



INVESTIGATING THE FACTORS INFLUENCING PROFESSIONAL IDENTITY ON FIRST-YEAR UNIVERSITY STUDENTS: AN EXPLORATORY STUDY

Alba Barbarà Molinero

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Doctoral Thesis

**INVESTIGATING THE FACTORS
INFLUENCING PROFESSIONAL IDENTITY
ON FIRST-YEAR UNIVERSITY STUDENTS:
AN EXPLORATORY STUDY**

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FAIG CONSTAR que aquest treball, titulat "Investigating the factors influencing Professional Identity on first-year University students: an exploratory study", que presenta Alba Barbra Molinero per a l'obtenció del títol de Doctora, ha estat realitzat sota la meua direcció al Departament de Gestió d'Empreses d'aquesta universitat.

Reus, 01 de setembre de 2015

El/s director/s de la tesi doctoral

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*A tots aquells que s'esforcen per poder arribar a
ser allò que sempre havien somiat*

Quan sigui gran seré...



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Abstract

Investigating the factors influencing Professional Identity on first-year university students: an exploratory study

Alba Barbarà Molinero

Research on Professional Identity has increased considerably during the last twenty years, becoming today a relevant topic because of its relation with professionals' performance, satisfaction or motivation with their job. Multiple disciplines, such as Sociology, Psychology, Business Management or Higher Education among others, have been concerned about that phenomenon. Nevertheless, although there has been increasing interest and research in this area, the lack of integrated knowledge within the mentioned disciplines and the lack of systematicity in the existing studies has made a patchy scenario that requires an integrative and systematic effort in order to keep developing knowledge about that topic.

For the purpose of this thesis, we focused on Professional Identity in higher education. The review of the literature let us identify four main gaps: 1. Students' Professional Identity has been understudied in the higher education context; 2. Professional Identity has been studied separately among disciplines or professional fields without considering, in a comparative way, the whole range of different professions; 3. Scarce consideration has been given to students' Professional Identity construction as well as the factors that influence this construction; 4. Research on this topic has been mostly qualitative, lacking a validated instrument to measure aspects related to the concerning phenomenon and study systematically the relationship between these factors and Professional Identity.

Therefore, the main objective of this thesis was to cover the mentioned gaps. The aim was to construct an integrative conceptual framework of the influencing factors on Professional Identity in higher education. To do so, a scale to measure the identified influencing factors on Professional Identity in higher education was developed and validated. Also, was aimed to compare Professional Identity strength among first-year university students' from different bachelor degrees and, to test the influence of the factors on students' Professional Identity strength.

To obtain these goals, pragmatic approach was adopted. Both deductive and inductive approaches were proposed to guide our research. For a research strategy, a sequential mixed method was proposed as the best option, using focus groups and a questionnaire as data collection methods. The sample was formed using first-year university students from multiple bachelor degree programs taught at University Rovira and Virgili.

The current study was divided into three main parts. The first part was aimed at the identification of the influencing factors. Two procedures were used to do this end: a literature review that let us identify the factors already considered within the literature; and, an exploratory qualitative study with four focus groups that let us identify new factors and confirm the ones found in the literature. The second part, which implied the construction and validation of a questionnaire, aimed to measure the identified factors as possible influences on Professional Identity. The validation was carried out using three different samples (n=208, n=300 and n=304). Finally, the third part was concerned with testing the influences that the identified factors had on Professional Identity of first-year university students as well as with the comparison of the results among students from different degrees and disciplines. Cluster Analyses, Multiple Correspondence Analysis and Hierarchical Regression Analyses were conducted. The sample in this final part was composed of 604 first-year university students in different bachelor degree programs at the University Rovira and Virgili.

From the results, several theoretical contributions arose. First, a new instrument of measurement of the factors that influence Professional Identity was created, the Professional Identity strength Influences Scale (the PISTIS) that contemplated three different factors: Personal Motivational Conditionals (PMC); External Motivational Conditionals (EMC); and Educational Experience Conditionals (EEC). Second, according to the results, the initial conceptual framework was validated, introducing changes in it. The final conceptual framework contemplated the influences that the identified factors -EMC, PMC and EEC- had on PI when the whole sample, without dividing by bachelor degrees or disciplines, was considered; the influences when the sample was divided by disciplines; and, the influences when this was divided by bachelor degrees. It was found that PMC influenced Professional Identity when the whole sample was considered and in particular cases, such as law and economics, architecture and engineering, medicine, molecular biology, chemistry and business and management; and PMC and EMC together influenced Professional Identity in Science and Oenology samples. Third, Professional Identity was considered as a mediating variable of degree choice, which is in line with Marcias' Identity Status Paradigm Theory.

Finally, several practical implications are suggested for the university students' recruitment strategies and for counsellor guidance.

Investigating the factor influencing Professional Identity on first-year university students: an exploratory study

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PART I

THEORETICAL FRAMEWORK

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- CHAPTER 2. Introduction to Identity
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- CHAPTER 4. Research objectives and research questions

CHAPTER ONE

INTRODUCTION

- Justification and scope of the study
- Research questions and research objectives
- Thesis Organization
- References

CHAPTER 1. Introduction

1.1. Justification and scope of the study

Two reasons made the doctoral student choose this research area. First, a personal motivation guided by a previous master thesis dissertation on the construction of Professional Identity (PI) and the factors that mediate this construction made the doctoral student not only increase her interest in PI, but also to be concerned about this phenomenon on students, because of her closeness with this social group, considering the PhD student involvement in teaching.

Second, a theoretical reason based on the evolution of the extant research on PI. The research in this area has increased considerably during the last twenty years. PI research has evolved, based on research about identity and the apparition of multiple theories concerning group relationships and, the construction of identity.

Four disciplines have been central to the research in this area during the last twenty years -from 1995 to 2015-: Higher Education, Business Management, Psychology and Nursery. These disciplines have focused on analysing the construction of PI on professionals and university students and, analysing the processes that build an identity, being essential in contexts such as the organization.

By revising the existing studies about the concerning topic, research on PI has been increased considerably year by year in Higher Education academics and, has become the discipline with the most articles published on the topic. There has been a theoretical change on what affects the adopted perspective and, nowadays, Communities of Practice is the perspective that is used the most when analysing topics about PI. This perspective is commonly used on the educational branch.

In short, PI research had been centred on understanding how individuals define themselves as specific professionals -e.g. teachers, nurses, doctors among others-; later on, the study developed by Pratt et al. (2006) supposed an attempt to understand the processes by which PI was constructed in a sample of students, under the assumption that it had been an understudied topic. Nowadays, although a large part of the research is still concerned about how specific individuals define themselves as professionals, a new trend has appeared and, some academics, based on the existing knowledge of the PI, have focused their work on analysing the influence that PI has on specific variables such as employee productivity, motivation, creativity, satisfaction and formation or development (Canrinus et al., 2012); as well as the role that PI plays in several contexts such as in the university or in the workplace. Thus, the main questions that have guided the research on PI for the last twenty years can be grouped into the following:

- How do individuals construct their PI?
- How do individuals view or define themselves as professionals?
- How does PI mediate the changes occurred in a particular context?
- What is the relationship between PI and specific variables?

However, the developed research on this area has not been integrated. There is a vast array of articles trying to answer the same questions about this phenomenon, but all of them follow separate theoretical perspectives without an integrative effort to consider them all. This leads to several gaps in this literature that will be just mentioned here, as they will be fully developed in chapter 4.

Firstly, there is a clear preference to using the workplace as a study context (e.g. Pinho et al., 2015; Leonard et al., 2014; Pitula et al., 2012), paying limited attention to the pre-university context and the university context itself. This unevenness might be expected since professions are defined by the workplace context and its extension to a higher education domain, related to a bachelor choice, is only recent. So, there is a gap concerning the lack of focus on fledging PI before the transition to the workplace that needs to be addressed.

Secondly, the extant research has identified several factors that influence the PI construction. However, this research seems scattered as none of the studies integrate all the identified factors, but have focused only on one or several factors by means of qualitative methods.

Thirdly, it is also interesting to note that a methodological change can be currently identified in the studies of this topic. Twenty years ago, articles were mostly qualitative. This methodological approach was appropriate at that moment, since PI was a new phenomenon that needed to be explored and understood. Nowadays, although the knowledge regarding PI construction is still developing, the amount of accumulated existing knowledge of this topic allows the possibility to go a step further and, to use quantitative methodology to further develop the knowledge of how PI influences other variables or, how it is influenced by them.

With the aforementioned gaps, it is possible to see that there is still work to do in the area of PI in the higher education context. For the purpose of this doctoral thesis, the attention would be paid on student population in higher education. More specifically, the attention would be paid on the factors that influence this group's PI.

1.2. Research questions and research objectives

The main objective of the present thesis is to contribute to the extant knowledge of PI in higher education by identifying the factors that influence first-year university students PI and, exploring their relations with PI.

Taking into account the previous paragraph, the main research questions that concern this thesis are:

1. What factors do influence PI?
2. How is the influence that these factors have on the students' PI strength?
3. Are there any differences between PI strength and the influencing factors among the different bachelor students? And if so, what are the explanatory variables for these differences?

Considering that, the research objectives that will serve as a guide for this research project are:

1. To construct an integrative conceptual framework of the influencing factors on PI in higher education.
2. To develop and validate a scale to measure the influencing factors on PI in higher education.
3. To validate the constructed conceptual framework.
4. To test the influence of the factors on students' PI strength.
5. To compare PI strengths among first-year university students from different bachelors and disciplines and, to determine the variables that explain the differences in PI strength, if there is any difference.

1.3. Thesis organization

The present thesis is divided in three different parts that will be explained in the following lines.

Part I. Theoretical framework

This part is made up of three chapters: chapter 2, chapter 3 and chapter 4.

Chapter 2 is divided in three different parts. In the first part, this chapter aims to introduce and define the concept of identity and other related concepts. In the second one, an historical overview of the multiple theoretical perspectives on the study of identity is provided. And, in the third part of the chapter, a comparative analysis is made between two of the most used perspectives, **Social Identity Theory (SIT)** and **Identity Theory (IT)**. So, this serves as an introductory chapter to this thesis providing an overview of the general phenomenon of study, identity, before focusing on one of its social dimensions, PI.

Chapter 3 represents the central part of this thesis, from what concerns to the literature review. For this reason, the basic aim of this chapter is to integrate the knowledge of PI developed within the higher education context. To achieve this objective, five different parts constitute this chapter. The first part highlights the differences between a profession and an occupation. The second part gives a general overview on PI. The third part analyses the process of PI construction before university by focusing on the influences identified within the literature on PI. In the fourth part, the role of university on the individuals' construction of PI is analysed. And, in the last part of this chapter, the existing gaps in the current knowledge of PI in higher education are identified.

Chapter 4 was written based in the results in chapter 3. In this chapter, the identified gaps that the present thesis aims to cover are explained. These gaps are transformed into research aims, which in turn are specified into research questions.

Part II. Epistemology and methodology

A single chapter, chapter 5, constitutes this part. This part is focused on the plan elaborated to conduct this research.

Chapter 5 explains the decisions taken regarding the research strategy and design. Firstly, a research philosophy is adopted and justified; that determines the decision taken about the research approach and the research strategy. After this, the research method and data collection techniques that best fit the objective of this thesis are introduced. Secondly, the research design that let us answer the different questions on this thesis is explained. This latter process was divided in three stages (*see* Figure 1.1. *Research stages*).

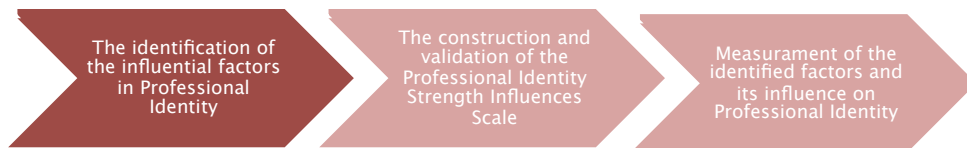


Figure 1.1. Research stages

Source: Own elaboration

Part III. Results and discussion

Two chapters compose this part: chapter 6 and chapter 7. In this part, the main findings of this thesis are presented as well as discussed.

Chapter 6 presents the results obtained in the three planned stages. Firstly, the identified factors through the literature review and the qualitative study are presented and gathered forming a conceptual framework. Secondly, based on the previous results of the identification of the factors, a questionnaire about them is constructed and validated through an Exploratory Factor Analysis, with an initial pilot sample and, a Confirmatory and Final Factor Analysis, with a different sample. Thirdly, by using the elaborated scale and the MacLeod Clark Professional Identity Scale (MCPIS-9) elaborated by Adams et al. (2006), the quantitative data concerning the influencing factors -explanatory variables- and the PI -dependent variable- is collected. Once the data has been collected, three different analyses are developed:

I. **Cluster analysis** in order to classify the individuals that composed our sample in different groups according to the strength of their PI.

II. **Multiple Correspondence Analysis** in order to study the similarities among the individuals from a multidimensional perspective; to assess the relationship between variables and study the association between categories; and, to categorize the individuals depending on the existing variables (Abdi and Valentin, 2007).

III. **Multiple Hierarchical Regressions**, in order to analyse the relationship between the dependent variable and the independent ones. This analysis is developed in three different stages. Firstly, the whole sample, without discerning among disciplines or bachelors, is considered. Secondly, the sample is divided in disciplines. And thirdly, the sample is divided in bachelor degree. The aim when splitting the sample progressively is to identify if there are any differences in the influenced of the factors among disciplines or bachelor degrees.

All these analyses serve to refine and validate the initially constructed framework as well as to analyse the existing differences on a student's population from different bachelor degrees, in terms of their PI and the factors that influence this.

Chapter 7 is the most important chapter of this thesis because is where the main findings are discussed and linked to the literature introduced in the two first chapters, chapter 2 and chapter 3. Based on these findings, the implications of the present thesis are exposed and discussed. In the final part of this chapter the limitations and future research lines are highlighted.

1.4. References

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CHAPTER TWO

INTRODUCTION TO IDENTITY

- Introduction
- Key Concepts
- Theoretical approaches on identity research
- Comparative analysis between Social Identity Approach and Identity Theory
- Conclusions
- References

CHAPTER 2. Introduction to identity

2.0. Introduction

This chapter aims to introduce and define the concept of identity and, other related concepts before delving into Professional Identity (PI) theoretical background in chapter 3. It will serve as an introductory chapter to this thesis and, it will provide an overview of the general phenomenon of study, identity, before focusing on one of its social dimensions -PI-. Also, it aims to provide some theoretical basis to understand the chapters to follow.

The chapter is structured into three sections. Firstly, different concepts that became important for the understanding of this work would be explained. Considering that research on the self gives rise to the study of identity, and precedes it, what **the self** is, would be explained initially. After that, the concept of **identity** would become the central point, making especial emphasis in **multiple identities**, highlighting when an identity is made **salient** and, what **identity strength** means. Once these topics have been introduced, by remitting to the **Self-Categorization Theory**, the processes through which an identity is constructed would be highlighted. Considering that this process is not linear and, that individuals' identities may change during their life, two useful concepts to explain the dynamic nature of identity would be incorporated, **identity change** and **identity work**.

Secondly, an historical overview of the different theoretical perspectives on the study of identity would be made. From this overview, the different conceptualization among three disciplines - **Sociology**, **Psychology**, and **Social Psychology**- would be distinguished.

And, thirdly, a comparative analysis between two of the most used perspective these days, **Social Identity Theory** (SIT) and **Identity Theory** (IT) would be made.

2.1. Key concepts

Research on identity comes from the developed studies on **the self**. Generally, the self has been understood as something inherent to the individual, somehow enduring and, formed by the multiple individual identities (Bruns, 1986; Turner and Onorato, 1998). **Identity**, as a key element of the self, is related to the answers the individual gives to questions such as *who am I?* Or, *who are we?* (Alvesson et al., 2008). It is constituted by a **personal identity** (PEI) and, by as many **social identities** (SIs) as groups the individual feels being part of (Turner, 1982, 1985). So, individuals possess one self and **multiple identities** and, the **salience** and **strength** of each of the latter varies. The process by which each of these identities is constructed is **identity construction**. Moreover, identity is not stable so, it may change as a consequence of individual and situational factors (Kreiner et al., 2006), resulting in what the literature has acknowledged as **identity change**. Finally, as exposed, identity construction requires a narrative elaboration and effort, '*in forming, repairing, maintaining, strengthening, or revising their identities*' which is referred to as **identity work** (Sveningsson and Alvesson, 2003).

2.1.1. The self

Research on the self was made central in psychology by *William James* (1890/1950), with their work entitled '*The principles of Psychology*' (1890). However, when this construct was finally admitted to psychology, in the decade of the 60s, it was devoid of some crucial features of the initial conceptualization proposed by the mentioned author. Nowadays, the concept has gained more richness, deriving in a multidimensional image of the self (Swann and Bosson, 2010).

In the following lines, different approaches to the concept of the self are introduced, appeared since the initial efforts made by James.

In the very first moment, *William James* (1890), broadly, perceived the self as a source of continuity that assigns to the individual a sense of '*connectedness*' and, '*unbrokenness*' (Swann and Bosson, 2010). The present author saw the self '*as an object of knowledge consisting of whatever the individual views as belonging to him*'. This includes a **material** or **empirical self**, a **social self** and, a **spiritual self**. The first one refers to the individual body, family and possession -e.g. clothing or material possessions of oneself-; the second one to the views the others hold of the individual -e.g. family or friends views-; and, the third one includes the individual emotions and desires -e.g. what we must truly seem to be-. The three selves combine in unique ways to constitute each person's views of himself or herself. Each of them could increase or decrease individuals' self-esteem, since it derives from individuals perceptions of where they see themselves standing in relation to others, whose skills and abilities are similar to their own on particular self-images. So, he saw the self as enduring, unique, differentiating and related with emotions as mediated through self-esteem (Epstein, 1973; Burns, 1986; Swann and Bosson, 2010).

Years after William James outlook of the self, **Symbolic Interactionist** authors also tried to conceptualize it. Two of the most influential authors, were *Cooley* (1902) and *Mead* (1934), who provided the basic ideas. These academics shed light on nature and origins of the self-knowledge, introducing again the concept of social-self proposed by James. *Cooley* (1902), in turn, defined the self as '*that which is designated in common speech by the pronouns of the first person of the singular, 'I', 'me', 'mine' and 'myself'*'. He noted that what is labelled as the self produced more emotion than what is not self. This author introduced the concept of '**looking-glass self**', that refers to an individual perceiving himself or herself in the way others perceive him or her (Epstein, 1973; Swann and Bosson, 2010). It is here where the social influence on the self is perceived. Individuals, based on the given feedback by other individuals, evaluate their own person. So, 'the self-concept' is formed through a trial-and-error learning process by which values, attitudes, roles and identities are internalized'. *Mead* (1934), based on James' social self and, aiming to develop the metaphor of the 'looking-glass self' proposed by Cooley (1902), affirmed that the individual's self-concept arise in social interaction as an outgrowth of the individuals concern about how others react to them. According to this author, there are as many selves as there are social roles (Epstein, 1973; Burns, 1986).

Offering an extension of Symbolic Interactionism, *Goffman* (1959), by using a **Dramaturgical Metaphor**, conceived the self as not enduring. Changing basing on the individuals' social context. This author claimed that the individual put in 'show' for others by managing the impressions he gives others about himself. From this theory arises the vision of each individual as interchangeable as it is the interaction that sets the self. After each performance, the self adopts another shape. According to this view the self does not persist after social interaction (Burns, 1986). So, this view challenges the continuity feature, which initially characterises the concept as defined by James.

