and Marlowe, 1964) and is composed of 33 forced-choice, true-false items concerning everyday behaviors (Beretvas, Meyers, and Leite, 2002). The Marlowe-Crowne scale is the most widely used measure for social desirability and has demonstrated higher reliability than its derived short versions (Manganelli et al., 2000).

Demographic variables. Gender was used as a dichotomous variable in which male=0 and female=1. Age was calculated from the year of birth.

Personality traits. Personality traits have been measured in accordance with the Five-Factor Model (Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness), which have gained distinct prominence in the field (John and Srivastava, 1999; Pervin, 1994). The value of this model is recognized in simplifying the number of traits (Hofstee, 1994; McCrae and Costa, 1987), in having cross-cultural applicability (McCrae and Costa, 1997), in being able to predict health-relevant and other outcomes (e.g., Emmons, 1995). To assess personality traits, we relied on the Italian version of the Big Five Questionnaire (BFQ-2) (Caprara, Barbanelli, and Borgogni, 2008) which assesses the 5 dimensions of personality and 10 sub-dimensions on the basis of 132 items rated on a 5-choice answer scale that ranges from complete disagreement (1 = very false for me) to complete agreement (5 = very true for me). The comparison between BFQ and other personality trait measurement instruments CPS and NEO-PI (Caprara, et al., 1993) has highlighted a structure in agreement with the FFM, which is also confirmed within the Italian linguistic context.

Procedure. Due to its length and in order to control for common method variance (Podsakoff et al., 2003), the questionnaire was divided into four parts and distributed through the platform Qualtrics on a weekly basis. Participants were randomly assigned to a group, and received the parts of the survey in different order. All the individual responses were kept as

anonymous and confidential through the analysis. Participants were informed that they could freely withdraw from this study at any time, 7.9 percent of the initial sample did.

4.5.3 Analysis.

1. Item reduction

To reduce the burden on respondents (De Vellis, 2003) and also to obtain an instrument easier to use in the case of the assessment of all competencies, we decided to shorten the instrument from 6 to 4 items for each competency. Being aware of the trade-offs related to scale length and reliability (De Vellis, 2003), we used the preliminary analysis of the quality of items for this procedure. We performed an exploratory data analysis and identified outliers according to three criteria. Using the procedure suggested by Batista-Foguet and Valls Colom (1985), we identified moderate anomalies in the distribution of items and we defined outliers those respondents that presented answers outside the boxplot whiskers in 30 percent of competencies or more. Second, we checked for low variability of answers, deleting from the sample those respondents who gave the same response to more than 70 percent of items. Third, we took into account the time of completion of the questionnaire, not considering those participants who completed it in a too short period of time compared to the average time completion.

Then, we performed an Exploratory Factor Analysis (EFA) using Maximum Likelihood (ML) and Promax rotation. As argued by previous studies (Bisbe, et al., 2007; Jarvis, Mackenzie, and Podsakoff, 2003; Law, Wong, and Mobley, 1998), in order to assess the underlying factor structure of each scale, we first studied the nature of the items, whether they are formative or reflective. In *reflective models* “indicators are manifestations or reflections of an underlying construct,” while in *formative models* “indicators are constitutive facets of a construct” (Bisbe et al., 2007). Even if in management research constructs are commonly considered as reflective (Batista-Foguet et al., 2015), this distinction is key in the analysis of a

scale (Jarvis et al., 2003). Studying the nature of items, especially when assessing complex construct that may include different dimensions, it is important in this phase not to erroneously discard items.

As for competencies composed by reflective items, we examined the internal competency consistency (loading magnitude), discarding those items that were found to have factor loading less than .6, and those lacking satisfactory inter-item correlation. In the case of high factor loadings for all items, we reduced the number of items with the aim of minimizing the redundancy of items that were too similar. As for competencies composed by formative items, traditional measures could not be used (Bisbe et al., 2007). Even if we checked for factor loadings allowing the factor analysis program (SPSS) to build more than one factor for each competency, in this case the substantive criteria prevailed, leading us to discard items according to the comprehensiveness of the dimensions included and the relevance to the domain. The use of competency scales with formative items is consistent with the willingness to consider the different sub-dimensions of each construct. The final set of four items per competency can be provided upon request.

2. Control for social desirability

We used the 4-item version of the questionnaire to start the validity analysis of the scales. For competencies related to formative items, the summated rating scale was used for the competency score (Spector, 1992).

We computed correlation coefficients between competencies and the social desirability measure obtained through the M-C SDS scale. As suggested by the work of Saris (1988), correlations have been considered on the assumption of being in a situation of high power. Indeed, when the sample size is so large and the test is too powerful, even a trivial effect will be mistakenly detected as a significant one (Park, 2008). Correlations between competencies

and social desirability show to be all weak (less than 0.3 according to Cohen, 1988), except for five competencies: Resilience (.34), Self-control (.34), Teamwork (.33), Customer focus (.32), and Commitment toward the group (.31), which still exhibit modest associations. Therefore no problem of reactivity was detected (see Table 4.2).

3. Relationship with demographics

To examine the association of the behavioral competency scales with the demographic variables we computed Point-biserial correlation and Pearson's correlation with gender and age. Very low correlation was found with gender (ranging from .16 to -.18), as well as with age (ranging from .15 to -.14).

4. Construct validity: personality measures

The comparison with personality traits to test the validity of behavioral competency scales is a common practice (see for example Boyatzis and Sala, 2004). Even if the concepts are conceptually distinct, previous studies often found associations between some behavioral competencies and personality traits. For example, Fay and Frese (2001) analyzed the impact of personality traits on personal initiative; Bonanno et al. (2007) showed the relationship between personality variables and resilience; Schwarzer and Jerusalem (1995) highlighted positive correlations between self-confidence and extraversion, and openness and conscientiousness.

In our results, most associations were low or modest (Table 4.2). Nine competencies presented correlations above .40. All of them were plausible and far from a high degree of association, implying good discrimination between constructs.

Extroversion is related to the enjoyment of social situations and interacting with others, and in the EQF-2 instruments is composed of expansiveness and enthusiasm, assertiveness and confidence (Caprara et al., 1993). The elements defining this trait easily explain its correlation

with Self-confidence (.43) and Teamwork (.40). Our results also show a positive correlation with Initiative (.46), consistent with previous studies that revealed positive associations between proactivity constructs and the personality traits of extraversion and conscientiousness (Bateman and Crant, 1993; Fay and Frese, 2001; Tornau and Frese, 2013). A correlation of .41 was found with Change orientation. Previous studies did not specifically analyze this relationship. Murensky (2000) reported positive correlations between a cluster of competencies comprising change orientation and both extroversion and conscientiousness.

Agreeableness relates to sympathy and helpfulness and underlies a disposition of concern and sensitiveness towards others (Caprara et al., 2013). This trait is positively correlated with Customer focus (.46) – described as the ability to understand other people’s needs paying attention to their satisfaction – which can be plausibly deployed more by sympathetic and sensitive individuals.

Conscientiousness concerns planning, organization, achievement striving, self-discipline, and competence (Boyatzis and Sala, 2004). Not surprisingly our results include the higher positive correlations with Accuracy (.68) and Achievement orientation (.55). Previous studies already stressed the relationship between Conscientiousness and both volition and a range of educational achievements (Barrick and Mount, 1991).

Emotional stability was found to be correlated with Self-control (.50). Differently from other personality trait measures, the one adopted in this study measures emotional stability as the counterpart of neuroticism (also defined as absence of ‘emotional stability’; Friborg et al., 2005), therefore we expected contrasting results compared to studies that adopted the neuroticism framework. Studies related to Self-control in different contexts showed high correlations between absence of self-control and neuroticism, for example the findings of Elfhag and Morey (2008) confirm that neuroticism has a high association with emotional

eating, Mehroof and Griffiths (2010) showed that neuroticism significantly predicts online gaming addiction.

Finally, Openness, which is related to sensitivity to inner feelings with a preference for variety and intellectual curiosity about the inner and outer worlds, was found to be moderately related to Observing (.43) that describes the capacity to observe both daily life settings and different contexts in order to gather ideas. Similarly, Halder, Roy, and Chakraborty (2010) presented positive associations between information seeking behaviors and openness.