Shifting, somehow, the previous conceptualization of the self, authors such as *Lecky* (1945) and *Angyal* (1941) adopted an **Organismic Approach**. Those theories interpret different unities, such as hunger, self-esteem, achievement and power, as a manifestation of the supreme purpose to actualise oneself. *Lecky* (1945) identified the self-concept as the nucleus of the personality organization of the values that are consistent with one another. He attributed to personality the characteristic of dynamic, because it has to assume new ideas and, reject or modify old ones, as the person undergoes new experiences. Meanwhile, *Angyal* (1941) postulated a symbolic self, which is the aggregate of all the self-conceptions a person has. Although, according to the author, this symbolic self is not what the individual thinks of himself or herself, but it is rarely a true picture of the reality. Hence, if a person behaves in accordance with the image he holds of himself or herself, then his or her behaviour can be inappropriate to the reality of the situation, on occasions.

In the 50s, *Cattell* (1950) viewed the notion of self as mainstay in personality. He distinguished between a '**felt self**' -this is introspective-; a '**contemplated self**' -which comprises the totality of what a person believes he or she is, and of what he or she would like to be-; and, a '**structural self**' -descriptive, theoretical concept postulated to explain the data of the self- (Burns, 1986). Others authors in the same decade, adopted a **Phenomenological Approach**. One of the most relevant authors within this stream was *Rogers* (1951). This author assumed the self as an organized, fluid, but consistent conceptual pattern of perceptions of characteristics and relationships of the '*I*' or the '*me*', together with values attached to these concepts (Epstein, 1973). Also in the same decade, *Sullivan* (1953), adopting a *Neo-Freudian* conception of the self and following Cooley and Mead, assumed that the self arose within the social interaction, but with the interaction with significant others rather than with the society at large, such as the interaction of the child with his or her mother. The self is constituted by the educative experiences (Epstein, 1973).

Already in the 80s, the conception of the self was considered as including both an enduring and fleeting components (Markus and Wurf, 1987; Swann, 1983; Swann and Bosson, 2010). Adopting **Role Theory Perspective**, Burke and Tully (1977, p.883) defined the self as a '*collection of identities, each of which is experienced indirectly through interaction with others*'. These identities are the meanings one attributes to oneself as an object. According to these authors, identity and the self are an internalization of social roles. These theories define identity as a set of meanings that are taken to characterize the self in a role.

Nowadays, the self can be broadly defined as a representation or set of representations about oneself, parallel to the representations people have of other individual selves (Swann and Bosson, 2010). So, the self-concept does not merely describe or represent the individual as a unique person. Nevertheless, it is an idiosyncratic psychological attribute (Markus, 1977), which by definition others can not share. One's own self is precisely that, one's own, inherently differentiated and, differentiating. Part of what provides individuality, a unique personality, is the private self, the true self. It belongs to no other (Turner and Onorato, 1998). Thus, the self is understood as a mental representation.

So, in a way, there are different notions of what the self is and what features define it. Notwithstanding the different stances regarding its durability and continuity, there is agreement on its uniqueness and idiosyncrasy in each individual.

2.1.2. Identity

Identity has been widely studied, for a long time, within disciplines such as Psychology, Sociology or, Social Psychology. The theory around this construct stems from the research made on the self, since this has been defined as a box of identities (Burke and Reitzes, 1981), that is, the self is composed of the multiple identities the individual have.

In general, it is accepted that the individuals' identity is built from the experiences that he or she has had during his or her life and, the subjective meanings attached to these by oneself and others (McAdams, 1999; Gecas, 1982). Broadly, the answers that the individual gives to questions such as '*who am I?*' or '*who are we?*' are closely related with his or her identity, since it is a manifestation of his or her **self-concept** (Alvesson et al., 2008) or, what is the same, the knowledge the individual has about him or herself.

Turner (1982,1985), adopting a **Social Identity Approach** (SIA) (*see* Epigraph 2.2.3. *Theoretical approaches from Social Psychology*), maintained that the self-concept can be defined through a continuum stemming from a self-definition in terms of **personal identity** (PEI), to a self-definition in terms of **social identity** (SI) (Haslam and Ellemers, 2005). So, Turner (1985, 1982) split the self-concept in two different parts, namely PEI and SI. On the one hand, **PEI** includes individual idiosyncratic characteristics of the self such as abilities and interests, and it is related to the individual sense of uniqueness (Postmes and Jetten, 2006). On the other hand, **SI** stems from the salient social group classifications to the individual. This is the part of the self-concept that derives from the knowledge of the membership in a social group, together with the value and, the emotional significance attached to this membership (Tajfel, 1981). A **social group** consists of two or more people sharing an identity, which derives of their membership to this social group. The members of this social group share the same characteristics and values, and they make an effort to differentiate from people from the out-group. So, the main difference between both identities, PEI and SI, is the scope. The first one is inherent to the individual, characterized by its uniqueness, different among individuals; and, the second one is shared between the members of a social group, different among groups. PEI may influence the groups that the individual decides to be part of (Deaux, 1992; Stets and Burke, 2000) and, the different SIs also provide features that conform PEI. So, it could be said that both identities are not separable realities, resulting in the addition of both of them in individuals' identity.

In short, in order to answer the question introduced previously -*who am I?*- individuals use both their idiosyncratic characteristics and, the ones stemming from the several social group categories they pertain to. Since identity is defined as a hybrid between PEI and SI and, individuals join multiple social groups during their lives, it is easy to assign to this concept the characteristics of **changeable** and **mutable**. Thus, assuming that individuals' identities can change during their lives (*see* Epigraph 2.1.5. *Identity change*).

To conclude, it is important to note that, although SIA has been adopted to define identity, there are other paradigms that have conceptualized the term (*see* Epigraph 2.2. *Theoretical approaches on identity research*).

2.1.3. Identity salience and identity strength

The terms **identity salience** and **identity strength** become relevant when saying that individuals may have as many SIs as groups they belong to (Ashforth and Mael, 1996; Albert et al., 1998) or, when affirming that individuals have multiple identities. Thus, to make the comprehension of these two concepts easier, a brief approximation to the subject of **multiple identities** is going to be introduced.

As exposed, individuals have as many identities as groups they identify with. For example, within an organization, individuals can have more than one SI according to their reference group -e.g. profession, organization or team-. The multiple identities that the individual has are divided according to their status -**high order identities** and **low order identities**-. This status is related to the one possessed by the group, or what is the same, the prestige or value associated to this. **Low order identities** are usually related to the individual primary group, usually small groups such as profession. Van Knippenberg and Van Schie (2000) maintained that identifying with small groups helps individuals to satisfy, on the one hand, their differentiation need, because they have more comparison alternatives; and, on the other hand, their needs of belongingness, since they feel as part of a group. For this reason, usually low order identities tend to be more relevant for individuals than high order identities and, thus, subjectively more important and more relevant given a specific situation (Brewer, 1995; Brown, 1969; Kramer, 1991; Ashforth and Johnson, 2001). At most times, low order identities will be the salient ones. However, occasionally, under certain conditions, high order identities will gain salience or relevance. Adopting the **Optimal Distinctiveness Theory** proposed by Brewer (1991) individuals may identify with high order identities on account of the positive image provided by these.

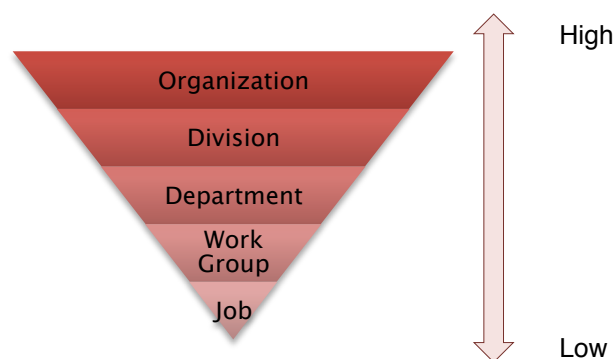


Figure 2.1. Multiple identities status figure

Source: Own elaboration

Hence, after shedding light on multiple identities, it can be said that, within the range of identities held by the individual, an identity is considered **salient** when the individual decides to define himself or herself in terms of that identity and is, this identity, the one that guides his or her behaviour in a particular social context (Haslam et al., 2003). According to Burford (2012), the salience of an identity is variable and context dependent and, based on Oakes (1987) and his **Relevance Principle**, an identity would be relevant when this is accessible and fits the individual. For this reason, two determinants of the salience of an identity are found, the **accessibility** -or **perceived readiness**- and, **the fit** of a category. The **accessibility** is related with the availability of the group identity to an individual, as determined by their goals, task orientation and the availability of the contextual signs. The **fit** refers to the matching of the individual to an accessible category and implies the minimization of the intergroup differences, while the differences in relation to other groups are maximized. There are two types of fit, **comparative fit** and **normative fit**. **Comparative fit** emerges when individuals decide to define themselves in terms of one specific category to the extent that the differences between members of one category and other categories are relevant in a particular context (Haslam and Ellemers, 2005). An example, extracted from Blanz and Aufderheide (1999), of comparative fit in the gender categorization is when all the schoolgirls are sitting on the right side and all the schoolboys on the left side. **Normative fit** is defined as the degree, to which features of the stimulus person -like physical appearance, expressed attitudes or behaviour- are perceived to be relevant for and, consistent with stored stereotyped. Normative fit defines the specific social meaning of own and other persons' behaviour (Oakes et al., 1992; Blanz and Aufderheide, 1999 p.159). An example of normative fit in the gender categorization is when all the schoolgirls are choosing a course on Social Sciences and, all the schoolboys on Mathematics (Blanz and Aufderheide, 1999).

To conclude, **identity strength** is defined differently from identity salience; this concept is related to the extent of which people commit with a particular SI (Haslam and Ellemers, 2005). As seen in this part, identity salience is related with the relevance and adequacy an identity has for the individual in a particular context, while identity strength is related with the degree of internalization of this identity for the individual. Therefore, among the multiple identities an individual has the strength and the salience of them will be different.

2.1.4. Identity construction

Once identity has been defined, attention is going to being paid on the process by which identity is constructed. Literature has adopted several terminologies to refer to this process to wit **identity formation**, **identity development** or **identity construction**. There is a clear preference to use one instead of another depending on the discipline, for example Higher Education literature is more prone to use identity formation or development, while Business Management literature uses identity construction. For the purpose of this thesis, the term identity construction would be adopted. Ashforth et al. (2008, p.339) defined **identity construction** as a '*dynamic and turbulent process that does not happen immediately, that incorporates day-to-day activities with the whole life experiences full of disequilibrium, turning points, and continuities and discontinuities that provide stability but also entail change*'.

Kreiner et al. (2006) realized that the term '**identification**' was used within literature adopting two different meanings, describing either a state or a process. **Identification as state** refers to the part of an individuals' identity related with his or her association with a social group -e.g. an organization or profession-. The individual perceive his or her identity as overlapped with the social group identity (Dutton et al., 1994). **Identification as process** implies the alignment of the individuals' identity with the one of the social group. So, identity adjusts and evolves, and it is subject to many influences -e.g. organizational and professional demands, or individual impetus for change-. Therefore, ones' level of identification -state- with any given SI can vary as individual and situational factors influence identification -process-. Or what is the same, ones' identity strength.

One of the approaches that tried to explain identification as a process is **Self-Categorization Theory**, proposed by Turner (1985). The self-categorization is the cognitive basis of the SI processes (Turner, 1985). Social categories are referred when talking about groups. People, from a social point of view, represent a group of categories, a fuzzy group of attributes perceptions, attitudes, feelings and behaviours- that are similar between the in-group members -people from the same group-, and are different from the out-group members -people of other groups-.

Individuals' categorization and, the perception of them as members of the group, leads on their **depersonalization** or, what is the same, the definition of them in terms of the categories that define the group they belong to. Depersonalization happens for both the in-group, and the out-group members. This is perceived as a self-categorization process through which the individual is perceived as categorically interchangeable with other group members. It is SI salience that makes the group perceived as homogeneous and the individual defined in terms of it. Turner assumed five hypothesis concerning depersonalization (Haslam and Ellemers, 2005):

Hypothesis 1. The mental representation of the self adopts self-categorization shape, that is, he or she is perceived as a member of a specific class or category.

Hypothesis 2. Low order categories -e.g. nurse or doctor- could be included within high order categories -e.g. social care professionals- being the higher one more inclusive (Rosch, 1988).

Hypothesis 3. The formation and salience of a category is partially determined by comparisons between the stimulus in a more inclusive level of abstraction -for example, while a nurse and a doctor seem to represent different professional groups within the hospital, they are more prone to see themselves as sharing a SI as healthcare professionals, if they meet in a context that includes people that is not a healthcare professional such as a patient-.

Hypothesis 4. It is assumed that categories have an inner structure graded, so that some category characteristics define it better than others. That is, while category members share to some extent prototypic characteristics, also differ in the degree that these are perceived as a representative or prototypic of that the category they belong to.

Hypothesis 5. The salience of a category, in a particular level of abstraction, is translated to the accentuation of the perceived intra-class similarities and, the existing differences inter-class, between people defined by its category belongingness in the same level.

In order to identify with a particular SI and let the depersonalization happens, three components are necessary. A **cognitive** one regarding the perception of group membership, that happens when individuals self-concept include the same attributes that are perceived as group attributes (Dutton et al., 1994); an **evaluative** one, in the sense that the conscience of group membership is related with several value connotations; and, **emotional investment** in the conscience and the evaluation (Turner, 1982). Identification implies the acceptance of the social group characteristics as own.

If the process of identification or self-categorization is analysed in depth, according to the SIA, it is assumed that this happens in two ways, through **self-categorization** and **self-enhancement** (Hogg et al., 1995; Stets and Burke, 2000). **Self-categorization** produces stereotypic group differentiation and perceptions, and normative actions, and assigns people and the individual the same contextually relevant category; and, **self-enhancement** guides the process of self-categorization so the group norms and stereotypes favour the in-group. That is achieved through comparison between the in-group and the out-group whereby the in-group is favoured. This phenomenon is called in-group favouritism.

2.1.5. Identity change

As exposed, identity may experience changes because of the influence of several individual and situational factors (Kreiner et al., 2006), for this reason the term **identity change** would be introduced briefly.

So, in this part, identity change will refer to the changes occurred in the meaning of the self: *'changes in what it means to be who one is as a member of a group, who one is in a role, or who one is as a person'*, for example, changes in what it means to be a father or a mother (Burke, 2006).

As with regards to the sources or factors for this change, Burke (2006), in his **Identity Control Theory** (ICT), identified two general sources of systematic identity change, these refer to persistent problems with the verification of a particular identity and multiple identities activated together, whose verification require opposing meanings to be manifested in the individuals' behaviour. The difference, between these sources of change, lies in the origin of the conflict of meaning. In the first case, the source is a *disturbance to the meanings in the external situation*, causing the identity to be perceived as discrepant from the meanings of the **identity standard** - set of meanings of an identity-. In that case, there would be a slow change in the meaning of the identity standard to be more likely the self-relevant meanings that are perceived in the situation. This is an adaptive response that allows individuals to fit into a new situation. It can be viewed as a socialization effect that might occur as individuals take new roles and memberships. Because this process is slow, it is unlikely to result in much change unless the perceptions are persistently different from the standard. In the second case, there is an *internal conflict* manifested when two identities, each controlling the same dimension of meaning, but to different levels, are activated at the same time. This is also an adaptive response, in which two identities that share some common dimension(s) of meaning in their standard, become more similar to each other on that dimension when they are activated together. In the view of each of these sources, the meanings in the identity standard(s) are likely to change in the service of making identity verification possible.

Pratt et al. (2006) in their study about medical residents identified three processes whereby the identity of these residents changed, to fit work demands. He referred to this as **identity customization**. These three identified processes were: **identity enriching**, **identity patching** and **identity splinting**. These strategies depended on the magnitude of the violation -minor or major-, which determined if there was devaluation, or not, of the identity. In front of **minor violations** -there is not devaluation of identity- students experienced **identity enrichment**. When this happens, individuals achieve a better understanding of their PI. Contrary, when there were **major violations** -there is devaluation of identity- the strategies applied by students were two: 1. **Identity patching** -by doing their tasks at work individuals achieve a better understanding of their profession, and adjust the deficiencies in their conceptions-; 2. **Identity splinting** -individuals use another identity until the real's PI is developed and becomes stronger.

Identity splinting may occur when individuals are unsure of their PI becoming more prominent at early stages of identity development. Identity enrichment is more likely to occur when individuals are more confident about their identities and at the last stages. Finally, identity patching will happen when individuals are sure about their identities but perceive identity incongruences.

Finally, studies adopting an *Eriksonian perspective*, such as Marcias' research about the identity statuses, have assessed changes in identity construction in two ways: first, by focusing on the changes in the identity status. These studies base on the premise that moving from adolescence to adulthood involves changes in identity that can be characterized as progressive developmental shifts. Most of these studies analyse the changes in identity status; and, second, by focusing on changes in separate identity dimensions. For example, when there is a change in the context where the individual has grown, that is, when there is a change in the developmental context (Clark et al., 2010).

2.1.6. Identity Work

Identity work is focused on individuals' construction of identity in an active way within the different social contexts (e.g. Dickie, 2003; Ibarra, 1999; Snow and Anderson, 1987; Sveningsson and Alvesson, 2003; Van Maanen, 1997; Pratt et al., 2006).

This concept was initially adopted by Snow and Anderson (1987, p.1348). They understood it as a generic process that include identity construction and, defined it as *'the range of activities individuals engage in to create, present, and sustain personal identities that are congruent with, and supportive of the self-concept'*. In an attempt to include the consideration of social identities Watson (2008, p.129) proposed the following definition:

'Identity work involves the mutually constitutive processes whereby people strive to shape a relatively coherent and distinctive notion of personal self-identity and struggle to come to terms with, and within limits, to influence the various social-identities which pertain to them in the various milieu in which they live their lives.'

Nevertheless, nowadays, the most used conceptualization of the term is the one introduced by Sveningsson and Alvesson (2003, p.1165): *'people's engagement in forming, repairing, maintaining, strengthening, or revising their identities'*.

Ibarra and Petriglieri (2010) noted that the notion of identity work bases on two underlying assumptions: the importance of external -public- display of role-appropriate characteristics and the desirability of internal identity coherence. So, considering what was just said, about the multiple forms that can adopt identity work, both internal and external aspects can be asserted.

To conclude, it is important to highlight that identity work becomes important in macro role transitions -e.g. the transition from university to the workplace-. In this situation individuals adjust their identity by using different methods, such as experimenting with possible selves (Ibarra, 1999). It is important to note that the result of identity work is identity change.

2.2. Theoretical approaches on identity research

This epigraph aims to introduce the most used theoretical approaches around identity. It is worth saying that the research about identity derives from the theories developed about ‘the self’; it is for this reason that some of the approaches included in this part have already been mentioned before, when the self was analysed.

Several disciplines have used the knowledge created around this construct -e.g. Economy and Business Management (e.g. Haslam and Ellemers, 2005; Hallier and Summers, 2010; Pratt et al., 2006), Education (e.g. Reid et al., 2008; Trede et al., 2012), Medicine (e.g. Niemi, 1997; Adams et al., 2006), among others-. However, just three are considered as the pioneering on the setting of the defining basis around the conceptualisation of identity, and the related process behind its construction. These three disciplines are **Sociology**, **Psychology** and **Social Psychology**. From them arise the theoretical approaches that are going to be underlined in this part of the thesis. More attention is going to be paid on two of the mentioned theories, namely **Social Identity Approach** (SIA) (Tajfel and Turner, 1986) and **Identity Theory** (IT) (Stryker, 1980) because, according to Hitlin (2003), these two are the most cited approaches within the literature about identity. Moreover, both of them are essential when explaining PI, since both not only consider individuals’ PEI but also individuals’ role identities, such as PI as one of the possible SIs an individual can internalize.