Table 4.2 - Correlations between behavioral competencies, personality traits and social desirability

	Self.A w	Self.C onf	Empat	Org.A w	Eff.Or	Achie v.Or	Resil	Init	Chang e.Or	Flex	Self.C ont	Accu	Risk.T ak	Risk. Man	Persua
Extroversion	.22**	.43**	.17**	.28**	.18**	.42**	.39**	.46**	.41**	.22**	.15**	.21**	.43**	.10	.26**
Agreeableness	.27**	.06	.37**	.24**	.11	.12*	.14*	.19**	.20**	.31**	.19**	.00	.16**	.09	.10
Conscientiousness	.26**	.20**	.21**	.16**	.28**	.55**	.26**	.27**	.15**	.18**	.05	.68**	.21**	.36**	.03
E. Stability	.05	.25**	.17**	.13*	.18**	.10	.32**	.16**	.20**	.27**	.50**	.00	.13*	.15**	.01
Openness	.18**	.15**	.31**	.21**	.14*	.17**	.19**	.28**	.31**	.28**	.22**	-.01	.26**	.11	.14*
Social Des	.19**	.21**	.29**	.17**	.25**	.21**	.34**	.25**	.23**	.30**	.34**	.21**	.19**	.17**	.06

Table 4.2 (continue)

	Confl .Man	Team .W	Devel .Oth	Netw	Lead	Cust. Focus	Syst. Th	Diagn .Th	Patt.R ec	Lat.T h	Quest	Obs	Exper	Visio n.Th	Com m.Gr	Integr
Extroversion	.24**	.40**	.17**	.35**	.38**	.21**	.24**	.27**	.32**	.32**	.30**	.35**	.33**	.35**	.19**	.19**
Agreeableness	.34**	.32**	.36**	.15**	.29**	.46**	.17**	.18**	.20**	.25**	.12*	.20**	.18**	.14*	.32**	.16**
Conscientiousness	.21**	.25**	.06	.17**	.27**	.20**	.31**	.42**	.20**	.06	.08	.18**	.23**	.28**	.26**	.32**
E. Stability	.15**	.21**	.09	.07	.16**	.09	.15**	.07	.12*	.22**	.06	.16**	.07	-.03	.16**	.08
Openness	.33**	.23**	.19**	.06	.25**	.21**	.35**	.31**	.31**	.38**	.38**	.43**	.18**	.22**	.13*	.21**
Social Des	.28**	.33**	.25**	.16**	.23**	.32**	.18**	.22**	.15**	.24**	.11	.17**	.24**	.12*	.31**	.26**

Table 4.2 (continue)

	Extr	Agree	Consc	E. Stab	Open ess
Extroversion	-				
Agreebleness	.19**	-			
Conscientiousness	.30**	.16**	-		
E. Stability	.10*	.30**	-.04	-	
Openess	.40**	.33**	.18**	.22**	-
Social Des	.13*	.50**	.27**	.52**	.22**

* p < .05; ** p < .01.

4.6 Stage III: psychometric properties and reliability

In Study3, we first addressed construct validity of the 4-item scales and reliability performing Exploratory Factor Analysis and reliability indexes. Then we checked for convergent and discriminant validity.

Study 3

4.6.1 Sample.

The study 3 sample consisted of 237 people belonging to different nationalities. The sample is made up of 48.5 percent of women and 51.5 percent of men. The average age is 27, the 29.5 percent of the sample already had a working or internship experience. The sample comprises Master's students and full time MBA students, with 68.4 percent being European, 11.9 percent originating from Asia and the Middle-East, 12.7 percent from South America, 5.6 percent from North America, and the remaining 1.4 percent from Africa. All participants contributed to the study on a voluntary basis. Moreover, a personalized feedback on the results of the questionnaire was provided to all participants.

4.6.2 Measures.

Behavioral measures. In this study we used the shorter version of the behavioral competency scales with 4 items per competency. We presented the 124 items in random order asking the participants to rate the frequency with which they had adopted a specific behavior (item) in their recent past (from 6 to 12 months), using a scale from 0 to 10.

Procedure. The participants were asked to fill in the survey through the platform Qualtrics. Two percent of the initial sample withdrew from the study. All the individual responses were treated as anonymous and confidential throughout the analysis.

This study presents an international sample, therefore, we adopted both the Italian and the English version of the behavioral indicators. Translation and back-translation was used for the development of the English version of the behavioral competency questionnaire.

4.6.3 Analysis.

Once the data were gathered, an exploratory data analysis was performed taking again into account the reflective and formative nature of items. We screened for possible outliers using the same procedure described in study 2, moreover, we controlled for respondents with systematic inconsistent behavior. We found a maximum of 1.6% of missing values per behavioral indicator. Missing values were considered random and were imputed using the SPSS EM maximum likelihood method.

1. Construct validity, reliability and discriminant validity

We identified seven competencies composed of reflective items: Self-confidence, Organizational awareness, Flexibility, Teamwork, Developing others, Networking, and Lateral thinking. Inter-item correlation for reflective competencies ranged from .44 to .77. A single factor for each competence accounted for 48.7% to 69.4% of the total variance of the four items. Additionally, all items had high and significant factor loadings, ranging from .62 to .95.

Table 4.3 shows the number of formative items for each competency and the loading range for the scales that were obtained with at least three reflective items out of four. For competency scales that include only one formative item, loadings ranged from .69 to .93.

Table 4.3: Loadings range and number of formative items per competency

Competency	Loadings range*	Number of formative out of 4 items
Self-awareness		3
Self-confidence	.79 - .95	0
Empathy	.77 - .86	1
Organizational awareness	.63 - .87	0
Efficiency orientation		2
Achievement orientation	.86 - .89	1
Resilience	.75 - .84	1
Initiative	.73 - .82	1
Change orientation	.77 - .87	1
Flexibility	.62 - .82	0
Self-control	.87 - .89	1
Accuracy	.83 - .93	1
Risk taking	.85 - .90	1
Risk management	.81 - .85	1
Persuasion		2
Conflict management	.85 - .90	1
Team work	.69 - .78	0
Developing others	.73 - .81	0
Networking	.66 - .75	0
Leadership	.75 - .90	1
Customer focus	.69 - .85	1
Systems thinking	.80 - .86	1
Diagnostic thinking		2
Pattern recognition	.79 - .87	1
Lateral thinking	.71 - .81	0
Questioning		2

Observing		2
Experimenting	.70 - .85	1
Visionary thinking	.82 - .87	1
Commitment toward the group		2
Integrity	.74 - .90	1

*loading range is presented for competencies with at least three reflective items

The factor structure of competency scales that include more than one sub-dimension was always theoretically justified. For example, Commitment to the group was constructed taking into account two main behavioral aspects: putting the needs of the group above personal needs and acting consistently with the objectives of the group and the responsibilities taken. Even if both sub-dimensions form commitment toward the group, they constitute different aspects of it and are not necessarily displayed together. Indeed items showed high loadings within the sub-dimension (between .86 and .94) and low loading between the sub-dimensions (between .44 and .63). In some competencies only one of the four items was connected to another dimension of the construct, however we considered it a formative item and decided to keep it because of its theoretical relevance. In the case of Risk taking for example, besides focusing on the behavior of taking risks to gain higher outcomes, we found necessary to also consider the ability to take responsibility for the risky decisions.

To assess reliability, we computed Cronbach's alpha or B&H Omega for the seven unidimensional scales and for competency scales with at least three reflective items. Results, which are summarized in Table 4.4, show good reliability of the scales – indexes ranged from .67 to .90. For two unidimensional competencies that were not Tau-equivalent, the obtained Omega was respectively .81 for Organizational awareness and .78 for Flexibility. For those competencies that only have two reflective items we provide the correlation between them.

In a second step of the analysis we calculated the Average Variance Extracted (AVE) (Fornell and Larcker, 1981; Hair et al., 2006) for all competencies obtaining values all above the threshold of .50. In order to assess the discriminant validity of unidimensional scales, we compared the square root of the AVE of each reflective factor with the correlations between the constructs. Despite some high correlation between factors, which may reveal a second order factor structure, the square root of AVE always exceeds the inter-construct correlation. Therefore, results suggest that competencies are adequately discriminated.

Table 4.4 - AVE, correlations and reliability indexes

Competency	AVE*	Correlation**	Cronbach's α	Ω ***
Self-awareness	.74	.20 - .47		
Self-confidence	.69		.90	
Empathy	.67		.75	
Organizational awareness	.55			.81
Efficiency orientation	.72	.47		
Achievement orientation	.77		.81	
Resilience	.62		.71	
Initiative	.63		.67	
Change orientation	.66		.78	
Flexibility	.53			.78
Self-control	.78		.84	
Accuracy	.80		.86	
Risk taking	.75		.81	
Risk management	.70		.76	
Persuasion	.79	.61		
Conflict management	.76		.83	
Team work	.56		.83	

Developing others	.67		.85
Networking	.49		.79
Leadership	.69		.74
Customer focus	.64		.76
Systems thinking	.69		.77
Diagnostic thinking	.78	.59	
Pattern recognition	.71		.76
Lateral thinking	.62		.87
Questioning	.76	.52	
Observing	.72	.48	
Experimenting	.62		.74
Visionary thinking	.72		.76
Commitment toward the group	.78	.62	
Integrity	.71		.81

*AVE was computed excluding the formative items

**The correlation is provided for those competencies that only have 2 reflective items

*** Ω was computed instead of α for the reflective items of those competencies that were not tau-equivalent

4.7 Stage IV: psychometric properties and second order factors

In Study 4, we used Confirmatory Factor Analysis and grouped competencies into five second-order factors (competency clusters). Moreover, we performed a Confirmatory Factor Analysis at item level to assess the measurement structure of each competency inside the clusters.

Second, we analyzed factor invariance between the two groups of Italian and international students composing the sample.

Study 4

4.7.1 Sample.

The Study 4 sample consisted of 370 people who are Master's students and full time MBA students. This sample constitutes an expansion of the sample for Study 3. The sample is composed of 57.7 percent of women and 42.3 percent of men. The average age is 27, and 43.1 percent of the sample already had a working or internship experience. The 77.9 percent come from Europe, the 8.5 percent from Asia and the Middle-East, the 8.8 percent from South America, the 3.9 percent from North America and the remaining 1 percent from Africa.

4.7.2 Measures.

Behavioral measures. The shorter version of the behavioral competency scales with 4 items per each competency was used. We presented the 124 items in random order asking the participants to rate the frequency with which they had adopted a specific behavior (item) in their recent past (from 6 to 12 months) using a scale from 0 to 10.

Procedure. The participants were asked to fill in the survey through the platform Qualtrics. All the individual responses were treated as anonymous and confidential throughout the analysis.

4.7.3 Analysis.

1. Second order factors

The high correlations between behavioral competencies would presuppose the existence of an underlying structure of second order factors that cluster the competencies. Based on a theoretical discussion of competencies showing related or aligned behaviors, we specified a five-factor model that classifies competencies in five clusters: Individual regulation, Exploration-driven, Direction and goal-orientation, Relational, Predictability and optimization

orientation. We used Confirmatory Factor Analysis (CFA) to test the goodness of fit of the specified model structure. However, due to the number of variances and co-variances to be estimated and the relatively small sample size, we split the model into two parts, which contain about the same number of competencies, in order to obtain more reliable estimates. Model 1 includes three clusters – Individual regulation, Exploration-driven, Direction and goal orientation - and Model 2 includes two clusters – Relational, Predictability and optimization- .

Multiple fit statistics were taken into account: Satorra-Bentler robust chi square, and its ratio with the degrees of freedom, which usually indicates good fit for values lower than 3 (Kline, 2010), the root mean square error of approximation (RMSEA), the standardized root mean square residual (SRMR), and comparative fit index (CFI), which should show values close to .06, .08 or lower, and .95 or higher respectively (Hu and Bentler, 2009).

In order to achieve an adequate fit of the models, some constraints needed to be released allowing for correlation between error terms, i.e., items' specificities. Model global fit indexes improved greatly specifying negligible correlations. This clearly points to a situation of an excessive sensitivity – too high power – of the statistical test in some parts of the model.

The results, presented in Table 4.5 and Table 4.6, support the five second-order factors proposed.

Table 4.5 - Fit indices for 5-factor model competencies clusters

Competency CFA model	SB- χ^2 (df)	RMSEA	CI _{RMSEA}	PCI	CFI	SRMSR
Model 1 (Individual regulation, Exploration, Direction and goal)	232 (107)	.056	.047 ; .066	.138	.99	.05
Model 2 (Relational, Predictability and optimization)	199(65)	.053	.041 ; .067	.300	.99	.05
	(a)	(b)	(c)	(d)	(e)	(f)

Note: (a) Satorra-Bentler chi square (degrees of freedom) for the configural invariance test; (b), (c), (d) RMSEA, confidence interval, and probability of close fit for RMSEA; (e) Comparative Fit Index; (f) Standardized root mean square residual

Table 4.6 - Five-factor model loadings (competency cluster)

Competencies	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5
	Individual regulation	Exploration	Direction and goal	Relational	Predictability and optimization
Self-awareness	.73				
Resilience	.77				
Flexibility	.63				
Self-control	.51				
Initiative		.76			
Change orientation		.80			
Risk taking		.77			
Pattern recognition		.68			
Lateral thinking		.75			
Questioning		.65			
Observing		.74			
Self-confidence			.68		
Achievement orientation			.65		
Networking			.53		
Experimenting			.73		
Visionary thinking			.69		
Integrity			.54		
Empathy				.70	
Organizational awareness				.71	
Persuasion				.67	
Conflict management				.69	
Teamwork				.72	
Developing others				.75	
Leadership				.71	
Customer focus				.64	

Commitment toward the group	.74
<hr/>	
Efficiency orientation	.67
Accuracy	.52
Risk management	.68
System thinking	.79
Diagnostic thinking	.83
<hr/>	

Factor 1 includes competencies related to “Individual regulation: Self-awareness, Resilience, Flexibility, and Self-control. All competencies comprise individual regulation of one’s introspection and emotional reaction in cases of adversities, changes or unknown situations, and stressful events. Factor 2 includes “Exploration-driven” competencies: Initiative, Change orientation, Risk taking, Pattern recognition, Lateral thinking, Questioning, and Observing. These competencies are often related to innovative behaviors determined by the willingness to change the status quo, to explore new and different solutions. Factor 3 concerns defining “Direction and goal orientation” competencies: Self-confidence, Achievement orientation, Networking, Experimenting, Visionary thinking and Integrity. These competencies underlie behavior related to setting personal standards or objectives and undertaking practical attempts to achieve them. The presence of Networking in this cluster of competencies is consistent due to the fact that items related to networking assess the ability to employ social contacts in order to achieve a result. Experimenting, which is commonly considered one of the explorative behavior competencies, best fits this factor, because it reflects a practical way to test solutions, rather than exploring new possibilities. Factor 4 comprises “Relational” competencies: Empathy, Organizational awareness, Persuasion, Conflict management, Teamwork, Developing others, Leadership, Customer focus, and Commitment toward the group. These competencies assume the presence of others and a consequent ability to understand and manage the relationship with other people. Factor 5 is composed of

“Predictability and optimization orientation” competencies: Efficiency orientation, Accuracy, Risk management, Systems thinking, and Diagnostic thinking. All competencies reflect in-depth cognitive analysis of costs and benefits, details, possible risky outcomes, causes, and effects and nature of the problem, and underlie optimization behaviors.

2. Confirmatory Factor Analysis at item level and factor invariance

For each cluster we performed a CFA to specify the measurement model between items and competencies and diagnose the goodness of fit of the models. Results are presented in Table 4.7. Although all five models’ global fit indexes show that all models represent adequately the variance-covariance matrix of data, a closer look at possible misspecification of the model is needed. Indeed global fit indexes can be highly influenced by their sensitivity for different misspecifications of the model.

Therefore, in the diagnostic stage, we decided to avoid what Kline (2010) termed “global fit indices tunnel vision,” which leads to focusing just on indices of overall model fit ignoring more detailed diagnostic indicators, and only relying on significance. Consequently, we checked the sensitivity of every parameter-modification index jointly with the expected parameter change, as well as the plausibility of its estimated value. Besides significance, we have also taken into account the power of the test. Following Saris et al.’s (2009) proposition, we focused on the detection of misspecification errors (column g in Table 4.7) rather than solely on global fit.

Within each cluster we identified from 0 to 2 misspecifications, which were analyzed according to theoretical criteria and the wording of items. Misspecification detected in Individual regulation, Relational, and Exploration-driven cluster can be justified by the affinity of some behaviors that were assessed across competencies found to be moderately correlated. The misspecification detected in the Predictability and optimization cluster can be explained by

the use of the same word in items assessing two different competencies in the Italian version of the questionnaire. This reveals a specificity not captured in the model. In all cases no cross loadings were added.