2.2.1. Theoretical approaches from Psychology

Psychology perceives the self as a fix and immutable entity (James, 1890; Hall, 2003; Alonso, 2005), singular to each individual. The sociocultural context where individuals are embedded is supposed irrelevant in the definition of the concerning construct. This discipline offers an intrapsychic approach to the concept of identity (Côté and Schwartz, 2002). This stream is represented by authors such as **William James** (1890), **Locke** (1604, 1689), **Sigmund Freud** (1900), **Jung** (1907), **Hans Eysenck** (1952), **Erik Erikson** (1950, 1968) and **James Marcia** (1966). For the purpose of this thesis, without despising the other authors, just the research developed by Erik Erikson (1950, 1968) and James Marcia (1966) would be underlined. Two reasons hold this decision: first, both theories are concerned about the adolescence period, and this thesis is focused on first-year university students; second, both theories are still pretty used on literature (Côté and Schwartz, 2002).

Erikson (1950, 1968), pupil of Freud, was concerned on the study of identity in adolescence. Going further from his master, he treated this construct explicitly. In his '**Ego Identity Theory**', this author dealt with topics such as self-identity, understood as '*the sense of self*' -experience of the self showed as a continuous and temporal entity, with specific characteristics, and socially validated-; the stages in the construction of the self, process that the individual goes through in order to construct their self-identity or, to modify the constructed identity, during his or her life; and, identity crisis -degree of confusion generated when the identity is incongruent with the sense of self. Making individuals to reconsider the array of roles they have as well as their ideological overview-.

Finally, **Marcia** (1966), expanding Erikson's work, developed '**the Identity Status Paradigm Theory**'. He based in two different processes, **crisis** referred as '*the time of upheaval where old values or choices are being re-examined*' and, **commitment** described as '*the degree of personal investment showed by the individual*'. He used these two processes to understand the individuals' occupational choice, religion and political ideology; and, according to them, he classified adolescents in four different statuses: **identity achievement**, **identity diffusion**, **foreclosure identity** and **moratorium identity**. He considered that individuals have an **achieved identity** when they are committed to an occupation or ideology, after having been through a crisis period; individuals have a **diffused identity** when they are not committed, either having or not been through a crisis period; they have a **moratorium identity** when still experiencing a crisis period, during which they weirdly show commitment; and, finally, a **foreclosure identity** in individuals who regardless not having experienced a crisis period, would be committed, following what others said (Waterman, 1999).

2.2.2. Theoretical approaches from Sociology

From **Sociology**, identity is tackled from an opposed point of view in relation to Psychology. Individual characteristics are ignored, prevailing the social structures existing on individuals' environment as determinants of their identity and, consequently, of their behaviour. Broadly, from this perspective, individuals are seen as social automats in response to their environments. In this epigraph, approaches such as Symbolic Interactionism Approach, Structural Symbolic Interactionism and Identity Theory are going to be explained.

Symbolic Interactionism Approach develops from three main assertions. Firstly, humans respond to the environment on the basis of the meanings that elements of the environment have for them as individuals. Secondly, such meanings are a product of social interaction. And thirdly, these societal or cultural meanings are modified through individual interpretation within the field of this shared interaction (Burns, 1986). This perspective considers identity as situated, dependent and multiple. Cooley and Mead are two of its leading authors. *C. H. Cooley* (1902) considered that self and society mutually define each other, acting as points of reference one for the other, so that self and society are twin born (Burns, 1986). This author introduced the theory of the '**looking glass self**' to refer that one's self concept is significantly influenced by what the individual believes others think of him, reflecting the imagined evaluation that others have about one (Burns, 1979). *G.H. Mead* (1934) also considered the self as born from society. He considered that the self-concept arises in social interaction as an outgrowth of the individual's concern about how others react to him, but does not persist to it. Individuals learn how to anticipate peoples' reactions and behave appropriately to these. He viewed the self as reciprocal and negotiated. Mead considered the self as composed by numerous 'elementary selves', which mirror aspects of the structure of the social processes. Each person has many social identities, which provides a major link between self and society.

Years after the first appearance of Symbolic Interactionism, Stryker (1980) introduced the concept of **Structural Symbolic Interactionism** in order to solve the shortcomings of the first theory. This modification of the Symbolic Interactionism considers that not only society emerges from social processes, but also society exists before the apparition of new members. So the basic assertion of this new theory is: '*society shapes individuals and their social interaction*' (Stryker, 2008). This approach perceives society as a group of organized system of interaction and relation between roles, as a mosaic of differentiated groups, communities and institution, through which large scale structure -status, age, genre and ethnicity- work by using intermediate structures -neighbourhood, school, associations membership- that affect social networks. The latters are considered prone to influences self-behaviour (Stryker et al., 2000).

Drawing upon the ideas from the Structural Symbolic Interactionism, Stryker (1980) developed the **Identity Theory**. This theory is constituted by a group of studies elaborated in two opposed directions, but closely bound (Stryker, 1980; Stets, 2006). The first stream arises from the work of Stryker and others in 1968. This is focused on explaining how social structures affect the

structure of the self, and how these structures in turn influence on social behaviour. The second stream, headed by Burke (1991, 1995), focuses on self-processes dynamics -e.g. reasons of behaviour, perceived competence, empathy-, which affect social behaviour (Stryker and Burke, 2000). According to Hogg et al. (1995), the main assumptions of this theory are: 1. Social factors define the self; 2. The social nature of the self comes from the multiple roles that the individuals occupy in the social world; 3. In an enduring self, role identities change considering its salience; 4. It is focused, basically, on individual outcomes proceeding from the processes related with identity.

Along the following lines some of the main contributions of the Identity Theory are going to be developed, because of its relevance for the present work. First, according to Stryker (1980), identities are considered as components of the sense of self and, as such, are internalized self-designations associated with the positions that individuals occupy in the different social context, that is to say their roles. So, can be asserted that this theory considers a role-identity relationship, deriving on what it is known as a **role identity**. This identity includes both the views that society has about the developing role -determined by the culture and the social structure- and, the ones intrinsic to individuals. Therefore, it can be said that the meanings attributed to a role are shared as well as idiosyncratic, and individuals have the chance to negotiate with third parties the identity interpretation (McCall and Simmons, 1978; Stets, 2006). Taking into account that, an individual takes part of a multiple organized role system -he or she may possess multiple identities- and could be perceived as an identities receptacle (Stryker and Burke, 2000). The identities of the individual are organized hierarchically according to their salience, prevailing a tendency to adopt the ones in a higher position on this hierarchy -the most relevant to the individual-. According to Stryker (1980), an individual adopts more than one identity when the context of interaction is isolated from structural limitations or these are ambiguous, because he or she may choose between several identities. On the contrary, an individual adopts just one identity when the interactional context is nested within the social structure. Is in the latter situation where the salience hierarchy becomes important, adopting the identity that has a higher position within the hierarchy (Turner, 2013).

Second, Burke et al. (1991, 1995) tried to answer one of the questions that Stryker and others did not clarify. They discussed the ways by which identities are translated to congruent behaviours (Stryker and Burke, 2000) by introducing the concept of **self-verification**. When identity is activated, this process is activated too, so that the individual adopts a specific behaviour consistent with the existent conceptions about one particular identity (Stets and Burke, 2000; Burke, 1991; Swann, 1983). Behavioural processes, such as role acquisition or the group formation, are included as part of self-verification, since the individual acts as an identity carrier (Burke and Cast, 1997; Burke and Stets, 1999; Turner, 1982; Stets and Burke, 2000). Self-verification is achieved in two ways, by altering the present situation and, by searching and creating new situations where the perceived meanings adjust to the ones associated to the identity standards (Stryker and Burke, 2000). In sum, this approach assumes that behaviour modifies a situation with the aim to adjust the perceived meanings to identity standards (Burke

and Gary, 1999; Tsushima and Burke, 1999; Stets and Burke, 2000) (for the definition of identity standard *see* 2.1.5. *Identity Change*).

2.2.3. Theoretical approaches from Social Psychology

Finally, between the previous disciplines -Sociology and Psychology- are placed the theories included within **Social Psychology**. This discipline considers both the individual and the social characteristics of identity. Therefore, it responds to some of the shortcomings of the former theories -e.g. the excessive individuality or, on the other side, the exclusive tying of identity with the social norms dominant in the individual proximal context-.

The leading theory in Social Psychology is the **Social Identity Approach** (SIA) (Turner and Tajfel, 1979, 1981, 1986). The main theories that underlie the SIA are the **Social Identity Theory** (SIT) and the **Self-Categorization Theory** (SCT).

SIT has its origins in the early 70s, was developed by the British Henri Tajfel. It emerges as a result of a group of studies that aim to identify the conditions that make members of a group to favour their in-group in detriment of other out-groups (Haslam and Ellemers, 2005) and, arises as a psychosocial theory that deals with the intergroup relationships, the group processes and the social self (Hogg et al., 1995). Notwithstanding the merit of Tajfel for the initial development of this theory, other authors have also contributed to the development of this approach. In mid 80s, in fact, another author, Turner, made a great contribution to the SIA, with the SCT. This theory is focused on the development of the underlying cognitive processes, which explain the salience of a specific SI. That is, it is focused on an individual level of analysis to explain, in detail, the categorization processes that act as a basis of the group behaviour. It is worth saying, that with the emergence of these theories a problem of social psychology was addressed, that is the relationship individual-group and, furthermore, a collective dimension in the individual cognitions it is introduced.

In the following lines, several constructs introduced in the first part of this chapter would be taken up again, to being explained further in the context of this approach.

SIT is conceived as a theory that evolves the motivational and cognitive basis of the group differentiation. This theory asserts that when individuals feel as a part of a group, they start a self-categorization process through which, the individual, starts to define him or her in terms of the categories that define the group. By this process, individuals get rid of their individual perceptions, feelings and actions, and adopt the ones relevant in a particular context, according to the existing prototype within the group they feel as a part of, that is, the characteristics associated with the group. So, his or her individual behaviour is influenced by the structure of categories that exist within society mediated by the individual SI and, the self-categorization process accompanying his or her SI (Hogg et al., 1995; Haslam and Ellemers, 2005). Through this process, individuals, seek to maintain a positive self-esteem by differentiating in a positive way the in-group in front of the other out-groups, in the valued dimensions. This process is known as **positive differentiation**.

Positive differentiation depends on three variables: 1. The degree in which individuals identify with the in-group and internalize this membership in his or her self-concept; 2. The degree in which the existing context facilitate the comparison and competition with one specific group; 3. The perceived relevance of the comparison with a specific group, that gives the relative and absolute status of the group the individual belongs to. The results of this comparison derive on a positive differentiation when the group is relevant to his or her self-definition (Haslam and Ellemers, 2005; Brown, 2000).

Another important input of this theory is the distinction between PEI and SI (*see* Epigraph 2.1.2. *Identity*). This theory states that the adoption of one or another identity influences on the behaviour shown by the individual (*see* Figure 2.2. *Behaviour representation*).

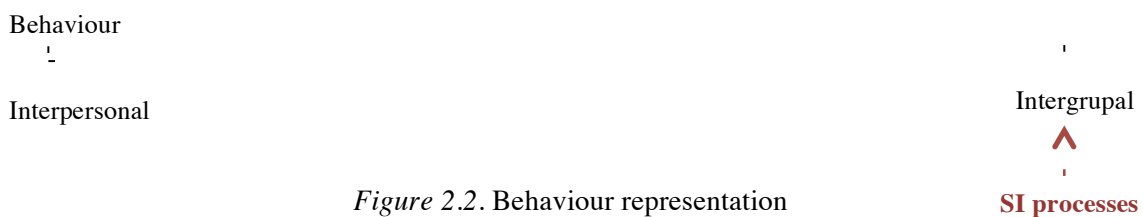


Figure 2.2. Behaviour representation

SIT understands groups as ‘*a set of people that share a social identity, and compete with other group members, evaluating themselves in a positive way compared with the other groups*’ (Hogg, 2006). These groups are classified according their status, that is, the relative position they occupy within the social system and, that confer, or not, some privileges in relation to other groups. Individuals aiming to maintain or enhance their social position can move between groups, in order to achieve a **positive SI**. These movements are referred in the theory as social mobility. **Social mobility** will depend on the permeability of the existing barriers between groups, and the safety of the social relationships. Basing in these two dimensions -permeability and safety-, individuals will adopt a mobility strategy in order to change the perception of their own SI. Three situations are acknowledged:

Situation 1. If members of the low status group perceive the barriers as permeable they will adopt **individual mobility** strategies, trying to move from the low status group to the high status group.

Situation 2. If low status group members think the barriers are impermeable and the relationships safe, they will redefine the nature of the intergroup relationship or the value of the group they belong to. They can also make both of them. These are known as **social creativity** strategies.

Situation 3. If barriers are impermeable and the social relationships unsafe, group members of low status group will start a social competition with the members of the high status group, developing collectively conflictive processes designed to change the group status quo. These are known as social competition strategies.

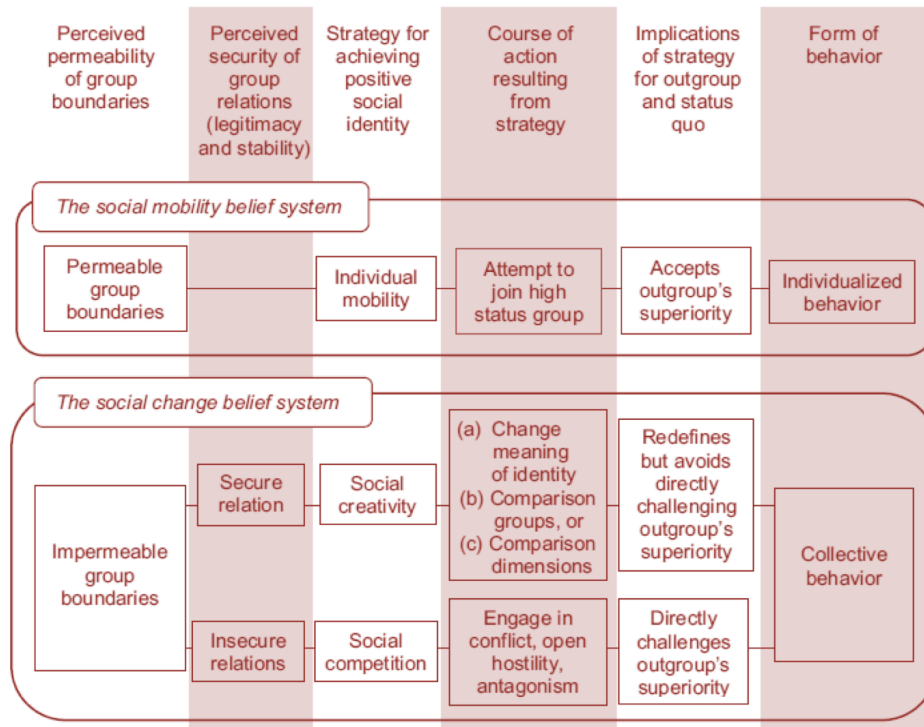


Figure 2.3. Social Identity Theory's predictions concerning the relationship between perceived social structure and strategies of self-enhancement for members of low-status groups

Source: Haslam, 2004; Haslam and Ellemers, 2005

To conclude, SIA is still used in Social Psychology in general and, in the Organization field in particular because the theory principles are useful to explain the social behaviour, unlike other theories; comparing with other used perspectives, this theory gives a different view in relation to the group psychology. It does not understand group performance as the sum of their individual parts, but as something more complex' (Haslam, 2004).

2.3. Comparative analysis between Social Identity Approach and Identity Theory

In this section, a comparative analysis of the two most relevant perspectives in the study of identity -Social Identity Approach (SIA) and Identity Theory (IT)- would be provided (Ashforth et al., 2008). According to Hogg et al. (1995, p. 266) *'these theories are two remarkably similar perspectives on the dynamic meditation of the socially constructed self between individual behaviour and social structure'*. This analysis would be based on the research developed by Stets and Burke (2000) and Hogg et al. (1995).

Both theories address the structure and function of the socially constructed individual -role identity (RI) and social identity (SI)- as a dynamic construct that mediates the relationship between the social structure or society, and the individual social behaviour. Both regard the self as differentiated into multiple identities that reside in circumscribed practices and, they use similar words and similar language but, most of the times, with different meanings (Hogg et al., 1995). For example, IT discusses the organization of the behaviour in terms of roles as a social structure while SIA speaks about groups or social norms, stereotypes and prototypes. Both theories also discuss the way the identities are internalized, and used to define the individual, but SIA refers to social identification and self-categorization processes while IT discusses the identification process (Stets and Burke, 2000).

Notwithstanding their similarities, it is important to note that their focus and level of analysis are different. IT is a microsociological theory trying to explain the individuals' behaviours associated to a role, whilst SIA is a social psychological theory that explains group processes and intergroup relations.

Taking that into account the differences between both theories are going to be analysed. To do so, their differences regarding the interpretation of the construct of identity -RI versus SI- and, with regard to their conceptualization of the identity construction process -identification versus self-categorization- would be analysed.

Concerning identity

Both, IT and SIA assume that individuals see themselves in terms of shared categories (McCall and Simmons, 1978, Stryker, 1980; Turner, 1987), but these differ in their views about the content of identity (Stets and Burke, 2000).

On the one hand, for the SIA, SIs are the result of individuals categorising themselves as similar to in-group members and as different to out-group members; so, identity is a self-categorization in terms of a group or social category. On the other hand, for IT, identity is a self-categorization in terms of a role. The multiple identities an individual have in SIA are the result of the groups an individual feels that belongs to; and, in the case of IT are the results of the roles an individual occupies in the society (Stets and Burke, 2000).

Concerning the process of Identity Construction

The individual is considered in both theories as reflexive and, as such, he or she can be self-categorized as an object, classified and renamed in a particular way in relation to other categories or classifications. This process is called self-categorization in SIA (Turner et al., 1987) and identification within IT (McCall and Simmons, 1978; Stets and Burke, 2000).

Both of them refer to the same process, but SIA analyse this process deeply. IT is focused on the process of self-labelling oneself as a member of a social category, recognising the role that others take when supporting this category, and relates the self-concept with the behaviour through the behavioural prescriptions endowed to a role. People behave consistently to their RIs as a consequence to reduce, or avoid, the discrepancies between the identity standards of the internalized identity and, other perceptions of the self. IT holds that people tend to evaluate other people in a positive way if they share the same role and, this evaluation would be stronger attending the role identity salience. That is studied deeply within SIA, through the concept of depersonalized social attraction (Hogg, 1992, 1993). SIA explains with more detail the socio-cognitive processes, the contextual relevance in terms of comparative social factors, self-esteem, motivation, uncertainty reduction, and social explanation (*see* Epigraph 2.2.3. *Theoretical approaches from Social Psychology*).

2.4. Chapter Conclusions

Through this chapter a general outlook of identity has been provided to the reader. Firstly, sundry themes have been defined, in order to provide a conceptual framework for the understanding of the present thesis; and, secondly the multiple perspectives on the study of identity, from the initial conceptualizations of the self until the newest approaches, presenting the growth of research experienced in this area, have been captured.