Table 4.7 - Fit indexes for the five clusters of competencies

Competency CFA model	SB- χ^2 (df)	RMSEA	CI _{RMSEA}	PCI	CFI	SRMSR	Missp(*)
Cluster 1	187(93)	.052	.041;.063	.350	.98	.05	1
Cluster 2	477(329)	.035	.028;.041	.298	.99	.04	2
Cluster 3	371(233)	.040	.032;.048	.138	.99	.05	0
Cluster 4	1029(555)	.048	.044;.053	.750	.98	.05	1
Cluster 5	279(157)	.045	.037;.054	.779	.98	.05	1
	(a)	(b)	(c)	(d)	(e)	(f)	(g)

Note: (a) Satorra-Bentler chi square (degrees of freedom); (b), (c), (d) RMSEA, confidence interval, and probability of close fit for RMSEA; (e) Comparative Fit Index; (f) Standardized root mean square residual; (g) Detected misspecifications ($\Delta=1$.) for a power > 0.8

* no cross-loading added

In a third step of analysis, we checked for configural factor invariance of the 31 scales. We divided the sample into two sets representing the group of Italian Master's students and MBA students enrolled in an Italian university (265 people) and the group of international MBA students (105 people from 40 different countries). We compared the factor structure of all competency scales and we obtained a match for all competencies except for Change orientation, Customer focus, and Systems thinking. This means that besides the three aforementioned competencies, results between Italian and international students with different working experiences and backgrounds can be compared when adopting the scales we propose in this paper.

4.8 Stage V: criterion-related validity and relationship with other variables

In Stage V, we focused on criterion-related validity, analyzing the relationship between behavioral competencies and other theoretically related variables using two different samples.

In study 5.a, we observed the relationship of behavioral competencies with life satisfaction and with perceived employability in a sample of Master's and MBA students. In study 5.b, we examined the relationship between behavioral competencies and career satisfaction and investigated the competencies characterizing top performers in a sample of professional engineers.

Study 5.a

4.8.1 Sample.

In Study 5.a, the sample is the same as that for Study 3.

4.8.2 Measures

Behavioral measures. We used the behavioral competency scales with 4 items for each competency. We presented the 124 items in random order asking the participants to rate the frequency with which they had adopted a specific behavior (item) in their recent past (from 6 to 12 months), using a scale from 0 to 10.

Life satisfaction. Life satisfaction was measured through the Satisfaction with Life Scale (SWLS, Diener, Emmons, Larsen, and Griffin, 1985). It is a 5-item scale measuring the overall satisfaction with a person's life, taking into account the closeness of one's life to one's ideal, the conditions of one's life, satisfaction with life, the attainment of important things, the changes that one would make to one's own life. A 7-point Likert scale was used to rate the items in which 1 = strongly disagree and 7 = strongly agree. This measure showed good internal consistency and reliability (Diener, Emmons, Larsen, and Griffin, 1985). When asked in a holistic way, not connected to a point in time or specific domains, life satisfaction scales tend to be relatively stable and consistent over time (Diener, Inglehart, and Tay, 2013). In our

sample, the scale presented item inter-correlations between 0.44 and 0.69 and Cronbach's alpha of .86.

Perceived employability. Perceived employability was measured using the 4-items scale from De Witte (1992). The scale concerns the workers' perceptions about available job opportunities (De Cuyper et al., 2014) and has been used in earlier studies in Europe showing good reliability (De Cuyper et al., 2008; De Cuyper, Van der Heijden and De Witte, 2011; Guest, Isaksson, and De Witte, 2010). Instead of using the original 5-point scale, we asked respondents to answer on a 7-point scale (1=strongly disagree; 7=strongly agree) to allow for more variability of answers. In our sample the scale presented a Cronbach's alpha of .90.

Procedure. Two questionnaires were presented to participants at different moments. One containing the behavioral indicators, the other containing the measures described above. All participants contributed to the study on a voluntary basis.

4.8.3 Analysis.

Association measures were used to analyze the relationship between behavioral competencies, life satisfaction, and perceived employability. Due to the use of Likert scales in the measurement of these constructs, we adopted Spearman's rank correlation coefficient.

1. Relationship with life satisfaction and perceived employability

Previous studies have indicated that behavioral competencies, especially those related to emotional awareness and emotional management, may positively influence one's evaluation on life satisfaction (Amdurer et al., 2014; Gannon and Ranzijn, 2005; Kong et al., 2014). In the literature, not all competencies present in this study have been analyzed in relationship with life satisfaction. However, other authors have already shown positive associations with some competencies: Self-confidence (Capri et al., 2012; Cikrikci and Odaci, 2015; Luszczynska,

Gutiérrez-Doña, and Schwarzer, 2005), Resilience (Mak, Ng, and Wong, 2011), Initiative (Greguras and Diefendorff, 2010); Self-control (Bigdeloo and Bozorgi, 2016), Developing others (Stevens-Roseman, 2009), Networking (in terms of non-work developmental relationships, Murphy and Kram, 2010), and Teamwork (Amdurer et al., 2014).

In our findings, most competencies were found to have positive, but low or moderate correlation with life satisfaction (Table 4.8). The construct was mainly associated with Self-confidence (.35). Believing in one's own potentiality indeed may lead to conceiving oneself as the main actor of the results achieved, therefore creating a higher sense of satisfaction. Similar results were reported by other studies on student samples (Cikrikci and Odaci, 2015; Luszczynska, Gutiérrez-Doña, and Schwarzer, 2005). Life satisfaction was also positively associated with Visionary thinking (.32). Studies on the creation of a future ideal self, or personal vision, underlined how thinking in a visionary way makes people approach their desired end state with a sense of advancement, growth, and accomplishment. Defining a desired future may help people create or recall their sense of purpose (Boyatzis, Rochford, and Taylor, 2015), which in turn affects the meaning one gives to one's life.

Table 4.8 - Correlations between competencies and life satisfaction and perceived employability

	M	St. Dev	Self.Aw	Self.Conf	Empatw	Org.Aw	Eff.Or	Achiev.Or	Resil	Init	Change.Or	Flex	Self.Conf	Accu	Risk.Tak	Risk.Man	Persua	Confl.Man
Life satisfaction	4.88	1.19	.24**	.35**	.12*	.23**	.04	.23**	.30**	.13*	.21**	.03	.15*	.20**	.20**	.11*	.16**	.17**
Perceived employability	4.74	1.21	.30**	.52**	.03	.24**	.15	.18*	.34**	.28**	.22*	.05	.16*	.12	.31**	.22*	.29**	.03

* p < .05; ** p < .01. Life satisfaction N=224; Perceived employability N=108

Table 4.8 (continue)

	Team.W	Devel.Oth	Netw	Lead	Cust.Focu	Syst.Th	Diagn.Th	Patt.Rec	Lat.Th	Quest	Obs	Exper	Vision.Th	Comm.Gr	Integr	Life sat
Life satisfaction	.25**	.21**	.22**	.27**	.10	.10	.08	.15*	.06	.12*	.09	.14*	.32**	.15*	.16**	
Perceived employability	.26**	.20*	.27**	.24**	.07	.19*	.13	.32**	.14	-.04	.13	.20*	.33**	.29**	.16	.43**

* p < .05; ** p < .01. Life satisfaction N=224; Perceived employability N=108

A growing body of research highlighted the importance of behavioral competencies in employers' hiring decision (Finch et al., 2013). The results showed by Maynard (2003) support that interns with higher emotional intelligence competencies are more likely to be considered for future employment. Many studies investigated the set of skills that may influence graduates' ability to realize opportunities in the marketplace, both considering the point of view of educators (Mitchell, Skinner and White, 2010), of employers (Azevedo et al., 2012) and of graduates (e.g. Kavanagh and Drennan 2008; Messum et al., 2016; Ramli et al., 2010).

According to Fugate, Kinicki, and Ashforth (2004), certain individual attributes such as optimism and self-efficacy can highly influence perceived employability. Self-confidence and proactivity were some of the most relevant components for employability according to Rothwell, Jewell, and Hardie (2009). According to Singh and Singh (2008), the higher ranked clusters of competencies were problem solving and adaptability skills (which comprise adaptability, risk taking, risk management, systems thinking, change orientation and conflict management), and people skills (which includes teamwork and empathy).

In our results, perceived employability presented moderate association with five behavioral competencies. The highest correlation is with Self-confidence (.52), supporting the aforementioned studies. Resilience, which can help in situations of rejection or difficulties in finding a job, also showed a positive correlation (.34). Furthermore, we obtained a positive .33 correlation with Visionary thinking: being able to articulate a clear compelling image about the future makes the individual able to better target the job search and therefore increases the confidence to find a job. Lastly Pattern recognition and the ability to take risks to achieve higher outcomes (Risk taking) showed a .32 and .31 positive association respectively, which is consistent with the results of Singh and Singh (2008).

Study 5.b

4.8.4 Sample.

The sample of study 5.b is composed of professional engineers working in different sectors. Traditionally, engineers are considered individual contributors whose training concerns mainly the acquisition of technical skills and knowledge rather than behavioral competencies. However, a recent study underlined that the profession has moved beyond this popular image, and demonstrated that emotional and social competencies significantly predict engineer effectiveness (Boyatzis, Rochford, and Cavanagh, 2017). A group of 108 professional engineers were enrolled in the activity. The final sample consisted of a total of 87, mostly men (85 percent), with an average age of 44. Two respondents were removed from the sample because they rated themselves at the highest point of the scale in more than 60 percent of the items.

4.8.5 Measures.

Behavioral measures. We used the behavioral competency scales with 4 items per competency. We presented the 124 items in random order asking the participants to rate the frequency with which they had adopted a specific behavior (item) in their recent past (from 6 to 12 months), using a scale from 0 to 10.

Career satisfaction. Career satisfaction was operationalized adopting the scale proposed by Heslin (2003). The author, mindful of the limitations of scales that focus only on a self-referent perspective, integrated the original and widespread Career Satisfaction Scale (CSS) (Greenhaus, Parasuraman, and Wormley, 1990) by adding a other-referent success measure which takes into account the evaluation of one's own satisfaction relatively to one's career peers. The scale consists of 12 items, six of which related to the degree of satisfaction with respect to one's own aspirations, and six related to one's own satisfaction compared to peers. Respondents were asked to use a scale from 1 (strongly disagree), to 7 (strongly agree),

regarding six dimensions: overall success, income, career advancement, skills developed, autonomy, and intellectual stimuli achieved. This integrated measure presented a highly acceptable internal consistency (Heslin, 2003). In this study Cronbach's alpha was .90.

Performance. Monetary performance was measured asking for the average working income of the last three years. Five working income classes were presented. As the question was not compulsory, 13.8 percent of the sample did not answer.

Procedure. In study 5.b, it was not possible to send multiple links to participants, therefore we constructed a single questionnaire containing the measures described above. The participants were asked to fill in the survey through the platform Qualtrics. They could complete the survey at different times in a time frame of one month. All the responses were treated as anonymous and confidential throughout the analysis. A personalized feedback on the results of the questionnaire was provided to all participants.

4.8.6 Analysis.

After a first exploratory data analysis, we analyzed the association measure between behavioral competencies and career satisfaction. Then, we split the sample into two groups and performed a t-test comparing the group with above mean career satisfaction and below mean career satisfaction. As for monetary performance, we split the sample into below average and above average income and performed a t-test comparing the two groups.

1. *The relationship with career satisfaction*

Recent studies suggest that some individual characteristics related to emotional management may lead to a greater career satisfaction (Amdurer et al., 2014; Lounsbury et al., 2003).

Looking at the association between behavioral competencies and career satisfaction, we obtained positive significant correlations with 21 competencies, which are shown in Table 4.9.

One of the highest values is shown by Achievement orientation (.36, p -value<.001). Individuals who display this competency take concrete actions to achieve goals and are usually psychologically satisfied with their personal growth and development (Converse, et al., 2012; Eby, Butts, and Lockwood, 2003). Similarly, believing in one's own abilities and potentiality (Self-confidence) showed a moderate association (.36, p -value<.001) with career satisfaction. Previous studies showed that self-confidence favors and enhances work engagement defined as a positive mental disposition and satisfaction towards one's job (Schaufeli, et al., 2002). Moreover, we obtained a moderate association with Visionary thinking (.37, p -value<.001). This is consistent with previous studies maintaining that embracing a vision for the future is linked to a positive work experience and well-being (Duffy and Dik, 2013), and enhances work engagement (Buse and Bilimoria, 2014).

In order to analyze the competencies that characterize the engineers that are most satisfied with their career, we split the sample into two groups according to above average (50 people), and below average (37 people) career satisfaction score. We found significant differences in 12 competencies (Table 4.10).

Behaviors concerning putting in effort, dedication and commitment to achieve one's own goals may result in a sense of greater accomplishment, therefore higher satisfaction. Indeed our findings show higher Achievement orientation (p -value .029) in the group of people scoring higher in career satisfaction. Self-confidence (p -value .015) and Visionary thinking (p -value .011) were also related to higher career satisfaction. Moreover, we found that people with above average satisfaction in their career show higher levels of Conflict management (p -value .010),

Diagnostic thinking (p-value .028), and Integrity (p-value .018). Conflict management reflects the ability to manage conflicts, therefore creating a better climate between colleagues. Diagnostic thinking may help understand causes and effects of actions, thus making the individual more in control of situations. Acting with Integrity also may affect career satisfaction by making the individual aware that what he/she achieved was achieved in a virtuous way.

Table 4.9 - correlations between behavioral competencies and career satisfaction

	M	SD	Self.A w	Self.C onf	Empat	Org.A w	Eff.Or	Achie v.Or	Resil	Init	Chang e.Or	Flex	Self.C ont	Accu	Risk.T ak	Risk. Man	Persua	Confl. Man
Career satisfaction	4.5	1.02	.23*	.36**	.14	.14	.01	.36**	.21*	.26**	.28**	.14	.12	.22*	.20*	.22*	.21*	.21*

* p < .05; ** p < .01. Career satisfaction N=87

Table 4.9 (continue)

	Team.W	Devel.Oth	Netw	Lead	Cust.Focu	Syst.Th	Diagn.Th	Patt.Rec	Lat.Th	Quest	Obs	Exper	Vision.Th	Comm.Gr	Integr
Career satisfaction	.19*	.10	.25*	.18*	.09	.25*	.29**	.17	.29**	.20*	.19*	.12	.37**	.14	.28**

* p < .05; ** p < .01. Career satisfaction N=87

Table 4.10 - t-test above average and below average career satisfaction groups

	t	p-value	Mean Difference	Std. Error Difference
Self-awareness	-1.125	.26	-.33919	.30150
Self-confidence	-2.486	.02*	-.81694	.32865
Empathy	-.873	.39	-.26041	.29827
Organizational awareness	.126	.90	.03979	.31460
Efficiency orientation	-.265	.79	-.08270	.31250
Achievement orientation	-2.223	.03*	-.69557	.31292
Resilience	-1.267	.21	-.42176	.33276
Initiative	-1.914	.06+	-.55068	.28773
Change orientation	-1.725	.09+	-.49784	.28855
Flexibility	-.850	.40	-.23972	.28193
Self-control	-.429	.67	-.18011	.41952
Accuracy	-1.758	.08+	-.53124	.30227
Risk taking	-1.172	.25	-.42411	.36200
Risk management	-1.481	.14	-.39892	.26933
Persuasion	-.991	.33	-.42203	.42598
Conflict management	-2.633	.01*	-.73514	.27925
Team work	-1.320	.19	-.34622	.26224
Developing others	-.810	.42	-.25842	.31907
Networking	-1.502	.14	-.64727	.43093
Leadership	-.960	.34	-.28257	.29421
Customer focus	-1.064	.29	-.33581	.31554
Systems thinking	-1.727	.09+	-.44149	.25559
Diagnostic thinking	-2.234	.03	-.62108	.27799
Pattern recognition	-1.078	.28	-.28562	.26497
Lateral thinking	-1.923	.06+	-.72694	.37793
Questioning	-.682	.50	-.24338	.35700
Observing	-.793	.43	-.23581	.29725
Experimenting	-1.940	.06+	-.58595	.30206
Visionary thinking	-2.595	.01*	-1.00022	.38548
Commitment toward the group	-.116	.91	-.03568	.30882
Integrity	-2.419	.02*	-.66562	.27520

+p < .1; * p < .05; ** p < .01.