Several approaches have shown up since the initial conceptualization of the self made by William James on 1890 (*see Table 2.1. Theoretical Approaches Classification by Discipline*). So, the notions of the self and identity have a long heritage, and have been popular in Social Sciences since 1950s (Brown, 2014). Throughout these years, the concept of the self has evolved, from being considered as enduring, unique and differentiating to being considered as somehow malleable, since is associated with a collection of identities. Research on the self has given birth to the multiple studies surrounding identity. Among them two key perspectives, for the purpose of this thesis, -SIA and IT-, has been identified. Both of them consider the social component of identity or, what is the same, the social or role identity, which is essential when dealing with PI as a particular RI or SI. Literature on identity has a long tradition, and due to its extension some concepts and perspective might be obviated, as said by Brown (2014), there are several issues that make of identity a critical cornerstone. First, the heterogeneous and fragmented literature that makes difficult to describe, and explain identity and the self. And, second, the different terminology used to refer similar processes or phenomenon -e.g. self on sociology and self-concept on social psychology-.

The conceptual basis of identity has been delineated in this chapter, in the chapter 3 the literature concerning PI and the factors influencing that phenomenon is going to be reviewed.

Table 2.1. Theoretical approaches classification by discipline

Source: Own elaboration

Discipline	Theory	Author	Year	Conceptualization of Identity
Sociology	Symbolic Interactionism approach	General Statements	-	Identity is situated dependent and multiple. Society and the self are twin born (Burns, 1986; Cooley, 1902; Mead, 1934).
		Cooley	1902	The self-concept is made up of the perceptions the individual thinks other have about him or her (Cooley, 1902).
		Mead	1934	The self-concept arises within social interaction. The self is reciprocal and negotiated, and is constituted by multiple selves. Each individual have multiple Social Identities (Mead, 1934).
		Stryker Burke	1980 1991/1995	Social factors define the self. The social nature of the self comes from the multiple roles that the individuals occupy in the social world. Role identities change considering its sales (Hogg et al., 1995).
	Dramaturgical Theory	Goffman	1959	The self has a short-term character. This depends on the developed role by the individual and changes according the context. When the context changes, also the self does.

Table 2.1. (Continuation)

Psychology	Principles of Psychology	James	1890	The self is perceived as 'an object of knowledge consisting of whatever the individual views as belonging to him'. Includes a material self, a social self and a spiritual self. The self is conceived as enduring, unique, differentiation and related with emotions as mediated through self-esteem (Epstein, 1973; Burns, 1986; Swann and Bosson, 2010).
	Concerning human understanding	Locke	1960	Individuals as reason and reflection holders consider the self as itself (Bruns, 1986).
	The Ego and the Id	Freud	1925	'The Ego' could be equated to the self, and is a set of processes such as perceiving and thinking. It is the conscious part of personality.
	-	Jung	1960	Defined the ego as a complex of representations, which constitutes the centrum of the field of consciousness and appears to possess a high degree of continuity and identity (Burns, 1986).
	-	Eysenck	1960	Conceive identity from natural evolution principles.
	Ego Identity Theory	Erikson	1956, 1968	Self-identity is understood as the sense of self. There are several stages on individual's construction of the self.
	Identity Status Paradigm	Marcia	1966	There are different statuses on identity construction. Identity achievement, identity diffusion, foreclosure identity, and moratorium identity.
Social Psychology	Social Identity Approach	Turner Tajfel	1979 1981 1986	When individuals feel as a part of a group, they start a self-categorization process, through this, the individual, start to define himself or herself in terms of the categories structure that define the group. Individuals adopt the perceptions, feelings and actions of the group. Individual behaviour is influenced by the structure of categories that exist within society mediated by the individual social identity, and the self-categorization process accompanying the social identity.

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CHAPTER THREE

AN OVERVIEW TO PROFESSIONAL IDENTITY

- Introduction
- Profession and Occupation
- Professional Identity
- Professional Identity Construction before the incorporation to the University
- Professional Identity Construction at University
- Research gaps in the study of Professional Identity in Higher Education
- Conclusions
- References

CHAPTER 3. An overview to Professional Identity

3.0. Introduction

Inglehart and Brown (1990) stated that Professional Identity (PI) is a specific aspect of identity. Basing on that statement, the chapter two serves us as a foundation for the present one, in which the authors will go deep into the concept of PI and PI research in higher education.

It is worth saying that research on PI has increased considerably since Ibarra (1999) noted that there was a lack of knowledge about how identities were formed among professionals. To study PI has become relevant in areas such as the Organizational field as well as in Higher Education. In the first case, PI has been related with employee productivity, motivation, creativity, satisfaction and formation (Canrinus et al., 2012). And, in the second case, has been associated with dropout rates, academic failure, and degree switches -and the associated costs- -stronger PI lower the indicator- (Smitina, 2010). The knowledge constructed around this phenomenon has been developed in two main contexts, to wit the higher education and the workplace. Notwithstanding the abundance of studies on these regards, in the last 15 years, research on this area has been developed in a scattered way, adopting, along multiple disciplines, different philosophical basis. Because of this abundance of studies, for the purpose of this research, the focus would be the higher education context. Nevertheless, the existing knowledge on the workplace context is not going to be avoided, completely, because of its usefulness for the purpose of the present thesis. For this reason, the aim of this chapter it is not to integrate the knowledge developed within both context, it is to integrate the knowledge developed by multiple disciplines within the higher education context. So, to shed light on PI in higher education, this chapter is divided in five different parts.

Firstly, the differences between profession and occupation would be introduced to use appropriately both terms in relation with this study. Secondly, an overview of PI would be provided by introducing multiple definitions of this construct as well as by highlighting the approaches, and methodologies used when analysing this phenomenon. Considering that research on PI in higher education has been focused on two basic moments -before and during university-, thirdly, the process of PI construction before university would be analysed, identifying the influences on future students' PI. Fourthly, the role of the university in the construction of individuals PI would be analysed. And, last but not least, in the fifth point, the gaps in the current knowledge about PI in higher education would be identified. Through the identification of these gaps, it is expected to formulate several research questions, and to adopt a theoretical approach; nevertheless, this would be introduced in chapter 4 and in chapter 5.

3.1. Profession and occupation

At a first glance, the two concepts -**profession** and **occupation**- may seem interchangeable, although their nature is different. Already in the definitions of the Collins Dictionary can be appreciated, slightly, these discrepancies (*see Table 3. 1. Profession and Occupation definitions*).

Table 3.1.
Profession and Occupation definitions
Source: Collins Dictionary

Profession	1. An occupation requiring special training in the liberal arts or sciences, esp. one of the three learned professions, law, theology, or medicine
Occupation	1. A person's regular work or profession; job or principal activity 2. Any activity on which time is spent by a person

However, with these two definitions is difficult to distinguish between both terms. So, if the aim is to delve a little bit more, a completion with the literature is necessary. In particular, **Sociology of Professions** would be the focus for the delimitations of these constructs; more specifically, the definitions proposed by Friedson, one of the more relevant figures within Sociology of Profession, would be adopted.

Firstly, it is interesting to shed light on the concept of **discipline**, before deepening into the concerning terms. Friedson (1970) described disciplines as ‘*a corpus of knowledge, and intellectual abilities*’. Disciplines progress or evolve due to the control that some institutions, known as **professional institutions**, exert. These develop functions such as the direction of the formation, accreditation, and practice. At the same time, they are committed with the enhancement of the existing knowledge within the discipline as well as the skills.

The development of this specialized body of knowledge, and formal abilities referred, require a group of people with similar ideas that learn, and practice this corpus, and identify with it, differentiate it from other disciplines, recognize each other as fellows by virtue of their common training, and their experience with a similar group of tasks, techniques, concepts, and work problems, and they feel inclined to search a mutual company, although it was just to discuss within each other (Svensson et al., 2003).

Secondly, **occupations**, basing on Friedson (1989), are defined as ‘*productive activities through which individuals make a living within the labour market*’. Focusing on his exposed idea,

occupations could be divided in two different groups, the ones that require of knowledge formally organized or discipline; and, the ones that do not require this organized knowledge or discipline.

Finally, according to the same author, a **profession** is defined as '*an occupation that has fought with success for the right to control their own work, and as consequence, an elite or state has given it an organized legitimate autonomy*'. Therefore, although in the definition from the dictionary, profession and occupation were equated, the exposed definition from the literature on Sociology of Professions gave to professions a higher status of control, highlighting the difference between professions and occupations. After clarifying this distinction, the definition proposed by MacDonald (1995) would be adopted; this definition includes these distinctive nuances from occupation and discipline. According to the author, '*professions are organized groups of people that have a specific body of knowledge, that are valued when applied to different problems, as deduced discipline limits that knowledge*'.

In summary, an interrelationship between the three constructs can be seen. Occupations are divided in two differentiated groups: the ones with knowledge formally organized, and the ones without organized knowledge. The first group is related with professions itself. So, professions can not exist without a specific body of knowledge or without a discipline underlining them.

3.2. Professional Identity

Along the following lines the multiple conceptualisations about PI as well as the adopted approaches when studying this construct are going to be introduced.

3.2.1. Definitions

Research on **PI** is plentiful, and from it multiple, and complementary approximations to this construct have arose. This epigraph aims to introduce what PI is. The process that underlies its construction, **Professional Identification**, would be explained.

First, **PI** is endowed to a **profession**, that is, a group of people educated through the same discipline or body of knowledge, considering the national rights that govern, define, and monitor this knowledge (Parse, 1999).

Second, **PI**, as a part of the individual self-concept or identity (Inglehart and Brown, 1990), is associated with the definition that an individual makes about himself or herself, in terms of the developed profession; or, with the perception of oneself as a professional -e.g. What do you do? I am a doctor- (Gazzola and Smith, 2007; Moss et al., 2014; Weaver et al., 2011).

Third, **PI** implies the combination of the **professional self** and the **personal self**. This presupposes an integration of the individual values, attributes, beliefs, motives, and experiences with the ones existing on the developed profession (Van Maanen and Barley, 1984; Weaver et al., 2011).

Fourth, **PI** is related with the image that society has about a profession and, with the image that the individual itself hold, incorporating what he or she find important in their professional work and live, basing on their experiences in practice and in personal backgrounds (Tickle, 2000; Beijaard et al., 2004).

In the following table (*see Table 3.2. Definitions of Professional Identity*), the multiple definitions about this construct have been gathered.

Table 3.2.
Definitions of Professional Identity
Source: Own elaboration

Author/s	Year	Source	Definition
Schein	1978	Career dynamics: Matching individual and organizational needs. Addison-Wesley Pub. Co. (Reading, Mass.)	...the relatively stable and enduring constellation of attributes, beliefs, values, motives, and experiences in terms of which people define themselves in a professional role
Van Maanen and Barley	1984	Occupational Communities: Culture and Control in Organizations. Research In Organizational Behaviour, 6, 287	... refers to the extent to which one define him or herself in terms of the work he or she does, and the prototypical characteristics ascribed to individual who does that work
Moss et al.	2014	A grounded theory study of practicing counsellors' Professional Identity development. Dissertation Abstracts International Section A: Humanities and Social Sciences. ProQuest Information & Learning	...is the part of being a 'professional' and is the integration of the professional training as a 'professional' that forms his or her own Professional Identity.

Drawing on these definitions, it can be stated that individuals' **PI** is the part of the self-concept related with the profession individuals develop. Considering the salience of this identity, PI would or not determine individuals' behaviour, accordingly to the personal and professional values or beliefs as well as the social and cultural context where the individual is embedded. However, for the purpose of this work, considering that this is focused on PI in higher education, that is, students' PI, the existing conceptualization of PI has been adapted, because the concerning population is not considered professionals and does not develop, in most of the cases, a profession. For this very reason, PI would be understood as *'the part of the students' self-concept that make them want to become a particular professional, that make them want to be part of a specific group of professionals, because they feel they have some common characteristics with the professionals that develop that job'*.

As seen in the former definitions, PI arises from the perception of belonging to a professional group, and therefore is considered as a specific case of group identity. For this reason, PI may be considered as changeable and dynamic, since the identification with a particular group does not happen immediately (Ashforth et al., 2008). PI is constructed over time as a result of a set of experiences, and meaningful feedbacks that let individuals to deepen into their more central and enduring preferences, values and talents (Schein, 1978).

Individuals' PI is shaped since childhood (Dobrow and Higgins, 2005; Adams et al., 2006). Through the identity construction process, individuals acquire the knowledge, abilities and sense of PI characteristic of a member of the profession, internalizing the values and norms of the group in their self-concept adopting the group behaviour (Jacox, 1973; Cohen, 1981; Adams et al., 2006). Nevertheless, identity construction is not a lineal process (Niemi, 1997) but it becomes more intense in some stages of this identity construction. So, abiding by Pratt et al. (2006) and Cohen-Scali (2003), there are two moments that are crucial in this process, the period of socialization at university - socialization for work- and, the incorporation to the workplace -socialization by work-. The first one, **socialization for work**, is related to the attitude, values, and cognitive capacities acquired before entering the workplace. This way of socialization have its origins within individuals' childhood and becomes more and more complex. This is enriched during adolescence and adulthood, through the professional formation that acts as a nexus of the cultural diffusion and the new values. The second one, **socialization through work**, reflexes the personal qualities that young adults develop when entering the workplace. In this context, young adults can re-evaluate their related experiences with professions, as well as their projects. Both of them influence on PI formation through the individuals' experiences. Thereby, it is worth saying that this process would be different for each individual.

Apart from the discrepancies between individuals, PI will also change from one to another stage, for example, once university students join the workplace, they will be confronted to new information concerning to some profession attributes that they previously obviated or that were not informed. So, the constructed identity before the incorporation to the workplace can be modified, partially or totally as a result of the contextual changes in individuals' life. This is evident on the study developed by

Pratt et al. (2006) where the residents modified partially their initial PI once there was a role change from student to resident.

In summary, considering the developed research around PI during the last years, the PI construction process has been broken down in three stages: **before university**, when students choose their professional path through the selection of a degree, which can be interpreted as an eminent manifestation of their PI; **during university**, when students are faced with new information about the profession they are going to be part of, that may make them to redefine their PI (Hallier and Summers, 2010). As exposed by Crossouard and Pryor (2008), learning contributes to the construction of individuals' PI; **after university**, when individuals join formally labour market and, break their ties with the university. At this stage they are faced again with new information about the profession they were prepared for. The real existing values and beliefs of the profession are shown up. According to Ibarra (1999) the last stage could be considered as the most important stage on individuals PI formation (see Table 3.3. *Articles classified according to the stage that they study Professional Identity* on Appendix A). However, this thesis is focused on the two first stages so, this review will be focused on these two.

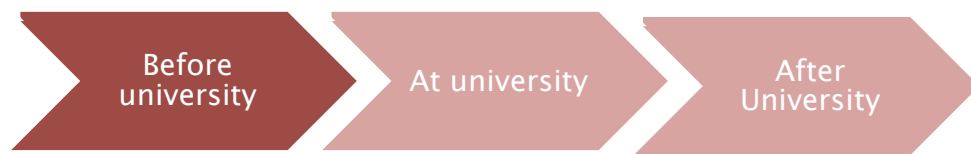


Figure 3.1. Moments on the construction of Professional Identity

Source: Own elaboration

3.2.2. Professional Identity in higher education

PI has been studied from several points of view and disciplines. However, as Ibarra (1999) noted, there is still a lack of information about *‘how identities are formed among those that carry out some highly critical organizational functions: professionals’*. For these reason, *‘given the centrality of identity in how individuals make sense of and enact their environments, addressing issues of PI construction is timely’* (Pratt et al., 2006).

On the literature, it is seen that mostly research on PI has focused mainly on the construction of this on professionals that has been already incorporated to the workplace considering scarcely the previous stages on PI.

It is true, in fact, that PI has been acknowledged as relevant within the organization (e.g. Pratt et al., 2006; Ibarra, 1999) and, some outcomes come from a strong PI -e.g. productivity, motivation, creativity, satisfaction and better preparation (Canrinus et al, 2012)-. Apart from this, within an organization, depending on the context, PI could become more relevant than other group identities such as organizational identity. But, it is also true that individuals are inserted in multiple contexts since childhood; facing multiple information about professions, and in parallel constructing a specific image about these. For this reason, PI is, somehow, constructed since childhood, and not only is interesting to consider the relevance of this within the working environment, but also within the university context, where a strong PI implies a decrease in the dropout rates, on the academic failure, and on the number of degree switches (Smitina, 2010). The formation of a strong PI, early in student’s bachelor degree, enables the successful transition to the workplace, motivate the beginning worker and assist in establishing confidence in their role.

For the reasons exposed, this research would be focused on PI in higher education, addressing issues about PI in the early stages before the incorporation to the workplace.

3.2.3. Approaches and methodologies used in Professional Identity research in higher education

Previously was exposed that PI in higher education has been studied within several disciplines. A vast array of articles in multiple fields, such as Business Management (e.g. Dannels, 2000; Cohen-Scali, 2003; Pratt et al., 2006; Hallier and Summers, 2011), Psychology (e.g. Canrinus et al., 2012; Johnson et al., 2006; Marsico, 2012) or, Higher Education (e.g. Trede et al., 2012; Reid et al., 2008) adopted multiple approaches and methodologies when facing this phenomenon.

Table 3.4 and table 3.5 show the perspectives and methodologies used as well as the amount of articles that adopted each of these perspectives and methodologies. The results were obtained from the articles considered on Table 3.3 (*see Appendix A*). The amount of articles reviewed were the result of a systematic bibliographic search in two databases -Scopus and Web of Knowledge- with the following keywords Professional Identity, Professional Identity Construction, Professional Identity Formation and, Professional Identity Development; although, some of these keywords may seem interchangeable there is a clear preference to use one of them instead of another among disciplines. For example, in Business Management is common to use PI construction and, in Higher Education to use PI formation. The search criterion was limited to articles in English, from 1995 to 2015, the last 20 years. Initially, 1013 articles were found in Scopus and, 971 in Web of Knowledge. The number of articles was reduced to 611. The abstracts were screened including just articles focusing explicitly on PI. The repeated articles between the two databases were deleted. Because of this thesis is focused on PI in higher education, the multiple articles were screened searching for the ones focused explicitly in bachelor degree students' samples. So, the amount of articles was reduced to 117. Considering that the access was limited, just the ones that had completely accessibility were considered, 69 articles in total. The references were screened and included 11 more articles. Basing on that, the final number of articles considered was 80. (*See Table 3.4. Approaches and perspectives used on Professional Identity Research, and Table 3.5. Methodologies used on Professional Identity research*).

Table 3.4.
Approaches and perspectives used on Professional Identity Research
Source: Own elaboration

Perspective	Theories	Total
Learning Perspective	Social Cognitive Theory and Self-Efficacy (Bandura, 1977)	1
Social-Constructionism	Narrative Social- Constructionism (Foucault,1972)	5
Socio Cultural Learning Perspective	Communities of Practices (Lave and Wenger, 1991)	9
Trait and Factor Perspectives	Holland's Theory of Career Choice (1973)	1
Social Interactionism	Beijaard, Meijer and Verloop Model (2004)	2
	Symbolic Interactionism (Mead, 1967)	2
	Provisional Selves (Ibarra, 1999)	2
	Identity Theory (Stryker, 1980)	1
Social Identity Approach	Social Identity Theory (Turner and Tajfel, 1979)	4
Socio Cultural Approach	Socio Cultural Theory (Vygotsky, 1979)	2
Ecologic Approach	Ecologic Theory Bronfenbrenner (1987)	1
No approach adoption or multiple approaches		50
TOTAL		80

Table 3.5.

Methodologies used on Professional Identity Research

Source: Own elaboration

Qualitative	42
Quantitative	18
Mix Met.	7
Literature Review	13
TOTAL	80

Within the constructed tables it is seen that most of the articles concerning PI in higher education do not adopt explicitly a perspective.

From the results obtained, it is seen that the most adopted **theories** are: Communities of Practice (n=7), Narrative Social Constructionism theories (n= 5), Social Identity Theory (n=4) and Vygotsky's Socio-Cultural Theory (n=3). In chapter 2, some of these perspectives have been already explained because they are common in the study of identity. For this reason, on this epigraph, just the ones that have not been addressed previously and, are fully used on the literature of PI in higher education, would be addresses.

Communities of Practice

The term **Communities of Practice** was first coined in *Learning Theory* by Etienne Wenger and Jean Lave (1991). This concept appeared in order to provide a useful perspective of knowing and learning. According to Wenger (1998) '*Communities of Practice are groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly*'. The former author assumed that Communities of Practice have three characteristics that are crucial: the **domain**, communities of practice have a shared identity defined by a shared domain of interest. Membership implies a commitment to the domain and, therefore, a shared competence that distinguishes members from other people; the **community**, members enrol in several activities and discussions, help each other and share information, perusing their interest in the their domain; the **practice**, members of a community of practice are practitioners. They develop a shared repertoire of resource -e.g. experiences, stories, tools, and ways of addressing recurring problems- in short a shared practice. Among the articles found concerning PI, this approach is mostly used in Higher Education literature (n=8).

Narrative Social Constructionism

Social Constructionism appears as an alternative to study the social self. It has its origins in Great Britain and North-America. This perspective is defined by the following statements (Burr, 1995):

- **Generally accepted truths need to be questioned**- it is necessary to question the way others teach us how to look the world and us. This perspective is contrary to the ideas that worlds' nature can be shown through observations, and to the idea that 'existing' equates 'perceiving'. The reality does not exist outside and with the scientific method we do not capture and perceive it, each individual construct their reality socially.
- **Historical specificity and cultural knowledge need to be considered**- the different conceptions individuals have about the work, categories and concepts that they use are specific to each culture and to a historical period.
- **Social processes sustain knowledge**- the knowledge individuals have is the result of collective construction. The interactions individual has construct step by step his or her knowledge about the world surrounding he or she.
- **Knowledge and social action are inseparables**- the multiple descriptions or constructions of the world sustain different social action models while other are excluded.

Narrative Social-Constructionism as a part of this approach appears by the hand of Michael Foucault (1972). This stream is focused on the power of the discourse over the individual (Navia, 2007). The theory maintains that discourses structure experiences, society and institutions, being these complementary, challenging or, competing. So, research focusing on this perspective, understand PI development as influenced and structured by the existing and established discourses concerning a profession (MacLeod, 2010).

This approach is mostly used on Higher Educational Literature (n=7).

Focusing now on the **research methodology** of the articles about the concerning topic, it is seen that most of them are qualitative in nature (n=42), just 18 studies adopted a quantitative perspective, 7 mix methods and, 13 were literature reviews. The main topics addressed by the articles adopting a qualitative and quantitative methodology has been classified in two groups: the ones focusing on the individuals' PI -individual own sense of the professional role- and, the ones focusing on Professional Collective Identity -the general perception about a PI by the society-. In the following tables it is shown the common topics addressed (*see Table 3.6. Topics addressed by qualitative papers* and, *Table 3.7. Topics addressed by quantitative papers*).

Table 3.6.
Topics addressed by qualitative papers
Source: Own elaboration

Individuals' Professional Identity	Profession Collective Identity
<p>Professional Identity construction influences</p> <ul style="list-style-type: none"> • Third parties -counsellors, friends, etc.- • Family • Profession public image -media- • Genre • Training or specific degree/course • Personal self <p>How students construct their Professional Identity on early, mid and late career? How students develop a self-image as professionals and a Professional Identity?</p> <p>Professional Identity transmission on the nucleus of a family.</p> <p>Professional Identity change: when a major change is occurred, how individuals reconstruct their identities.</p> <ul style="list-style-type: none"> • University transitions from higher education • Bachelor degree switch • Context and specific moment on time <p>Professional Identity Negotiation: tensions on Professional Identity construction process and the renegotiation of this identity.</p> <p>Experienced Professional Identity: ways individuals perceive and experience their Professional Identity. Ways individuals communicate their Professional Identity.</p> <p>Professional Identity outcomes</p> <ul style="list-style-type: none"> • Academic achievement <p>Professional Identity Defence: strategies employed by individuals to defend their Professional Identity.</p>	<p>Professional Identity change: when a major change is occurred, how society perceive a Profession Collective Identity</p> <ul style="list-style-type: none"> • Historical period • Introduction of new policies • Curricula reform <p>Perception of a Profession Identity: ways society perceives a profession. The influence of specific symbols on Profession Identity perception -e.g. uniforms-.</p> <p>Tools to increase Professional Identity: programs and curricula design to enhance students Professional Identity from higher education institutions.</p> <p>Comparison between the supposed profession Collective Identity and individuals'</p> <p>Professional Identity on a changing context.</p>

Table 3.7.
Topics addressed by quantitative papers
Source: Own elaboration

Individuals' Professional Identity	Profession collective Identity
Professional Identity change: quantitative change occurred on individuals Professional Identity strength –Is it higher or lower the identification with the profession?-	Construction and validation of instruments to measure Professional Identity on different professions

As it is shown in the former tables, qualitative papers are focused on exploring and understanding the meanings that individuals attribute to the several events that affect PI -e.g. changes-; and, to identify the way individuals deal with that identity. In contrast, quantitative articles analyse the quantitative changes occurred on students' PI strength as well as analyse the influence that several variables exert on students PI strength -e.g. cognitive flexibility or family influences-.

Finally, concerning the **data collection** and the **approach to inquiry**, mostly qualitative articles, in order to collect data, used interviews -in depth, semi-structured or structured-, Focus Groups, Review of documents, Life histories and narrative inquire -diaries, portfolios and logs-, Observation, Surveys and Open-ended questionnaires. The approaches to inquiry used on qualitative articles were **Phenomenological research** -this perspective is based on describing the meaning for several individuals of their lived experiences of a concept or a phenomenon; and, on focusing on describing what all participants have in common as they experience a phenomenon. Its basic aim is to reduce individual experiences with a phenomenon to a description of the universal essence (Van Manen, 1990)-; **Grounded Theory research** -the aim of this perspective is to generate or discover theory, an abstract analytical schema of a process. All participants on the study have experienced the process, and the development of the theory might help to explain practice or provide a framework for future research (Strauss and Corbin, 1998)-; **Ethnographic research** and **Self-Ethnographic research** -the aim of this perspective is to analyse the shared patterns between individuals, and the unit of analysis is larger than it is within the rest of the other methods. Ethnography focuses on an entire cultural group. Is defined as a qualitative design in which the researcher describes and interprets the shared and learned patterns of values, behaviours, beliefs, and language of a culture-sharing group (Harris, 1968); **Case Study** -this involve the study of an issue explored through one or more cases within a bounded system (Creswell, 2012)-.

Quantitative articles, in turn, as data collection method, used questionnaires. **Questionnaires** are a method of collecting survey data (Mathers et al., 2009) and, refer to the self-completion survey instrument (Brace, 2008). Within literature, two types of questionnaires were found, the ones validated previously and the ones that had not been validated. The validation of a questionnaire involves establishing that the instrument produce data that is reliable and true (Howard, 2008). In the following table are the most common validated questionnaires used in research about PI in higher education (*see Table 3.8. Questionnaires employed focused on Professional Identity*):

Table 3.8.
Questionnaires employed focused on Professional Identity
Source: Own elaboration

Instrument	Authors	Description
Professional Identity Scale	Brown et al. (1986)	The scale measures professional group identification. The questionnaire is integrated by 9 items related with group identification measure with a 5- point Likert Scale.
Gender- Professional Identity Integration scale (GPII)	Wallen et al. (2014)	The scale measure how gender and Professional Identities integrate. The questionnaire is formed by 8 items measured with a 5-point Likert Scale
MacLeod Clark Professional Identity Scale (MCPIS-9)	Adams et al. (2006)	The scale measures health care students Professional Identity. This Is an adaptation of Browns' (1986) Professional Identity scale. The questionnaire is integrated by 9 items related with group identification measure with a 5- point Likert Scale.

3.3. Professional Identity construction before the incorporation to the university

Individuals PI construction is a process that starts on childhood and extends during all individual life (Nyström, 2009; Beijaard et al., 2004). In fact, research has confirmed children's ability to classify objects and people on one dimension; and, their capacity to make categorizations (Bigler and Liben, 1992, 1993; Piaget, 1965; Nesdale and Flessner, 2001). Children between 4 and 5 years are capable of self-other evaluations and, actively and spontaneously engage in social comparisons (Chafel, 1986; Yee and Brown, 1992; Nesdale and Flessner, 2001). That shows that already on childhood children may show some vocational interests influenced by the categories attributed to professions. These categories could change along their life, according the new context they join and, the new received information. However, basing on Erikson (1968) is during adolescence when the identity construction process becomes more relevant as well as to develop a sense of occupational identity. It is interesting to clarify that, on the one hand, occupational identity is related with all the array of occupations, without making distinctions between them, according their degree of organization; while, on the other hand, PI is related with the formalized occupations and, it is included inside occupational identity.

So, considering that PI is a dynamic and changing relationship that extends during individuals' life and included the negotiation between three different spheres -personal, private and professional-, it is interesting to analyse how individuals previous experiences before university influence their sense of PI and, why they decide to choose a degree instead of another (Nyström, 2009; Beijaard et al., 2004).

3.3.1. Individuals' bachelor degree choice as a manifestation of their Professional Identity.

'Choice is a medium of both power and stratification' (Giddens, 1995). Individuals that apply to do higher education courses make different kinds of choices within very different circumstances and constraints (Reay et al, 2001). Harren (1979) posits that the commitment to a career choice is an important developmental task for late adolescents and in the early adulthood. Remitting to **Marcia's Identity Status Paradigm** (1966), introduced in chapter 2, it is seen that not always this commitment is achieved immediately; just individuals with foreclosed identity are committed without delay. To achieve this commitment implies a process called **self-exploration**, through which individuals advance from uncertainty about the options they have and plans, towards a point of commitment regarding a specific career choice (Gottfredson, 1981; Super, 1990). In that point, that suppose the end of a continuum, individuals know their occupational preferences side by side with an attachment to a specific set of career goals (Blustein et al., 1989; Wang et al., 2006).

In short, **self-exploration** includes *'those activities, directed toward enhancing knowledge of the self and the external environment that an individual engages in to foster progress in career development'* (Blustein, 1992). Gottfredson (1996) and Marcia (1966) noted that individuals before enrolling on a bachelor degree already started this process, through which they valued and questioned the multiple options they had according their values, beliefs, and basic aims.

Several theories have appeared emphasizing the relevance of this process; **developmental theories** (e.g. Super, 1990) stated that this exploration process is relevant to avoid problems such as indecision or premature making poorly funded career decisions. Career indecision is typically defined as *'the difficulties encountered by individuals while making career-related decisions'*. It refers to all problems and challenges that need to be addressed prior to, during or after the decision-making processes (Nauta, 2007); and, **trait-and-factor theories** (e.g. Holland, 1997) highlighted the relevance of persona-environment fit; certainly this congruence is maximized when individuals have accurately explored their own traits -self-exploration- and, the characteristics of career options they are taking into considering -environmental exploration- (Nauta, 2007). Other authors have found benefits related with this exploration process, Nauta (2007) identified the following: congruence between one's personality and environment of one's career choice (Grotevant et al., 1986), increases in vocational self-concept crystallization (Robitschek and Cook, 1999), and having realistic work expectations (Stumpf and Hartman, 1984).

But, in order to achieve this commitment with a career, not only self-exploration is important, but also self-reflection matters. Once individuals finish the self-exploration, then they get embedded to a **self-reflection** stage, in which individuals advance and construct relevant information about them (Niemi, 1997). This information is gathered from parents or social networks, useful when deciding which path to take. So, young adults have a cognitive element that let them to compare the degree of masculinity or femininity and the degree of prestige, forming the axes of a cognitive map where ideas about professions are reflected (Cohen-Scali, 2003; Gottfredson, 1996). So, adolescents construct a cognitive

map, that is, mental structured representation that integrates the different professional options that individuals have. This map appears as a group of stereotypes and representations of professions. Therefore, it is important for students to have a realistic view of the challenges and opportunities of professions (Niemi, 1997).

Briefly, career choice implies choosing one degree over another. Usually, this is often influenced by both **intrinsic** and **extrinsic** factors. On the one hand, intrinsic factors are related with the individual characteristics, such as personal values, career interests, self-efficacy expectations and stable dispositional tendencies or personality traits (Nauta, 2007; Agarwala, 2008). Six types of **career interests** are identified -realistic, investigative, artistic, social, enterprising, and conventional-; interests, as an expression of individual personality, guide individual choices and behaviours. Specific interests would inhibit or facilitate both oneself and environment exploration. **Self-efficacy** refers to the individual expectations about his or her ability to succeed at tasks; that indicates the degree to which individuals initiate and persists with tasks (Bandura, 1986). **Career related behaviours** are influenced by personality traits; personality involves five factors -openness, conscientiousness, extroversion, agreeableness and neuroticism- (Nauta, 2007). On the other hand, extrinsic factors are related with the individual proximal context and include sociocultural factors, cultural values, structural factors and significant relationships (Agarwala, 2008). Not all the individuals are influenced by the same factors and, not all the factors influence individuals equally.

After reviewing the career decision process, it is worth saying that individuals that has finished the explained process without complications would have an achieved identity -note that individuals with a foreclosed identity does not go through that process, they are just committed with the profession-; and would be this identity, in our specific case PI, the one that would make individuals to choose a particular professional path. See that youngsters, usually, start introspection to themselves and, choose their career considering the felt congruence between them and this. This perceived congruence is mediated by several influences that make individuals to see a profession in one or another way and to feel more or less attached to a profession, that is, to have a stronger or weaker PI. In the following epigraph these influences are going to be explained in depth.

3.3.2. Factors influencing Professional Identity

The transition to university is a key moment on students' life. Individuals have to take a decision favouring a particular degree instead of another, which is a difficult task that is influenced by several sources (Havighurst, 1972). In the previous epigraph several sources that influence that decision through the mediation of the self-exploration process has been underlined. All that career choice process ends with a specific sense of PI. So, it could be stated that these sources influence the construction of individuals PI and, taking into account that influence, individuals would have a stronger or weaker PI or, what is the same, an achieved PI.

Research on Higher Education has mostly focused on identifying the elements that make students to choose between a vast array of degrees (e.g. Craik and Zaccaria, 2003; Agarwala, 2008). Nevertheless, scarce consideration has been given to the influences that affect PI itself, although its salience on the decision to study a particular bachelor degree, as was just exposed in the former lines. For this reason, in the present thesis the factors that affect PI construction are going to be the main focus.

In general it is known that some **personal factors** -e.g. personality, values, or interests- (Trede, 2012; Gee, 2000; Noble et al., 2014) and, **contextual factors** -e.g. society expectations, interaction between other role models or educative context- (Clarke et al., 2013) modify PI. These multiple influences, individuals have during their life, result on students with different PI (Reid et al., 2011); not all of them grow up within the same context and have the same information about professions. Moreover, not all of them internalise this information and, interact with their context equally (Postmes et al., 2005). Sometimes, these students have clear ideas about the future profession they want to develop, but sometimes they have any idea about the profession itself. This view about their future profession, make them to increase their professional commitment that is their sense of group membership (Kember, Lee and Li, 2001; Reid et al., 2011), and their PI.

In order to achieve a better understanding of the influence that makes students to strongly commit with a profession and increase their PI, the factors considered as influential on that PI process would be reviewed. Literature about PI generally has been concerned about the following general influential factors: social experience, educational context and characteristics, professional experiences, perceived congruence with the profession, personal development and commitment, demographic characteristics and expected outcomes (*see Figure 3.2. General influences on Professional Identity*).

3.3.2.1. Social experience

Family, friends, media and other social influences have been considered as an important and relevant factor on the individuals' process of socialization.

From an *Eriksonian* perspective, it follows that identity is constructed through processes of feedback from other people such as family or peers (Reis and Youniss, 2004). In fact, focusing on PI, the social context where adolescents belong, provide them with different ways of workplace representations, which come from the knowledge, representations and attitudes that are communicated about this (Cohen-Scali, 2003). For example, the information communicated about a common or traditional profession within a family may influence over young adults in their decision to study a particular degree (Henning, 2001) and, as exposed by Fouad et al. (2010), the influence that this would have on the individual's decision would be stronger when adolescents feel that this affect their status within the group hierarchy. Basing on Schachter and Ventura (2008), it is seen that parents are perceived, first, as representative of the society and culture they belong to and into which they integrate their children; and second, as individuals with their own history, goals and beliefs. This aspects influence on children' identity development.

Besides, participation on the housework, between other activities, could help youngsters to learn the behaviours associated to specific roles, providing knowledge about the way to act in specific circumstances as negotiate how to do a task (Jablin, 2000; Levine and Hoffner, 2006). Also, hearing about professions and observing how closest relative develop specific cores imply the transmission of relevant information on PI construction (Levine and Hoffner, 2006; Adams et al., 2006).

Some studies have found that the quality of the relationship between adolescents and their family promote the career exploration (Blustein et al., 1995; Grotevant and Cooper, 1988) and, stimulate risk-taking with regard to career decision-making, facilitating the process of deciding upon a career and commitment to a career choice (Blustein, 1995; Germeijs and Verschueren, 2009).

Considering the influence exerted by individuals' friends can be said that to discuss professional aims and aspirations with them could make some professions more desirable than others (Jablin, 2000; Levine and Hoffner, 2006).

Finally, the ideas communicated about a profession by media can influence the notion that youngsters have about professions and the position that these occupy in relation to other professions, via the communicated stereotypes. As McAllister et al. (2014) noted, in their study about nurses, may influence in the decision of students about to enter, or not, into a degree. According to Levine and Hoffner (2006), in TV, usually, the given information is relational and social, that, in conjunction with other aspects, make a profession more glam, what implies not only positive aspects of the profession but also negative (Jones, 2003; Simanoff, 2006; Levine and Hoffner, 2006).

Taking that into account, it is important to note that the gathered information from these social sources could hide real perceptions that individuals have about professions and make them to identify more or

less with a specific profession, making youngsters to study the degree that let him or her to develop this profession.

3.3.2.2. Educational context and degree characteristics

Based on the information proceeding from the literature, it is seen that the educational context is important in the individuals' development of their PI (e.g. Hallier and Summers, 2011; Cohen-Scali, 2003; Pierrakos et al., 2009; Reid et al., 2011), not only through the socialization that implies university but also through the specific characteristics of the degree itself -e.g. job opportunities, focalization to one specific area, university curses, among others-. It was observed that the youngsters' experiences during primary school and high school might influence in their decision to study a particular degree, because of the eminent identification created during these stages. School is considered the first introduction of children to the non-parental hierarchies and, let children to socialise with other kids of the same age, being part of some activities. Also, school let individuals see how people of different professions or occupations interact between them and, let students see, which are the consequences of social and academic competences, the relationship between power and competition, which are so important to the degree development (Jablin, 1985; Levine and Hoffner, 2006; Vondracek et al., 1986).

A part from that, it is noted that to be good at some subjects -e.g. mathematics- may make students choose degrees related with these abilities. Other degree characteristics are also important when choosing one, not only the perceived congruence in terms of abilities and curriculum but also the heterogeneity in terms of subjects and job opportunities. In particular, the heterogeneity could have a reverse effect on PI strength, because it makes difficult to identify just with a unique and particular profession image. Finally, as Guichard et al. (1994) noted, can be said that to choose a given course implies the transmission of cultural practices and, that also may, in some cases, affect the normal behaviour and, consequently the ideas that young people have considering the global of professions, affecting in their PI.