2. The relationship with performance

Many previous studies focused on the impact of behavioral competencies on effectiveness, showing that different competencies had a relevant effect on performance outcomes in different fields. For example, Boyatzis (2006) described the financial consequence of self-management competencies in a financial consultancy multinational, Koman and Wolff (2008) found that teamwork was related to greater accuracy of missions and fewer accidents in a sample of US aeronautical pilots, Boyatzis, Brizz, and Godwin (2011) found that priests with higher abilities of persuasion were able to create higher satisfaction, sense of belonging to the community, and deeper religious sentiment in practitioners. Hopkins, O'Neil, and Stoller (2015) identified the distinguishing competencies of physicians, which include: Empathy, Initiative, Emotional Self-Awareness, and Organizational Awareness. In our case, we focused on the engineering field and adopted a monetary measure of performance to evaluate differences between two groups, those of high average working income (26 people) and those of low average working income (49 people). We found that the first group scored significantly higher on six competencies, most of them related to behaviors linked to change and innovation: Initiative (p-value .094), Change orientation (p-value .074), Lateral thinking (p-value .077), and Questioning (p-value .007) (Table 4.11).

Studies on different sectors underlined that proactive individuals achieve higher performance (Crant, 1995; Rodrigues and Rebelo, 2013). Also curiosity, which may recall some characteristics of Questioning, was found to positively predict performance (Mussel, 2013).

Considering the nature of the engineering activity, which often includes minimizing risks, it is particularly interesting to find Risk taking (p-value .003) as one of the competencies characterizing the above average income group. Moreover, Self-confidence (p-value .018) appeared among the significant findings. This relationship has been frequently reported in the

literature across contexts (Fosse, et al., 2015; Lane and Lane 2001; Lane, Lane, and Kyprianou, 2004; Luszczynska, Gutiérrez-Doña, and Schwarzer, 2005).

Table 4.11 - t-test above average and below average working income groups

	t	p-value	Mean Difference	Std. Error Difference
Self-awareness	-.947	.36	-.32575	.34415
Self-confidence	-2.431	.02*	-.90215	.37112
Empathy	-.168	.87	-.05848	.34860
Organizational awareness	1.357	.18	.48020	.35378
Efficiency orientation	-.238	.81	-.08477	.35679
Achievement orientation	-.955	.34	-.34662	.36285
Resilience	-.242	.81	-.09144	.37863
Initiative	-1.696	.09 ⁺	-.54337	.32044
Change orientation	-1.815	.07 ⁺	-.60714	.33450
Flexibility	-1.159	.25	-.37123	.32019
Self-control	.580	.56	.26970	.46480
Accuracy	.939	.35	.31601	.33638
Risk taking	-3.063	.00*	-1.17739	.38434
Risk management	.047	.96	.01472	.31253
Persuasion	-.260	.80	-.12500	.48059
Conflict management	-.482	.63	-.15522	.32207
Team work	-.427	.67	-.12520	.29293
Developing others	-.818	.42	-.28126	.34370
Networking	-.248	.81	-.11619	.46865
Leadership	-.641	.52	-.20722	.32331
Customer focus	.123	.90	.04435	.35952
Systems thinking	-1.113	.27	-.32280	.29015
Diagnostic thinking	-1.068	.29	-.34262	.32091
Pattern recognition	-1.181	.24	-.35981	.30466
Lateral thinking	-1.793	.08 ⁺	-.75972	.42362
Questioning	-2.794	.01*	-1.11637	.39951
Observing	-.963	.34	-.32437	.33678
Experimenting	-.910	.37	-.32143	.35312
Visionary thinking	-.657	.51	-.30471	.46387
Commitment toward the group	-.625	.53	-.21487	.34397
Integrity	-.577	.57	-.18728	.32475

+p < .1; * p < .05; ** p < .01.

4.9 Discussion

4.9.1 Theoretical contribution

The primary purpose of this study was to develop and validate a comprehensive instrument, which can be used to advance emotional intelligence research, as well as to facilitate practices of assessment and development of behavioral competencies. With our framework, we wanted to bring together a comprehensive set of behavioral competencies that according to literature and to empirical analysis are related to effectiveness. The large number of behavioral event interviews performed in different industries and organizational settings allowed us to develop a big picture of the behavioral skills that nowadays are most widely employed to be effective and should be included in behavioral competency assessment instruments. A second purpose of the study was to provide a consistent measure for each behavioral competency attempting to capture its essence as well as its complexity. In order to assess the goodness of our measures, we conducted a number of analyses on data collected in different studies.

In order to assess our scales, we made a clear distinction between the different procedures to adopt according to the reflective or formative nature of the competencies. On one hand, results obtained for the seven unidimensional competencies provided evidence on the one-factor structure and good reliability, which support the psychometric soundness of the measures. All values for Cronbach's alpha were above .77. On the other hand, we defined some competencies as formative models, due to the fact that they are deployed through different types of behavior that cannot be measured through a unidimensional scale, but represent inherent constitutive facets of the competency (Bisbe et al., 2017). As scales developed and used in management studies often overlook this distinction, we have contributed to making explicit the differences in the methods that need to be used according to the two types of models.

To address discriminant validity we examined whether personality traits were related to the behavioral competency measures developed. The two are conceptually different constructs (Boyatzis, 2016) and indeed only two high correlations have been found in our analysis between competencies (Achievement orientation and Accuracy) and the trait of consciousness. These findings rebut to the persistent criticism which claims redundancy of Emotional Intelligence with personality (Boyatzis, 2016). However, it is clear from previous research that the two concepts are partially related. Our results showed moderate correlations of behavioral competencies especially with the personality trait of extroversion. Most of our results found support in previous studies, however, this relationship has been studied focusing on some competencies much more than others, and sometimes different studies show no agreement in the results. Therefore we suggest further investigation on this topic.

To address concurrent validity, we examined the relationship between the behavioral competencies and possible related outcomes such as life satisfaction, career satisfaction and perceived employability (Amdurer et al., 2014; Fugate et al., 2004; Gerli, Bonesso, and Pizzi, 2015; Jackson and Wilton, 2016). As for life satisfaction, our findings showed that believing in one's abilities and creating a compelling vision of the future are associated with greater satisfaction. The same competencies were found to be related to career satisfaction analyzing a sample of professional engineers. In this case, consistently with the findings of Amdurer et al. (2014), Achievement orientation also demonstrated moderate association. Examining the dimensions measured by the scale proposed by Heslin (2003), all of them focus on an individual growth and development of the career process, and do not take into account any aspect related to the relationship with the environment in the working activity. This might explain why none of the competencies concerning the management of social relationships displayed associations with career satisfaction, while competencies concerning personal progression, visioning, and

seeking did. When checking for differences between the most and least career satisfied people, only one social behavior emerged, related to the ability to manage conflicts, therefore to the maintenance of a positive environment. Other competencies characterizing the most satisfied group were related to believing in one's own potential and in a positive future and acting coherently with one's own values. When comparing, in the same sample, the best and poorest performers in terms of average working income, we observed that best performers are characterized by behavior related to change and finding new alternative or innovative solutions.

Perceived employability was found to have significant relationships with five behavioral competencies in our study. These findings were in line with previous studies which highlighted the importance of some individual behavioral skills to realize opportunities in the marketplace (Fugate et al., 2004; Jackson and Wilton, 2016). However, research on this topic seems still underdeveloped and these findings highlight the need for future investigation in order to understand which competencies contribute to positive career self-management.

4.9.2 Practical implications

The results of this paper may have several practical implications for the assessment of behavioral competencies in higher education and organizational settings. On one hand, this framework can be used in the educational context for developmental purposes, allowing students to acquire awareness about their level of behavioral competencies and to identify strengths and weaknesses according to their future career objectives. Compared to existing models, this framework allows investigating new sets of behavioral competencies that, according to the literature and empirical investigation, are relevant in today's environment.

On the other hand, the framework can be used in organizational contexts for different human resource management activities, such as recruiting and selection, training and performance management. The comprehensiveness of the framework allows to assess

behavioral competencies in greater detail, identifying which are the specific behaviors that are related to effectiveness. Moreover, it would be possible to use the instrument in a flexible way, investigating different sets of competencies according to the target populations.

4.9.3 Limitations and future developments

Although this study tries to address many threats to validity, some limitations need to be noted. Even if we presented good reliability for the reflective competencies scales, due to their nature, we could not provide any reliability measure for bi-sub-dimensional competencies scales. As internal consistency cannot be applied to this case, a test-retest strategy needs to be performed in order to assess reliability across time. Aware of the fact that scale validation is a continuous process (De Vellis, 2017; Hinkin, 1998), we also want to draw attention to other major aspects that are missing in this study and should be part of subsequent research developments. First, this study lacks to address the threat of convergent validity. We suggest that future studies test for the relationship with other emotional and social competency measures based on the behavioral approach to emotional intelligence. Second, due to the strong theoretical connection of emotional and social competencies with performance (Boyatzis, 1982; Emmerling and Boyatzis, 2012), the predictive validity related to the effectiveness measures in different fields needs to be statistically tested. We addressed criterion validity by analyzing the competency scales in relationship with life satisfaction, perceived employability, and career satisfaction. However, the literature does not hypothesize a specific relationship between some competencies of the framework – specifically those related to cognitive processes and innovative behaviors – and the aforementioned constructs. Therefore, we suggest further investigating criterion validity using other theoretically related variables. Third, in order to confirm the possibility of applying the instruments to different targets, we need to establish whether the structure is invariant across different sub-samples (Byrne, 2010), considering not

only cultures, but also different experiences and stages of life. Fourth, future research may consider using not only self-report data, but also external raters' evaluation adopting a 360-degree assessment.

4.10 Conclusion

In conclusion, this paper addresses the issue of behavioral competency assessment, by defining a new comprehensive framework of 31 behavioral competencies, and developing and validating the relative measurement scales. The framework overcomes the limits of extant competency scales by extending and updating the competencies included, taking into account the set of skills that are required in today's organizational environment. Moreover, it allows to evaluate multiple competencies with one unique consistent instrument. The paper deals theoretically and methodologically with the complexity of behavioral competencies by adopting different strategies to assess the validity and reliability of the competency scales. Several studies with national and international samples were carried out in order to validate the scales and showed satisfactory results.

5

Discussions, implications, limitations and future research

5. Discussion, contributions, limitations and future research

As research and practice have indicated, behavioral competencies are critical skills for personal and professional success (Boyatzis, Rochford, and Cavanaugh, 2017; Sigmar, Hynes, and Hill, 2012). Despite their importance being recognized in the last decades, the presence of a behavioral skills gap that ultimately affects the relationship between supply and demand in the job market persists (Azevedo et al., 2012; Gault et al., 2010; McKinsey and Company, 2012). To reduce this gap, first, much more attention should be given to behavioral competency development in high and higher education, second, different complementary ways to help students develop these competencies need to be analyzed. Scholars claim that the development of behavioral competencies requires more than traditional teaching and studying methods. The way in which behavioral competencies' development is effectively sustained involves practice, repetition, active involvement, and feedback (Boyatzis, 2009). Besides formal *ad hoc* training, real life experiences that provide the opportunity to be engaged in experiential learning activities can influence behavioral skills acquisition. Scholars have maintained that extracurricular experiences can have a role in challenging and refining students' behavioral competencies (Rubin, Bommer, and Baldwin, 2002). Yet, empirical research on the topic has been scarce and did not consider the effect that different extracurricular activities may have on different types of soft skills.

Thus one of the aims of this thesis was to *analyze the effect of extracurricular activities on different clusters of students' behavioral competencies*.

Another way in which behavioral competencies can affect the labor market supply-and-demand, is by influencing the way graduates orient themselves toward their career. Previous research supported the idea that self-awareness and flexibility help people perceive their career in a more self-directed and value-driven way (Hall, 2004). This study tests this hypothesis and adds to the literature by sustaining that other behavioral competencies can affect protean career

orientation. Moreover, it analyzes the relationship between protean career orientation and employability, consistently with the second and third aim of the thesis: *to analyze the effect of different clusters of behavioral competencies on protean career orientation; to analyze the effect of protean career orientation on employability.*

Both in the educational and organizational context, it is relevant to effectively measure behavioral competencies. On one side, higher education institutions can adopt competency assessment tools for developmental programs, and to raise students' awareness of their strengths and weaknesses. On the other side, organizations use competency assessment for recruiting and selection processes, but also to analyze the distinguishing behavioral competencies of effective people, and for performance management purposes. In both cases a scientific based instrument able to capture multiple types of behavioral competencies is needed. Examining the existing models and scales and their limits in carefully representing the variety of behaviors that can drive effectiveness in different settings, this thesis proposed and validated a new framework and multiple scales to achieve this objective. In order to fulfill the fourth aim of this thesis, *to develop and validate a new competency framework and scale to assess a comprehensive set of behavioral competencies*, theoretical and methodological concerns were taken into account.

These themes have been analyzed in Chapter 2, Chapter 3 and Chapter 4. In the following section the main general findings will be discussed.

5.1.1 Antecedents of behavioral competencies

One of the biggest challenges in developing behavioral competencies is that it implies the use of experiential methods and the involvement in contexts in which the person can practice new behavioral repertoires (Boyatzis, 2009; Hoover et al., 2010; Kolb, 1984). Real life learning

occasions, such as extracurricular activities, in which the person is immersed in a different context and in different relationships and experiences new ways of dealing with him/herself and others, can shape his/her behavioral competencies. This thesis shows that participating in extracurricular activities is associated with higher levels of behavioral competencies, however, not all extracurricular experiences affect all types of competencies. This study helps disentangle this relationship showing that cultural activities influence interpersonal and cognitive skills, sport activities help enhance self-management competencies, while experiences abroad relate to higher social awareness and social management skills and cognitive competencies.

5.1.2 Outcomes of behavioral competencies

As for the outcomes of behavioral competencies, scholars identified significant relationships with performance (Boyatzis 2008b) and life satisfaction (Amdurer et al., 2014). When considering career outcomes, most studies focused on adult workers and their career success or career satisfaction (Amdurer et al., 2014; Gerli, Bonesso, and Pizzi, 2015). Scarce attention has been devoted to career outcomes for young individuals and on its effect on employability. This thesis analyzed the effect of behavioral competencies on protean career orientation and the effect of being protean oriented on the subjective perception of one's own employability and on the number of job offers received. The results show that not only the two behavioral competencies identified by the protean career literature (namely self-awareness and adaptability) do matter in the adoption of a protean career orientation, but also other behavioral competencies do. Moreover, findings indicate that adopting a protean career orientation positively influences employability both in its subjective and objective sense.

5.1.3 Measurement of behavioral competencies

Measuring behavioral competencies is characterized by an innate complexity. Indeed, a behavioral competency can be displayed through a set of related but different behaviors (Boyatzis, 2009), which entails a certain complexity in theoretically and methodologically dealing with these constructs. Moreover, different types of behavioral competencies can be analyzed, and current instruments, restricting the number of competencies they consider, do not allow exploring the variety of behaviors that can concur to efficacy in various settings. Chapter 4 addresses both challenges, first by integrating an inductive and deductive approach to develop the competency framework, taking into account multiple literature streams and multiple target people to identify the competencies that mostly appear relevant for effectiveness. Second, it methodologically distinguished the reflective and formative nature of competencies, trying to deal with their complexity rather than trying to simplify it. The developed scales underwent a set of analyses. Results show good psychometric properties and good reliability for reflective competencies. Findings indicate good discrimination between the competency scales and the construct of personality traits. Moreover, some competencies were shown to be related to constructs that are, theoretically, related such as life satisfaction, career satisfaction, and perceived employability.

5.2 Contribution and implications

5.2.1 Research

This thesis contributes to different fields of research, it invokes theories from behavioral competencies modeling, leadership development, career orientation, education, organizational behavior, innovation, and entrepreneurship in order to fulfill its five aims. It develops models that explain the relationship between 1) extracurricular activities and behavioral competencies 2) behavioral competencies and protean career orientation 3) protean career orientation and

employability. Moreover, it uses advanced methodologies to develop and validate a new competency framework and measurement tool.

Furthermore, this thesis adds to the construct validity of the used constructs. In terms of predictive validity, it shows for example that behavioral competencies help better explain protean career orientation (Chapter 3). In terms of concurrent validity it shows that some constructs (e.g. behavioral competencies) help distinguish groups of people that are supposed to be theoretically different (e.g. people who are satisfied and not satisfied with their career) (Chapter 4). As for discriminant validity, it shows that constructs that theoretically are not supposed to be related, are actually not related (e.g. behavioral competencies and personality traits, Chapter 4).