3.3.2.3. Professional experience

The decision to study a degree is not just influenced by the individual proximal social context or educational context, sometimes one big influence is the professional context, the experiences that students have had before university and, as a consequence they took the decision to study a degree, basing on their eminent PI that appears once the socialization in this context is produced (Levine and Hoffner, 2006). The professional experiences not only appear during the bachelor degree or after finishing it, students are confronted to professional experiences before deciding to enrol in a particular bachelor degree. These experiences may influence, somehow, to individuals Professional Identification, students with professional experiences may show a stronger tendency to adopt a determined PI than students without these experiences (Adams et al., 2006). Levine and Hoffner (2006) asserted that this experience may suppose a higher comprehension of the relationships linked to the professional context and the communication processes, but this influence depends on the quality of the workplace. For example, remitting on Hennings' (2001) research about engineering students, it is possible to see that part of the individuals decided to enrol in engineering because of the professional experience acquired before.

3.3.2.4. Perceived congruence with the profession

Another relevant factor on future students PI construction is the perceived congruence with the concerning profession they are preparing for or will prepare for. Students' looking for a bachelor degree, try to match their values with the ones' they think the corresponding profession has. In fact, Pierrakos et al. (2009) found that there were girls that decided to study engineering because that would let them to work with people and help them. So, they decided to develop a profession in line with their own values; also, Hallier and Summers (2011) detected that human resources students compared their values and beliefs with the ones associated with the human resources profession and, they decided to choose a degree that let them to express they basic values. In both cases, they decided to show affinity with a profession which values were congruent with their own.

But, not only the perceived congruence in terms of values and beliefs is important when talking about professional congruence, but also the perceived self-efficacy for the students and, the perceived fit of their capacities and the ones required within the chosen degree.

The perceived intellectual capacity -the perception of being good at something or to be interested in some subjects- also help individuals to decide which bachelor degree have to choose. One example can be extracted from the research conducted by Pierrakos et al. (2009) when students said: 'I originally chose engineering because I am good at calculus'.

Finally, cognitive flexibility -it is related with the individuals' capacity to restructure the knowledge adapting to the situational changes-, also could influence the process of PI construction. The personal traits also would be important on the spheres of knowledge -e.g. when a novice becomes an expert-,

because individuals with a high cognitive flexibility are conscious of the multiple options they have in a specific given situation. For this reason, adolescents with cognitive flexibility would be more prone to adapt their PI to the changes or just to adopt a specific PI (Adams et al., 2006).

3.3.2.5. Personal development and commitment

Other factors found as possible influences on PI construction were commitment and personal development. On the one hand, according to Britt et al. (2007), commitment is defined as '*the feeling of responsibility in a specific context so that it is important for the individual*' (Wefald and Downey, 2009). On the other hand, personal development is defined as '*the displayed knowledge, the evolution, the expansion and the maturity of the individual*' (Kauffmann et al., 1992). Basing on Wenger (1998) what limits the personal development is the achievement of some related competencies with the community of practice of the students such as the profession. This achievement is related with the PI since the students begins a socialization process for work that is understood as the acquisition of attitudes, values and cognitive capacities before the incorporation to the workplace (Cohen-Scali, 2003).

3.3.2.6. Demographic characteristics

Certain areas of employment tend to be seen in gendered terms as primarily masculine or feminine activities (Christie, 2006). As Cohen-Scali (2003) stated, there are professions that have strong genre stereotypes and, there are individuals that decide to enrol in a bachelor degree because it is, or not, conceived for a woman or a man. That influences individual's PI making them to commit with a profession endowed with their own genre, for example, boys are more inclined to choose bachelor degrees socially considered as masculine in instead of the ones considered as feminine.

3.3.2.7. Expected outcomes (professional image)

Individuals try to find professional degrees that provide them: prestige -as human resource students that decided to study this degree because they thought that was a valued profession inside an organization (Hallier and Summers, 2011)-; social status; and, job opportunities after their studies -as is seen in the research conducted by Henning (2001) that found that most of the engineers choose the profession because of the future job opportunities. These engineers thought that to choose this path would let them to be part of the labour market sooner-.

For these reasons, professional image and the expected outcomes were considered as influential on PI. As Hallier and Summers (2010) detected, the fuzziness on the definition of some professions, make it difficult to find a particular image of the profession. Nowadays, new professions have shown up spitting the global of profession in two different groups: the ones that are defined as traditional -e.g. medicine or law-, completely establish and, recognized by society; and, the new ones characterized by the uncertainty in the roles, status and impact (Evetts, 2003) -e.g. human resources or tourism and leisure-. The last ones make it more difficult to establish a professional image and, for that, it becomes more difficult to identify with. Highly related with professional image there is financial and job security, that influences students decision to study a bachelor degree and, at the same time, their PI.

Another of the outcomes of Henning (2001) research with engineers was the identification of the job security as a motive to study that degree. These students decided to study engineering because they thought they would find a job.

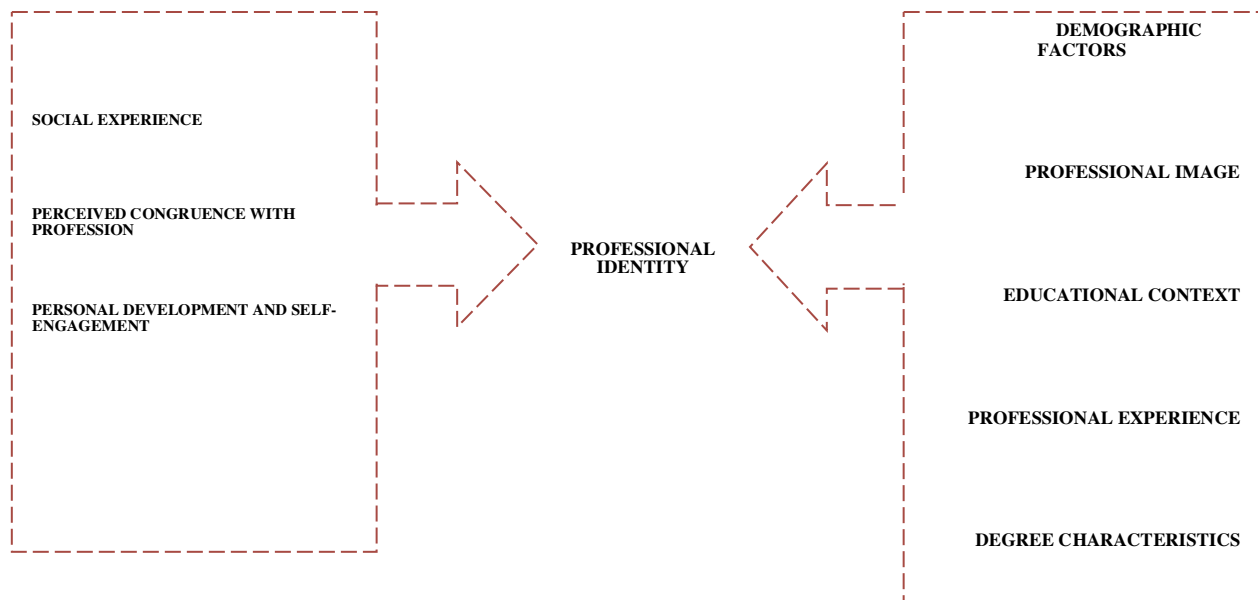


Figure 3.2. General Influences on Professional Identity

Source: Own elaboration

3.4. Professional Identity construction at university.

The process of career development is a journey from uncertainty to commitment regarding a specific career choice (Gottfredson, 1981; Super, 1984). Blustein et al. (1989) defined the commitment with a career choice as *‘the point at which an individual has a clear sense of his or her occupational preferences along with a firm attachment to a specific set of career goals’*.

Individuals transitioning from high school to university may have committed with a career choice or not. First, not always happen that the decision that students take, concerning their bachelor degree, is at the end what they wanted to do in the very first moment, which, actually, may influence in their commitment with the career choice as well as in their PI strength. It may happen that their first option was invalidated, as the students that were rejected by the medicine school that decided to study physiology (Becker and Carper, 1956). Second, when choosing a bachelor degree, most of the students have scarce information about the profession and, the gaps produced by these lack of knowledge are filled by the existing stereotypes about the status and contribution of the profession. Reid et al. (2008) exposed that two situations may happen when students decided which degree to do: 1. The profession is **diffuse**, individuals know that their professional competencies would be valued in this field, but they do not have a clear image of the bachelor degree they are going to start; 2. The profession is **clear** and the workplace and the association where they could belong are clear.

It is here where university becomes a key element on PI construction, because is the place where students realize who they decided to become, through the validation or not of the values, beliefs and basic aims. University should provide students with a set of tools useful to clarify their minds when the profession is diffuse. The decision to enrol to one or another degree is influenced by specific elements. But when the decision is made, from that moment on, individuals could decide if their values fit the profession ones. Once they start the degree they become aware of the body of knowledge and abilities, and of the communities of practice of the professions with an array of particular traditions, activities and barriers (Wenger, 1998; Nyström, 2009). Noble et al. (2014), for instance, found that pharmacist students, at the point of entry at the pharmacy course, lacked a strong identification with that profession, and that made them feel discontent; but, as they progressed through their education, they learnt what it meant to be a pharmacist, and started to express ideas and beliefs about that. Also, Hallier and Summers (2010) regarding human resources management students, found that university made students to validate, or not, the values, beliefs and aims of the profession. Some of students achieve this commitment within university.

So, this incorporation to university it is a key moment on students' PI construction (Lordly and MacLellan, 2012) requiring identity work to make sense of their initial degree choice and to commit to it. Identity work is understood as *‘people’s engagement in forming, repairing, maintaining, strengthening and revisiting their identities’* (Sveningsson and Alvesson, 2003), and has been considered as especially important during macro work role transitions, understood as passages

between sequentially held organizational, occupational or professional roles (Louis, 1980). Although the incorporation to university does not imply a change within the work context, it can be also considered a macro work role transition, since it requires of identity work to make students' have sense of their initial degree choice and to commit to it. The university stage can be considered as a crucial moment on students PI development (Pratt et al., 2006).

University provides young adults with an institutionalized moratorium free of adult responsibilities, where they can experience different roles, values and images of identity before to construct a stable sense of identity construction (Erikson, 1968; Adams et al., 2006). Nowadays, universities are expected to make their countries more competitive (Montero et al., 2012) by producing and transferring knowledge, and training new professionals who will soon be part of the job market and the profession they are preparing for. These days, there is an increasing interest on developing university curriculums focused on practical abilities and, prepare graduates for their incorporation to the workplace (Reid et al., 2008; Trede et al., 2012). This formulation of the university curriculum more focused on the professional practice, as Trede et al. (2012) pointed out, contribute to the development of students PI. Reid et al. (2008) exposed that university affects the way that individuals prepare and identify with their future workplace. Nevertheless, PI construction does not only depends on the learning community, also is constructed through negotiations between the individual and the specific context as the educational programme (Nyström, 2009). From this point of view, it is interesting to see the relevance of the structure of a bachelor degree in the construction of the PI. Schepens et al. (2009) saw that although PI construction is a lineal and interactive process, within the teachers' community, for example, programmes made the difference. So, taking into account what was just exposed, universities are in charge of providing a suitable context in order to strengthen students' PI. Lordly and MacLellan (2012), in their research about dieticians, observed that the design of programs and the developing of supports from university help to ensure that young professionals are ready for entry-level practice.

Nowadays, universities provide of two different types of knowledge and abilities and, to know which are is important to understand the multiples activities that universities would use in order to enhance PI. For these reason, according to Reid et al. (2008), university programmes usually include: 1. Knowledge and abilities **ritual** in character, these are useful within workplace and do not let students to perceive the relationship between profession and bachelor degree; 2. Knowledge and abilities that are **relational** in character, these take into account the professional future and, prepare students for a specific workplace. Considering that, it could be asserted that university not only provide a body of knowledge useful within the workplace, but also provide students with a subjective categorization and expectations about the PI they want to assume (Hallier and Summers, 2011).

Keeping in mind that a key moment on PI development becomes on the beginning of the professional training and degree (Niemi, 1997), Glaser-Segura et al. (2010) introduced different measures in order to increase students' PI from the university. These measures are: 1. **In-vitro activities**. These include

simulations and games, movies, bachelor degree exploration and invited speakers, or, also, according to Reid et al. (2008), role games conducted by professionals. In-vitro activities, although helping individuals with the learning about professions, are prone to be considered risky and, these are not always the kind of activities that end with a high PI (Glaser-Segura et al., 2010). Dannels (2000) research shown that to introduce role plays or role activities in technic disciplines or scientific, trying to simulate the workplace, not always work because students do not perceive themselves as real professionals but still they perceive themselves as students. The basic aim of students, in these situations, is to shown the experienced learning, so there are several elements that make it difficult to cut the lace of students and the educational context. Basing on Dannels (2000) words: *'schools never would be the workplace'*. There are huge differences between them. They have different contexts with communicative practices inside each one. In any case, if these activities had any influence on individuals' PI, at last, would be translated to a cognitive dissonance. For this reason, in-vitro activities have to be designed considering what the organization wants from professionals. As a result, university teachers should try new practices that make fuzzier the existing line between school and workplace, influencing over PI construction. These practices should connect workplace, the institution, the classroom and the governmental system; 2. **In-situ activities**. As Hill (2004) exposed, school learning is not enough to construct a strong PI. She affirms that experience is a key element in that process. Moreover, without these experiences the discrepancy between what students have learned and what they want to learn is remarkably wide (Nyström, 2009). Also, basing on Adams et al. (2006) professional experience may help to construct a strong PI. Consequently, it is important to consider in-situ activities, which usually represent the first, veritable, adventure in the workplace. These measures give students a set of tools that let them to validate and integrate the university training to the workplace. As Pratt et al. (2006) exposed, in their study about medical residents, while one learns doctors job also construct, at the same time, their self-concept; 3. **Self-directed activities**, which close the gap between what is taught to the students and what is perceived they should learn. These activities, roughly, consist on reading magazines and brows the net. Students read journals and magazines relevant on their professional area (Watson and Bargiela-Chiappini, 1998).

The activities, already exposed, should be implemented within universities with the aim to enhance PI. Nevertheless, there are other factors that should be taken into account, because not only is important the experience to increase individuals PI, but also the satisfaction with a particular course. The satisfaction that is felt, in relation to one study curse, is closest endowed with the troubles that the individual have to integrate within it (Le Bart and Merle, 1997; Cohen-Scali, 2003) and, as the degree choice fits the self-concept (Gottfredson, 1996). Considering that, several measures may be implemented within the university context, in order to increase the students' satisfaction while they are studying the bachelor degree; as can be seen, in Cohen-Scali (2003), being able to integrate themselves within the course so that implies a progressive adherence to the values promoted within that course.

The mentioned measures may make individuals relationship with PI more valued and, according to Burke and Reitzes (1991), as a consequence, students' would be more akin to affirm their identity. In general, these measures may derive in a stronger identity. Adams et al. (2006) remarked that students

with a deeper knowledge about the chosen profession are more inclined to identify with their professional group.

Considering what was said in the former lines, when students start their tertiary studies, to become professionals, they are exposed to the world views, theories, skills and languages embedded therein the profession, influencing their identity formation as they take over some of these cultural properties. They begin to use the language related with the profession with increasing confidence, and may begin to identify themselves as belonging within the community of those studying 'their' subject. As time goes by, they begin to see themselves as a philosopher rather than someone studying philosophy, an engineer rather than a student of engineering (Bakhtin 1981; Reid et al 2011).

While students are studying in the university two things can happen: 1. The beliefs and values are the same that they thought; 2. There exist discrepancies between these. In that point, according to Hallier and Summers (2011), students, may start a social creativity process in order to solve the cognitive dissonance. The same authors found different situation related with the construction of PI in human resources students. These situations show how students face discrepancies between PI expectations and real PI. These situations are: 1. **Identity defence**, there is a protection of individuals' identity through negatively stereotyping teachers/academics; 2. **Identity dissonance**, the bachelor degree is seen as a mechanism to achieve a workplace; 3. **Identity rejection**, students reject defining them in terms of the profession.

Finally, concerning to the transition from university to the workplace, it is important to remit to Nicholson (1984). This author noted that a transition implies two principal outcomes: **personal change**, that is related with the alteration of identity to accommodate the demands of new roles; and, **role development**, that is related with the behaviour enacted to accommodate the demands of new roles and context to make them better fit personal qualities. The ideal orientation to novelty is a sense of one's competence to cope, and enjoyment in the challenge of sense making and exploration. After the transition, if individuals have been unable to fit their environment, there is an unsatisfactory adjustment (French et al., 1982).

From the former lines it is easy to find a relationship between transitions and identity. A transition implies a change in the previous identity that the individual held. Students graduate face a significant transition in their lives, a transition from university to workplace. Fournier and Payne (1994), basing on Kelly (1970, 1977) stages of experience cycle, asserted that there are three stages, of the ones' considered by this author, that are relevant on individuals transition from university to workplace. These are: anticipation, disconfirmation, and constructive revision by extension.

1. **Anticipation**- when graduates are incorporated within the workplace they perceive work in a particular way, they have certain image about it, about the organisation they are about to enter and have particular values.

2. **Disconfirmation**- this refers to the existing incongruences between the graduates' anticipations of events and their construction of the actual events. Graduates entering employment are likely to experience some disconfirmation, and hence to engage in constructive revision by extension.
3. **Constructive revision by extension**- within this, among others, two different revisions were found: 1. Slot change- the individuals simply reconstructs some elements as being at a different point on a construct; 2. Construct innovation- involve the development of new construct to make sense of the events.

It is important to note that Landrum et al. (2010) detected that what students' learn and what employers expected from graduated are critical linked. That is translated in graduate students experiencing feeling of anxiety, uncertainty, and inner turmoil as they attempt to navigate a new work environment for which they might feel unprepared (Robbins and Wilner, 2001), that is when they transit between university and workplace. Is in here where PI is involved. As noted by Taylor et al. (2007), once students graduated they have a PI, different from the one that lead them to choose de degree, a new PI shaped by the information received from the university. If the information that individuals receive, from this higher education institution, is accurate to the reality, then the experienced uncertainty, anxiety, and the feeling of not being prepared would decrease, making that transition more bearable. It is important that students construct an accurate image of professions (Niemi, 1997).

3.5. Research gaps in the study of Professional Identity in higher education

The Literature review of the existing research on PI in higher education let to the following gaps:

- Students' PI has been understudied in the higher education context.
- PI has been studied separately between disciplines or professional fields without considering a range of different professions.
- Scarce consideration has been given to the students' PI construction as well as the factors that guide this construction.
- Research on this topic has been mostly qualitative, making difficult the existence of a validated instrument to measure aspects related with the concerning phenomenon.

3.6. Chapter conclusions

This chapter provided an overview of PI. First, relevant constructs for the understanding of the general phenomenon has been provided -profession, discipline and occupation-; second, a review of PI has been offered; third, the construct has been delineated as well as the methodologies and approaches adopted when facing that phenomenon. The relevance of PI has been justified; fourth, PI has been analysed before and during university; fifth, the paper of PI on the transition from the university to the workplace has been highlighted; and, sixth, the identified research gaps of PI in higher education has been exposed.

Apparently, PI has been studied for a long time, however is in the last twenty years when this has become relevant. Academics has focused also in constructs such as occupational identity, it is worth saying that this differs with PI in the level of formalization. Occupation involves the vast array of jobs, while professions just involve the ones that are endowed to a discipline.