In addition, this thesis adds to the literature by supporting the reliability and factor structure of the adopted scales that were developed in previous studies. All used scales presented adequate reliability coefficients. As for their factor structure, some scales required a reconsideration of their measurement model. For example, due to item specificity we needed to allow for correlation between errors of two items in the perceived employability scale. Moreover, we found the scale on protean career orientation to be not mono-dimensional. These findings may be useful for future studies.

Lastly, this thesis methodologically draws attention to the consequences of multicollinearity and to the need to distinguish between the reflective or formative nature of the factor models specified.

5.2.2 Practice

This thesis is intended to drive insights on how to help young individuals better approach the labor market entry. Findings show that some extracurricular activities help enhance one's behavioral competencies, which favor a value-driven self-direct orientation to

one's career resulting in higher perceived and objective employability. The third study provides a useful instrument which young individuals can use to measure and monitor over time their behavioral competencies for developmental purposes, and that can be used in HR processes to evaluate new candidates' behavioral competencies.

The results of this thesis provides educational and managerial implications. As for education, there is a general agreement on the fact that higher educational institutions should better prepare students for their future and this includes improving their behavioral competencies (Andrews and Higson 2008). Both the introduction of *ad hoc* development programs (e.g. Chen et al., 2004; Sheehan et al., 2009; Waddock and Lozano, 2013) and the exploitation of out of the class experiences can help students foster their behavioral abilities. The findings of this thesis show that extracurricular activities are significantly associated with higher levels of specific clusters of emotional, social, and cognitive competencies. As these experiences are extracurricular by definition, one could think they pertain exclusively to the individual remit. However, we assert that educational institutions can benefit from these findings and act consistently in order to help students acquire the competencies they need in three ways. First, they should make students aware of the role of extracurricular activities in enhancing behavioral competencies, promoting participation inside and outside the university campus. Second, they should include extracurricular activities as part of the institution offerings, training instructors in order to help students develop their behavioral competencies. Third, in competency programs, extracurricular activities can be used as real life learning laboratories, both to critically discuss the adopted behaviors and to experiment with new behaviors.

This thesis also suggests that behavioral competencies can enhance graduates' protean career orientation, highlighting the fact that developing behavioral competencies in students helps them to assume control over their career and orient their career decisions according to

their needs and values. Educational institutions should create dedicated programs to improving students' behavioral abilities and assist them in reflecting on how to approach their future career, how to take charge of their career in a flexible and value-driven way that will have a positive effect on employability.

Behavioral competencies not only drive performance and well-being, as suggested by previous studies, but also seem to enable young individuals to be more employable. Therefore they become crucial elements that need to be developed across the education path of the individual, first by raising awareness on the importance of these competencies, second by creating motivation to the development of these competencies, for example making the student reflecting on his/her personal and professional objectives or dreamed future as suggested in the Intentional Change Theory process (Boyatzis and McKee 2005). Third, there is need to develop awareness on one's current behaviors, for example by using 360-degree assessments carefully managed. Educational institutions should adopt behavioral competency assessment models, like the one proposed in this thesis, in order to help students reflect on their habitual behavior, on the effects it could have in the organizational environment, and evaluate what are their strengths and what are the competencies they need to develop in order to be more effective. Fourth, students need to find opportunities to practice, repeatedly practice certain behaviors. This can be done through personal experiences, such as extracurricular experiences, but also with simulations. As depicted in the Intentional Change Theory, a key role in the process is represented by feedback and trusting relationships, around which desired and sustained change evolve (Boyatzis, 2006, 2008). Trusting relationships can be represented by people we trust of our social groups or professional coaches, who can help the individual reflect on and interpret his/her objectives, behaviors, and outcomes.

This thesis also highlights also some managerial contributions. First, it scientifically supports the relationship between behavioral competencies and extracurricular activities that

has been frequently taken for granted in recruitment and selection processes in which extracurricular activities have been used to infer candidates' soft skills. Moreover, it helps to better understand this relationship by disentangling the effect of different extracurricular activities on different clusters of behavioral competencies. This draws attention to how research can offer a clearer and scientific-based base to build processes previously driven by intuition. Second, it advises employers to take into account the career orientation of candidates, their principal values and needs, in order to evaluate the candidate organizational fit. Third, it provides a measurement model that can be used in various human resource management practices to evaluate people's behavioral competency in great detail and with great flexibility thanks to the large repertoire of competencies included.

5.3 Limitations and future research

5.3.1 Limitations and threats to the validity

The main limitation of this study is that the studies presented do not have an experimental design. This allows a discussion on the variance explained and the "effect" of one variable on another, but does not allow to refer to causality. These research findings could be tested through experimental studies in future research.

One threat to the internal validity of this study concerns extraneous variables: variables that were not included in the study and may explain the observed effects. In order to address this threat, the research studies included several control variables such as age, gender, field of study, that sometimes were found to significantly affect the dependent variable. However, other extraneous variables may have been omitted.

Another relevant threat to internal validity could be maturation. Especially in the research presented in Chapter 3, the changes in the dependent variable (employability) could

depend on normal time progression. To mitigate this threat the time lag between the collection of the independent variables and the dependent variables was included in the analysis.

As for external validity, the generalizability of the conclusions of this study may be challenged by the samples analyzed. In Chapters 2 and 3, the samples consisted of students and graduates from one Italian university and were characterized by a high percentage of females. Some factors help mitigate this threat. First, the samples are composed of students coming from different disciplinary fields, creating variability in their backgrounds. Second, according to different dimensions, the sample profile was representative of the population of the entire university. Third, in both cases participants came from different cohorts. As for the research presented in Chapter 4, several studies were undertaken, both with Italian and international samples. In this case, threats to external validity were mitigated by the fact that participants had different nationalities and cultures, different backgrounds, and they were characterized by different stages of life and experience (participants included Master's students, MBA students, Alumni, workers).

Lastly, although a quantitative approach is in line with the aim presented in this thesis of testing relationships between existing constructs, the downside of a quantitative approach consists in limiting the ability to understand complex phenomena characterized by feedback loops, or complex process elements which may influence the outcome. Suggestions to overcome these limitations are provided in the following section.

5.3.2 Future research

This thesis assessed relevant relationships for both research and practice, nevertheless, these relationships have been assessed using correlational studies. As mentioned before, future research could test these relationships using experimental or quasi-experimental designs in order to scientifically establish causality. Moreover, other suggestions for future research can

be made. As for the relationship between extracurricular activities and behavioral competencies, we hope future research will investigate different sub-categories of extracurricular activities and their effect on soft skills, especially trying to analyze the factors that led to inconsistent results. A qualitative approach could be used in order to explain these unexpected results, and understand how people make sense of their extracurricular experiences. A qualitative approach may also enable to study the importance of supervision and coaching in favoring the development of behavioral competencies during extracurricular activities. As the presence, role and quality of supervisors, trainers, and coaches may vary considerably, a qualitative observational study may better fit the aim of understanding this phenomenon.

Alternatively, we propose to use an intervention with (feasibly) a non-random assigned control group. The participants could be involved for a certain amount of time in an extracurricular activity, and pre-post tests can be used to assess the change in behavioral competencies.

As for the relationship between behavioral competencies and protean career, we suggest adopting a longitudinal design to assess if protean career orientation is then exploited in a protean career path. A longitudinal design may contribute to understand also if a circular model in which protean orientation is shaped by and shapes behavioral competencies is confirmed. Future research may try to deeper understand the role of micro-level factors (such as socio-economic status, parents' job, parents' career orientation) and macro-level factors (such as unemployment rate, job market characteristics) in influencing the adoption of a protean career orientation. Moreover, future studies can identify a variable that discriminates participants for applying regression discontinuity design.

As for the validation of the behavioral competency scales, future research should focus on further addressing convergent validity, predictive and concurrent validity, and factor invariance.

The developments and increased availability of technological instruments which can help researchers in the assessment of neural mechanisms, such as electroencephalography (EEG) and functional magnetic resonance imaging (fMRI), may enable future researches provide refinement of existing theories and existing measurement instruments with neuro-scientific evidence. By using advanced instruments, future research could combine neural and behavioral measure to get a deeper insight of individual and organizational behaviors, as well as to overcome the limits of self-report and 360-degree assessments.

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