Literature has focused on studying PI in three different moments, namely before the incorporation to the university, at the university and after the university. Several disciplines tried to address this phenomenon focusing on analysing its construction within particular group of employers. Most of the articles focused on the period after the university, because it is when individuals PI are more defined. The adopted perspective was mostly qualitative (*see Table 3.6. Topics addressed by qualitative articles*) and, just a few articles decided to adopt a quantitative approach (*see Table 3.7. Topics addressed by quantitative papers*). It is hard to find a philosophical view on some of the articles; mostly the ones that made it explicit adopted the Communities of Practice, the Social Identity Theory, and the Socio-Cultural Theory, among other perspectives.

Although PI develops throughout life (Adams et al. 2006; Dobrow and Higgins 2005), the attention of this chapter has been paid on the university period, which is particularly important in PI development because it is the transition to the workplace and, therefore, an arena that prepares the work attitudes and PI that mediate work life. Several influences on PI have been identified within the literature and translated to a conceptual model.

The resulting conceptual model helps us to understand the basis on which students define themselves as professionals (*see Figure 3.2. General influences on Professional Identity*), and establish the basis for the definition of the chapter 4. Research Questions and Research Objectives

3.7. References

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CHAPTER FOUR

RESEARCH OBJECTIVES AND RESEARCH QUESTIONS

- Introduction
- Gaps in the existing knowledge on Professional Identity in Higher Education
- Research objectives, research questions and sub-questions
- Conclusions
- References

CHAPTER 4. Research objectives and research questions

4.0. Introduction

In the last two chapters the literature was reviewed with two basic aims, first to provide an overview of identity and Professional Identity (PI), particularly in the higher education context; and, second to identify the existing gaps in the literature to define our research aims. In this chapter the objectives of this research would be described.

In order to contextualise them, a brief overview of the research on PI would be provided in this introduction. Followed by the exposure of the identified gaps within this literature. And, finally, the research objectives and the research question would be proposed.

As was mentioned on the previous chapter, the research on PI has increased considerably during the last twenty years, becoming today more relevant than years before. Basing on research about identity, and the apparition of the multiple theories concerning group relationships and the constructions of identity, PI research has evolved.

Basing on the data provided on chapter 3 (*see* Appendix A), about the articles analysing PI, four disciplines were identified as the most concerned about the research on this area along the twenty last years -from 1995 to 2015-; these are Higher Education, Business Management, Psychology and Nursery. These have studied PI construction and the influence of this in several variables such as academic achievement or professional performance. In short, PI research was centred on classifying PIs and how they were constructed. So, the main questions that have guided research on PI along the twenty last years have been:

- How individuals construct their PI?
- How individuals define themselves in professional terms?
- How PI affect academic achievement, academic drop-out rates, professional commitment, and professional satisfaction, among others?

Notwithstanding, the existing research has been developed from different disciplines and the developed knowledge has not been integrated as would be describe in next section.

4.1. Gaps in the existing knowledge on Professional Identity in higher education

With the present thesis is expected to contribute to the literature about PI in higher education. In this section, the multiple gaps identified during the literature review are intended to being exposed and, according to them, the research objectives, in order to fill them, are proposed.

4.1.1. Lack of focus on fledging PI before the incorporation to the workplace

As acknowledged by Pratt et al. (2006) and Cohen-Scali (2003), there are two crucial moments on individuals PI construction: the **period at university** and the **incorporation to the workplace**. Nevertheless, among the articles focusing on PI there is a clear preference to use as a context of study the workplace (e.g. Pinho et al., 2015; Leonard et al., 2014; Pitula et al., 2012); paying limited attention to the pre-university context and the university context itself. In comparison, just a low percentage of articles (22,3 % in front of 77,7%) (*see Table 4.1. Number of articles by moment*), during the last twenty years, have focused on child, adolescents or young adults PI construction (e.g. Nygren et al., 2014; Weaver et al., 2011; Lim et al., 2011; Pratt et al., 2006); this unevenness might to be expected since professions are defined by the workplace context and its extension to the higher education domain, by linking to the bachelor degree choice, is only recent.

Table 4.1.
Number of articles by moment

Moment		
During	120	22,3%
After	419	77,7%

However, as mentioned in chapter 3, PI as a dynamic process that extends during individuals' life (Adams et al., 2006; Dobrow and Higgins, 2005) does not only develop along with the work life, but also, previously during the pre-university and the university period. In order to have a clear and longitudinal picture of this phenomenon, it is important to analyse the stages before the incorporation to the workplace. This will also allow obtaining a clear picture of how the work context influences PI. Furthermore, another reason that justifies the need of studying PI before the incorporation to the workplace is the evolutionary life period. Hence, with regards to general identity construction, adolescence is an important point in individuals' life. Moreover, this period has been recognised as youngsters creating a specific sense of occupational identity (Erikson, 1968), because, among other reasons, it is in this previous stage when individuals are confronted with information about professions, that make them to construct a cognitive map situating each of them and showing preferences for ones instead of others (Gottfredson, 1996).

All in all, these motives justify the need for more studies about PI in the previous stages before the incorporation to the workplace. However, the burgeoning research on PI in higher education seems not to integrate the accumulated knowledge from research on PI developed in other fields. Hence, not only to develop the existing knowledge on PI in higher education, but also to develop it by integrating the knowledge from other fields that have gone further in the study of PI is the challenge faced in this research. So, the aim is to contribute to the literature by integrating the existing literature on PI in the higher education context, and to develop our study by using a students' population sample.

4.1.2. Scarce comparative studies on PI in higher education

As already noted, PI is a topic that has been increasingly studied during the last years. Initially, the research on this topic was centralized by disciplines such as Psychology or Management, but in recent years the interest on this topic has risen in disciplines such as Higher Education or Nursery. This increasing interest by different disciplines has led to the fact that this topic has been addressed by several and different literatures. For example, there is a vast array of articles concerning teachers' PI, and the concerning struggles to keep this identity (e.g. Burns, 2011; Lopes, 2009; Walter, 2008); or, articles about Healthcare professionals and their identities (e.g. Hood, 2014; Adams et al., 2006; Pratt et al., 2006).

That is why, from the former lines, there are two different gaps that could be extracted: first, the lack of integrative studies, by which means none of the existing research has made the effort to gather the existing literature and, take advantage of the knowledge created within disciplines different from their own; and, the second gap, is the lack of comparative studies, by which means more studies revolving different professions at the same time are needed.

Hence, the second recommendation is to take into account the created knowledge within several disciplines in order to benefit from the knowledge developed by they around Professional Identification. Besides this, to compare different professional groups at the same time, in order to analyse if the process that lies behind individuals' PI construction between different professional groups is the same and, also to deepen in what makes a profession to have a weak PI instead of a strong PI.

4.1.3. Scarce integrative studies on the factors that influence PI construction

Before deepening into the reasons that make us to concern with the factors that influence PI construction, let us remit to some ideas exposed on chapter 3. Literature has acknowledged PI construction as a process extending over individuals' life (Adams et al. 2006; Dobrow and Higgins 2005). That process makes individuals to define them in terms of a profession. By this process, these individuals incorporate to their behaviour and, self-concept the group values and norms of a particular profession (Adams et al., 2006). The acquisition of these values and norms come from the contexts individuals participate in and, the information transmitted there, from several sources. So, not all individuals define themselves in terms of the same profession, and as a consequence the values and norms that guide their behaviour are not equals; the individuals' PI depends of the multiple influences they have had during their life (Reid et al., 2011). The context where they develop is different, so the information provided about profession is as well. Moreover, not all individuals internalise the information in the same way, and interact with their context equally (Postmes et al., 2005).

So, there are multiple influences faced by individuals that make them to commit with one or another career path or, which could be considered the same, to choose a specific bachelor degree. Mostly, literature on higher education has identified the influences on bachelor degree choice, such as quality of life associated to the bachelor degree, preferred job, love of the career, among others, that make individuals to discern and choose between different career paths (e.g. Agarwala, 2008; Serpell, 2005; Edwards and Quinter, 2011; Ogowewo, 2010; Taylor et al., 2009); also, research on other areas such as Healthcare Science has identified the contributing factors on individuals' PI -family, friends, educational context, values and beliefs, congruence among others- (e.g. Adams et al., 2006; Lordly and MacLellan, 2012; Shlomo et al., 2012). But existing research has addressed these topics separately, as if the decision to choose a bachelor degree and the previous PI were independent. For the purpose of this work it is considered that the bachelor degree choice sometimes is a manifestation of the individuals' eminent PI.

In order to do that, Marcias' Identity Status paradigm is used as a basis. Conforming to the latter, individuals can be classified according to their identity status. This classification is based on two variables: commitment and crisis, so that to overcome a crisis period self-exploration is needed. Considering both variables, there are individuals with a foreclosed identity -they make a commitment without a self-exploration-; with diffusion identity -they do not make a commitment and may or may not have made a self-exploration-; with moratorium identity -individuals are in a state of active exploration but have not made a commitment yet-; and, with an achieved identity -they have finished a period of active exploration and made a commitment- (Meeus et al., 1999). So, it is asserted that these individuals can be classified in three different groups: 1. The ones that constructed their identity through a self-exploration process, and whose PI guided their career choice -moratorium, achieved and, sometimes, diffusion status individuals-; 2. The ones that constructed their PI without a self-exploration process, and whose

PI did not guide their career choice -foreclosed status individuals-; 3. The ones that has not constructed yet their identity, and decided to be enrolled to a bachelor degree for other reasons not related with their identity -diffusion status individuals-. Taking this into account it is easy to see that there are factors that influence individuals' PI and make them to commit with a career option and, there are factors that make individuals to choose a career path but do not influence their PI.

The attention would be paid on the first group of factors, the ones that make individuals to commit with a career choice, understanding commitment, as '*the strength of individual's ties with a particular group*'. The level of commitment to a particular group or category determines how group characteristics, norms, or outcomes influence the perceptual, affective, and behavioural responses of individual belonging to that group (Ellemers et al., 2002).

Focusing on what was said, it is found that the existing research on the factors that influence PI show several limitations. First, the studies developed just consider some factors, and none of them has attempted to group all the considered factors. Second, the research on this area is focused just on one particular profession, without providing a holistic view of the influential factors on a group of professions. Third, there has not been an attempt to analyse the factors that are related with a higher or lower PI. And, fourth, none of these studies consider a Spanish sample.

Considering that, the third recommendation is to gather the factors that make students to decide to enrol in a particular bachelor degree related with PI; and, to analyse comparatively how these factors affect PI within different bachelors' degree students as well as to test if there is any relationship between specific factors and the strength of the identity -higher or lower-. With that it is aimed to shed light on the differences in the identification with a profession among individuals of different professional fields.

4.1.4. Lack of a validated scale to measure the influencing factors on PI in higher education

Through the review of the literature was found that most of the articles focusing on PI were qualitative (*see* chapter 3, Appendix A). This is explained because, although identity and ‘the self’ have been studied for a long time, PI is a relatively new theme and, as noted by Pratt et al. (2006), paraphrasing Ibarra (1999), scarce consideration has been given to the entire phenomenon, being limited the information about the nature of it. So, in order to understand the PI and the underlying basis of this, a qualitative approach was needed, just as Creswell (2009, p.4) exposed, qualitative research ‘*is a means for exploring and understanding the meaning individuals or groups ascribe to a social or human problem*’. Considering that, PI is endowed to the definition of the individual in terms of a profession, to understand that definition and to have access to it, in order to have a more realistic view of the components and processes, a qualitative approach is the best alternative. Because of that, just a small part of the research has applied quantitative methods when analysing that phenomenon. This research has been concerned about the influence that several variables have on PI. For instance, Adams et al. (2006) analysed the impact that cognitive flexibility, family, team work orientation among others had on Healthcare students’ PI; also, Canrinus et al. (2012) investigated the influence of indicators such as commitment, job satisfaction, self-efficacy, among others on teachers’ PI.

Although, the knowledge regarding PI construction is still developing, the amount of accumulated existing knowledge about this topic, at this moment, enhances the possibility to go a step further using quantitative methodology to analyse how PI influences other variables and the other way round. Taking this previous information into account, two different gaps can be identified. First, there is a need to construct an instrument that makes the evaluation of the identified influencing variables on PI possible. As exposed on chapter 3, there are few the existing validated instruments. While it is true that some questionnaires have been used to analyse influences, these have not been tested before. And, second, the influences that specific variables -e.g. family, friends, media or educational context -have on PI have to be tested.

4.2. Research objectives, research questions and sub-questions

In the former epigraph, the existing gaps within the literature on PI were identified and explained.

Regarding the general research aim, this thesis is concerned about the factors that influence first-year university students PI and, in particular, in identifying them and exploring their relations with PI. In the following sections, each of the research objectives, this research is concerned about, and how they are settled on research questions and sub-questions are explained.

4.2.1. To construct an integrative conceptual framework of the influencing factors on PI in higher education

Our first research objective is to identify the factors that influence PI. The focus would be on the influencing factors just entering university or just before, so it is the first year of university. For this reason, it was decided to consider the factors that influence student's bachelor degree choice, considering bachelor degree choice as a first manifestation of their PI as was just expressed in the epigraph 4.2.3.

This research is built upon the work developed by Adams et al. (2006). In this research the authors tested the influence of several factors on Healthcare students' PI. By testing the influence that other new identified factors have on first-year university students' PI, it is pretended to go a step further, including in our study more than just one professional field.

The first research aim is settled on the following research question:

1. What are the factors that influence PI on first-year university students?

The sub-questions that would be answered, also related with the general question and the objective, are:

1. A. What are the factors that have been acknowledged as influential to PI within the literature on this topic?

1. B. What other factors are recognised by students to influence their career choice?

To answer these questions, the identified factor would be gathered according to their inner nature and a conceptual framework, that would let us attain the following objectives by providing a general picture of the factors that influence PI, would be provided.

4.2.2. To develop and validate a scale to measure the influencing factors on PI in higher education

This gap might be explained by the lack of a reliable and valid measure of each of these PI sources. In the literature, scarce consideration has been paid to the factors related to students' PI strength, also influential to the decision to study one particular bachelor degree. For this reason, there is no previous attempt to construct and validate a questionnaire related with these factors.

For this very reason, the second objective of this thesis is the construction and validation of a multidisciplinary questionnaire that would let to measure each of the found influences on first year university students. Also, with the validation of the questionnaire it is expected to obtain a final categorisation of the factors.

The sub-questions that delineates that objective are:

- 2.A. What are the influencing factors on the PI of first-year university students?
- 2.B. How these factors can be defined/interpreted?
- 2.C. What are the psychometric properties of the scale developed?

4.2.3. To compare Professional Identity strength among first-year university students from different bachelor degrees

The third objective is to identify if there is any difference on the individuals PI strength, once incorporated to the university; and, if there is any differences regarding the strength of the identification among the different bachelor degrees. In order to do that, the McLeod-Clark Professional Identity questionnaire (Adams et al., 2006) would be used, this is based on the Group Identity questionnaire developed by Brown (1986) and, is conceived for a student population.

This objective is set in the following general question:

3. What is the PI strength of first-year university students?

The sub-questions endowed to this objective are:

3.A. Are there any differences in PI strength among students from different bachelor degrees?

3.B And if so, what bachelor degrees' students show the highest PI strength and what bachelor degrees' students show the lowest PI strength?

3.C. What socio-demographic characteristics explain PI strength?

Answering those questions and following the exposed objectives, to contribute on the literature about the factors that influence PI identifying the ones that influence moreover the individuals of different bachelor's degrees, detecting existing differences between different populations is expected; to identify if there is any difference on the PI strength of students from different bachelor degrees before university individuals is, also, expected; and, it is aimed to develop intervention for universities in order to increase student' PI.

4.2.4. To test the influence of the factors on student's Professional Identity strength.

Once the instrument has been developed, the last objective is to measure the influence that each of the remaining factors has on first-year university students' PI, considering multiple bachelor degrees. Thus, exploring the validity of the constructed conceptual framework as an explanatory model of the factors that influence PI. By following this objective, the gap mentioned by Adams et al. (2006), '*it is important to examine whether in certain professional groups identity change more than in others*', it is also expected to be answered. So that, to detect any differences on the influence of these factors between bachelor degrees is intended to be achieved, that could be useful to answer why some professions tend to have a higher PI than other

This objective is set by the following question:

4. What are the influences that the factors have on students' PI strength?

The corresponding questions are:

4.A. Are there any differences on the influence of the factors within different bachelor degrees? And if so what are they and how they can be explained?

4.B. Are there any differences on the influence of the factors on PI? And if so, how the different influence can be explained?

4.C. Are there different patterns of socio-demographic characteristics and influencing factors? And if so, what are they?

4.3. Chapter conclusions

Chapter 4 underlined the main gaps in the body of knowledge in PI in higher education. Four main gaps were identified and translated to future contributions: study of this phenomenon before university or just entering this institution; consider multiple professions when analysing PI; converge the multiple factors that influence PI strength; use quantitative methodologies; and, construct a reliable instrument to measure the influence of the factors.

Considering the gaps and limitations found in literature, four research questions were formulated. This work will attempt to shed light on the factors that influence first-year Spanish university students PI strength by gathering the ones acknowledged within literature as well as incorporating new factors that will be found by conducting a qualitative pilot study; and, by analysing the influence that these have on their PI.

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PART II

EPISTEMOLOGY AND METHODOLOGY

➡ CHAPTER 5. The research strategy and the research design

CHAPTER FIVE

THE RESEARCH STRATEGY AND THE RESEARCH DESIGN

- Introduction
- Research Strategy
- Research Design
- Conclusions
- References

CHAPTER 5. The Research Strategy and Research Design

5.0. Introduction

Once the objectives have been introduced on the previous chapter of our research as well as the research questions, the steps to be followed in terms of the Research Strategy and Research Design to attain these objectives are described in the current chapter.

The chapter is divided in two different parts. In the first part, the Research Strategy, that includes the choice of an **epistemology**, a **research approach**, a **methodology** and a **unit of analysis**, is introduced. In the second part, the Research Design, that includes **data collection** and **data analysis** methods in each stage of the research process, is studied in depth.

So, first, the decisions to be taken regarding the Research Strategy are going to be explained, following the useful metaphor ‘each of an onion’s layers’ (*see* Figure 5.1. *The research onion*, source: Saunders et al., 2009). First, the research philosophy, that will underlie the present research and that will determine other decisions that need to be taken, is going to be adopted. After that, a research approach and a research strategy are going to be chosen. Once that decision has been taken, the research method and the data collection techniques, that from our point of view help us to reach the objective of this thesis, are going to be introduced.

Second, more attention is going to be paid to how to develop a Research Design that allows to answer different questions of this thesis. The process has been divided in three different stages: 1.The identification of the influential factors on Professional Identity (PI); 2.The construction and validation of the Professional Identity Strength Influences Scale (PISTIS); and, 3.The measurement of the influence of the identified factors on PI, in order to answer the questions exposed in the previous chapter 4.

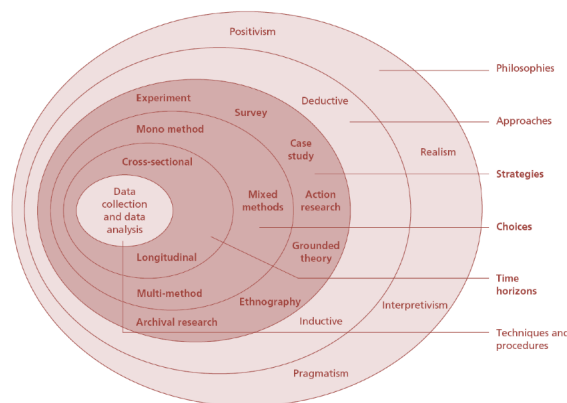


Figure 5.1. The research onion, Source: Saunders et al. (2009)

5.1. Research Strategy

5.1.1. Epistemology: choosing a research philosophy

The word epistemology comes from the Greek *epistēmê* -knowledge- and is defined as *‘the theory of knowledge, especially with regard to its methods, validity, and scope, and the distinction between justified belief and option’* (Oxford Dictionary, 2010). This is related with how we get to know the reality (Krauss and Putra, 2005). It could be stated that choosing an epistemological orientation implies to adopt a general worldview, a specific group of beliefs about the world that would determine the **research approach** -deductive or inductive- and, consequently, the **methodology** -quantitative, qualitative or mixed methods- adopted by the researcher (Creswell, 2009). Krauss and Putra (2005) identified three questions that epistemology is concerned about: *‘what is the relationship between the knower and what is known? How do we know what we know? What counts as the concept of knowledge?’*

The answer to these questions determines the epistemological approach adopted. Creswell (2009) identified four different perspectives, to wit **post-positivism**, **constructivism**, **advocacy and participatory**, and **pragmatism**. However, the most common approaches acknowledged in the literature are positivism or post-positivism and, social-constructivism -also known as interpretivism (Saunders et al., 2009)-.

- **Post-positivism** derives from positivism that is sometimes referred as the *‘scientific method’*, and appears on de 19th-century by the hand of the French philosopher Auguste Comte (Crotty, 1998; Smith, 1983; Creswell, 2009). Under this epistemology the object of study is considered to be independent of the researcher (Krauss and Putra, 2005). This philosophy considers that causes determine outcomes; and, there is a need to identify and assess the causes that influence these outcomes. Phillips and Burbules (2000) identified the following key assumptions of post-positivism: first, knowledge is conjectural, there is no absolute truth; second, through research claims are made and other claims are rejected; third, data evidence and rational consideration shape knowledge; fourth, research seeks to develop relevant, true statements; fifth, objectivity is essential for inquiry.

Patton (1990, p.91) identified three basic questions that post-positivism answers: *‘what is really going on in the real world? What can we establish with some degree of certainty? How can we study a phenomenon so that our findings correspond insofar as it is possible in the real world?’*

Mostly, this philosophical view adopts a deductive research approach, and is related with quantitative research.

- **Social constructivism** appears from the works of Berger and Luckmann's (1967) and Lincoln and Guba (1985). This is typically used as an approach in qualitative research. The assumption of this perspective is that individuals want to comprehend the world they live in and work. Individuals develop subjective meanings of their experiences, these are varied and multiple. And, the aim of the researcher is to capture each of these meanings, reducing them into few categories. Crotty (1998) underlies the following assumptions related to this approach; first, meanings are constructed by human beings as they engage with the world they are interpreting; second, individuals' social and historical perspective determine the way they engage with the world; and, third, the generation of meanings is social.

Patton (1990, p.96) identified the following questions as leading social-constructivism: *'how have people in this setting constructed reality? What are their reported perceptions, 'truth', explanations, beliefs and worldviews? What are the consequences of their construction for their behaviours and for those with whom they interact?'*

This perspective, on the contrary as the one exposed before, is closely related with the inductive research approach, where its aim is to build theory.

- **Advocacy and participatory approach**, this perspective appears during the 80s and 90s. This worldview is usually associated with qualitative research, but can be seen in quantitative research. This perspective considers that research inquiry needs to be related with politics and political agenda. Some of the assumptions of this approach are: first, participative action is recursive or dialectical and focused on bringing about change in partner; second, the form of inquiry is focused on helping individuals in issues such as relationships of power in educational settings, work procedures among others (Kemmis and Wilkinson, 1998); third, helps unshackle people from the constraints of irrational and unjust structures that limit self-development and self-determination; and, fourth, it is practical and collaborative. The associated methodology to this perspective is action research.
- **Pragmatic worldview**, where the highest representatives were Peirce, Mead, James and Dewey (Cherryholes, 1992; Creswell, 2009), is not committed with any system of philosophy and reality. It applies mixed methods of research; researchers are free to choose one or another method; this approach does not see the world as a unity; researchers consider that truth is what works at the time; pragmatism researcher looks at the *what* and *how* to research, based on the intended consequences; researchers agree that research always occurs in social, historical, political, and other context; pragmatism believes in an external world independent of the mind as well as lodged in the mind; and, pragmatism opens the door to multiple methods, worldviews, and assumptions (Creswell, 2009).

Since Ibarra (1999) noted that there was a need of addressing topics about how professionals define themselves in a professional role, the research in PI has increased, adopting both constructivist (Hallier and Summers, 2010) and post-positivists' (Adams et al., 2006) approaches. In the higher education context, the study of PI has been more recent and, therefore, there has been, initially, a need of understanding this phenomenon, what has made researchers to adopt mostly a social-constructivist philosophy. These researchers has been concerned about the perceptions students have about their identity as future professionals (e.g. Hallier and Summers, 2010; Pratt et al., 2006); they has been focused on understanding their meanings about this phenomenon and to construct theory regarding it. However, nowadays, existing already accumulated knowledge about the construction of PI in higher education, this trend has changed and academics are adopting a post-positivist philosophy when studying it. This new trend is underlined by a deductive approach, where the principal objective is to test the created theory around PI in the higher education context, analysing the relationship between this construct and other variables (e.g. Canrinus et al., 2012).

Following this natural evolution of epistemological paradigms in the construction of knowledge about PI in higher education, in order to achieve the purpose of this thesis, a **pragmatic epistemology** is adopted. When adopting this approach the following statements guide us: *'study what interests you and is value to you, study in different ways in which you deem appropriate, and use the results in ways that can bring about positive consequences within your value system'* (Tashakkori and Teddlie, 1998; Saunders et al., 2009, p.109).

There are two basic reasons that make us to adopt this perspective. First, as mentioned, this perspective is not committed with any philosophical system, which gives us some freedom when selecting the techniques, methods and procedures to apply, quantitative or qualitative, attending the needs and purposes of our project. Elements of both the positivist and constructivist perspective need to be combined because the aim is to construct theory through students' perceptions, identifying the factors that they feel influenced their PI, proposing a conceptual framework -constructivist part-; and, the proposed model is also intended to be validated -positivist part-. Second, close to what was said, this research is concerned about the factors that influence the PI of the students' population, identifying and testing the influence that those have on that individuals' PI. In this sense, different data collection methods are used, to wit qualitative or quantitative, in order to provide a better understanding of the phenomenon under consideration.

5.1.2. Choosing a research approach and a research methodology

The adopted epistemology determines the research approach, which, at the same time, delimits the adopted research methodology followed by the researcher. All these decisions integrate the Research Strategy, which, in turn, determines the data collection and data analysis methods, which integrates the Research Design explained in section 5.2. As noted by Creswell (2009), a quantitative researcher is more prone to adopt a post-positivist approach, while a qualitative researcher would choose a social constructionism and advocacy/participatory worldview and, a mix-method researcher a pragmatic perspective.

So, the decision to adopt a pragmatic worldview has several implications on the research approach as well as on the research methodology chosen to attain the thesis objectives.

5.1.2.1. Choosing a research approach: deductive or inductive?

The selection of a pragmatic point of view is related with both approaches, deductive and inductive. In this sense, it contrasts with the positivistic perspective, which implies a deductive approach, and aims to test the existing relationship between variables; and, the constructivist perspective, which adopts the inductive approach (Saunders et al., 2009).

On the one hand, **deductive approaches** involve testing theory, attempting to validate the existing theory. Based on Saunders et al. (2009), deduction puts emphasis on the following scientific principles:

- Move from theory to data.
- Explain causal relationships between variables.
- Collect quantitative data.
- Apply controls to ensure validity of data.
- Operationalize concepts to ensure clarity of definition on a highly structured approach.
- Independence of the researcher about what is being investigated.
- Select a high number of individuals to conform the sample in order to generalize the results.

On the other hand, **inductive approaches** involve building theory, achieving a better understanding of what is going on. Saunders et al. (2009) stated that an inductive approach implies:

- Gaining an understanding of the meanings that humans relate with events.
- A better understanding of the research context.
- The collection of qualitative data.
- A more flexible structure that permits changes.
- A realization that the researcher is part of the research process.
- Less concern with the need to generalize.

Taking into account the basic aim of the present thesis, to identify and analyse the influence that several factors have on students' PI and, that achieving this aim implies two phases, one to identify those factors and, another, to validate and analyse the influences that these have on students' PI, the adoption of both approaches is necessary. To identify new factor is expected, increasing the theory about the concerned topic, by adopting an inductive approach; and, to test theory is also expected, by following a deductive approach. In sum, the study is both a descriptive and an explanatory study. Descriptive in its first phase as, at this stage, it pretends to identify the factors that influence students' PI; and, explanatory in its second phase as it tries to explain the relationship between variables, trying to show which is the influence that the identified factors has on students' PI (Saunders et al., 2009). The variables which are considered, and will be explained later, are as follows: PI as a dependent variable and the remaining identified factors, after the validation process, -Educational Experience Conditionals, Personal Motivation Conditional and External Motivation Conditionals- as explanatory variables.

5.1.2.2. Choosing a research methodology: sequential mixed methods

As it can be seen in the former paragraph, there are three types of research methods: quantitative, qualitative and mix methods. Each of them is associated to a particular worldview, to a specific way of collecting data, and a particular way to analyse this data and interpret it. It is not our intention to over explain each of these methodologies; just the most important issues of each of these methods are going to be highlighted (*see Table 5.1. Qualitative, quantitative and mixed methods approaches*).

5.1.2.2.1. Quantitative research

Aliaga and Gunderson (2000) referred to **quantitative research** as *‘the way of explaining phenomena by collecting numerical data that are analysed using mathematically based methods’*. In quantitative research, the researcher tests a theory by specifying hypothesis and collecting data in order to accept or refuse these hypotheses.

Quantitative data is collected through a **survey research inquiry** or through an **experiment**. There are several data collection techniques that pertain to this inquiry strategy; some of them are the questionnaires, structured observation, and structured interviews (Saunders et al., 2009). **Questionnaires** are used on explanatory or analytical research. They allow us to examine the relationship between variables -cause-effect relationships-. **Structured observation** is concerned about quantifying behaviour. And, **structured interviews**, also known as interviewer-administered questionnaires, are used to collect quantifiable data, by recording the answer, codified, of the respondent (Saunders et al., 2009).

5.1.2.2.2. Qualitative research

Denzin and Lincoln (2005, p.3) defined **qualitative research** as *‘a situated activity that locates the observer in the world. It consists of a set of interpretive, material practices that makes the world visible. These practices transform the world. They turn the world into a series of representations, including field notes, interviews, conversations, photographs, recordings, and memos to the self. At this level, qualitative research involves an interpretive, naturalistic approach to the world. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or to interpret, phenomena in terms of the meanings people bring to them’*.

Qualitative data can be collected by participating in the setting, by observing directly, by interviewing in depth and, by analysing documents and materials culture. The first one of the ways exposed, **observation**, implies the annotation and recording of events, behaviours or objects, in the social setting chosen to be studied, what is used to discover complex interactions

in natural social settings (Guest et al., 2013). The second one, **participant observation**, demands first hand involvement in the social world chosen for the study (Guest et al., 2013). The immersion offers the researcher the opportunity to learn directly from his or her own experience (Glesne and Peshkin, 1992). The third one, **in-depth interviewing**, is one of the most used data collection methods in qualitative research, and also in the PI field. Interviewing is described as '*a conversation with a purpose*' (Kahn and Cannell, 1957). In qualitative interview the researcher explores a few general topics to help uncover the participant's view, but otherwise respects how the participant frames and structures responses. And, on the fourth one, **review of documents**, the researcher gathers and analyses documents produced in the course of everyday events or constructed specifically for the research in hand.

5.1.2.2.3. Mixed methods

Mixed method approach is the general term used when both quantitative and qualitative data collection techniques and analysis procedures are present in research design, and can be divided into two types: **mixed method research** and **mixed model research**. The first one uses quantitative and qualitative data collection techniques and analysis procedures, either at the same time or one after the other, but it does never combine them. That means that quantitative data is analysed quantitatively and qualitative data in the qualitative way. The second one combines quantitative and qualitative data collection techniques and analysis procedures as well as quantitative and qualitative approaches at other phases of the research such as the generation of research questions. Quantitative data may be converted to narrative data and analysed qualitatively and qualitative data may be converted to numerical codes and analysed quantitatively (Saunders et al., 2009).

Creswell (2009) identified three different strategies of inquiry associated to research: sequential mixed methods, concurrent mixed methods and transformative mixed methods. In **sequential mixed methods**, the researcher aims to expand and elaborate the findings of one method with another method. For example, beginning with a qualitative interview and following with a quantitative survey; or, alternatively, beginning with a quantitative method, in which theory is tested, followed by a qualitative method, involving a deeper exploration with specific individuals. In **concurrent mixed methods**, the researcher mixes the quantitative and qualitative data. Both forms of data are collected at the same time and then the information is integrated in the interpretation of the overall results. And, in **transformative mixed methods**, the researcher uses a theoretical lens as an overarching perspective within a design that contains both quantitative and qualitative data.

Due to the fact that this approach uses both quantitative and qualitative data, the methods used for data collection would be the ones explained for quantitative and qualitative approaches.

It is important to note, that when a pragmatic perspective was adopted and, consequently, both a deductive and inductive approaches were also adopted, a mixed method methodology was chosen. Moreover, drawing on the aim of the present project, to identify the factors that influence students' PI through Focus Groups -qualitative strategy- and, to test the relationship between PI and the identified factors in the higher education context -quantitative strategy-, **sequential mixed methods methodology** is thought as the best alternative.

Table 5.1.
Qualitative, quantitative and mixed methods approaches (Creswell, 2009)

Typically...	Qualitative Approaches	Quantitative Approaches	Mixed Methods Approaches
Use these philosophical worldview	Constructivist; advocacy; participatory	Post- Positivist	Pragmatic
Employs these strategies of inquiry	Phenomenology; grounded theory; ethnography; case study and, narrative	Surveys and experiments	Sequential concurrent, and transformative
Employ these methods	Open-ended questions, emerging approaches, text or image data	Closed- ended questions, predetermined approaches, numeric data	Both open- and closed-ended questions, both emerging and predetermined approaches, and both quantitative and qualitative data and analysis
Use these practices of research as the researcher	<ol style="list-style-type: none"> 1. Positions him or herself 2. Collects participant meanings 3. Focuses on a single concept or phenomenon 4. Brings personal values into the study 5. Studies the context or setting of participants 6. Validated the accuracy of findings 7. Makes interpretations of the data 8. Creates an agenda for change or reform 9. Collaborates with the participants 	<ol style="list-style-type: none"> 1. Tests or verifies theories or explanations 2. Identifies variables to study 3. Relates variables in questions or hypothesis 4. Uses standards of validity and reliability 5. Observes and measures information numerically 6. Uses unbiased approaches 7. Employs statistical procedures 	<ol style="list-style-type: none"> 1. Collects both quantitative and qualitative data 2. Develops a rationale for mixing 3. Integrated data at different stages of inquiry 4. Presents visual pictures in the study 5. Employs the practices of both qualitative and quantitative research

5.1.3. Unit of analysis

Before going on with the explanation of the different stages that would constitute the Research Design of this thesis, to make incision in the choice of the unit of analysis, as a part of the Research Strategy, it is thought important. A unit of analysis is considered the most basic element of a scientific research project. Silverman and Solomon (1998) noted the relevance of the proper selection of a sample, by asserting that '*the inappropriate unit of analysis may lead to results that are erroneous*'. This is defined as '*the level in which data are used to represent one data point in an analysis*', that is the subject -*the who or what*- of a study about which an analyst may generalize (Lewis-Beck et al., 2004).

This thesis is focused on the factors that influence the PI construction of first-year students. It is expected from this thesis to achieve a better understanding of the factors that make future workers constructing a specific sense of PI, deciding their career by choosing a bachelor degree instead of another. In this way, an integrative and systematic view of this fact, by analysing the influence of each of the identified factors in the first-year university students of several disciplines, is pretended to being provided. Considering that, first-year university students are chosen as a unit of analysis. The reason why first-year university students has been chosen, rather than other that have already been integrated to the university or individuals that have already been incorporated to the workplace, is, precisely, that, they have not been integrated to the university yet. So, the influence of the factors on students that have not been confronted to the influence of the university and which PI has not been influenced by the information transmitted in this context could be analysed.

5.2. Research Design

Creswell (2009, p.3) defines this process of planning research as '*plans and procedures for research that span the decisions from broad assumptions to detailed methods of data collection and analysis*'.

Roughly, the present research is divided in three different stages. The first stage concerns to the identification of the influential factors on a student population. This identification is conducted in two different directions: first, a literature review, which permits us to identify the factors already acknowledged within the literature, is carried out; and, second, a qualitative study with Focus Groups, which allows us to identify new factors in a Spanish population and confirm the ones identified within the literature, is developed. The second stage is related with the construction and validation of an instrument in order to measure the identified factors, because of the inexistence of a valid and reliable instrument to measure these factors. And, the third, and last stage, is endowed with the test of the relationships, between students' PI and the identified factors. The data in this stage is collected through the validated and constructed questionnaire, the reasons that make us to choose this data collection method are:

1. There is no secondary data about the variables of interest, and the population of reference. Quantitative data about several factors as well as PI strength of Spanish students of different bachelor degrees need to be collected. There is no previous attempt to do that with a Spanish sample as well as with multiple disciplines students.
2. In order to validate the model of influencing factors proposed, data from many people is needed. The questionnaire is a relatively inexpensive tool that let us to access to multiple people, for example, the Internet based questionnaire.

Within the following subsection the data collection methods as well as the data analysis in each of the parts that comprises this research are going to be detailed.

5.2.1. First stage: identification of the influential factors on Professional Identity

In this first stage, the aim is to reach the first objective of this thesis, *the construction of an integrative and conceptual framework of the influencing factors on PI in higher education*. The identification of the factors is conducted in two directions. First, a literature review concerning the factors that influence PI and the decision to study a particular bachelor degree is developed. This let to identify the factors already considered in previous research. Second, a qualitative study is conducted to identify other influential factors obviated within the literature and, to confirm the existence of the ones found through the literature review.

Before explaining each of the processes that are followed in order to identify the influential factors, permit us to expose that in the moment of reviewing the literature both the factors that influence PI and the factors that influence students' bachelor degree choice are being considered. The reasons that underline this decision are: first, based on Marcias' Identity Status Paradigm (1966), as it was exposed in chapter 4, individuals can be classified according to their identity status. This classification is based on two variables, commitment and crisis; for being able to overcome a period of crisis self-exploration is needed. So, considering both variables, there are individuals with a foreclosed identity -they make a commitment without a self-exploration-; with diffusion identity -they do not make a commitment and may or may not have made a self-exploration-; with moratorium identity -individuals are in a state of active exploration but have not made a commitment yet-; and, with an achieved identity -they have finished a period of active exploration and made a commitment- (Meeus et al., 1999). These individuals could be classified in three different groups: 1.The ones that constructed their identity through a self-exploration process, and their identity guided their career choice -moratorium, achieved and, sometimes, diffusion status individuals-; 2.The ones that constructed their identity without a self-exploration process, and their identity guided their career choice -foreclosed status individuals-; 3.The ones that have not constructed yet their identity, and decided to be enrolled to a bachelor degree for other reasons not related with their identity -diffusion status individuals-. Taking that into account, it is easy to see that there are factors that influence individuals PI and that make them to commit with a career option and, there are factors that make individuals to choose a career path, but do not influence their occupational or PI. In the present thesis, the attention is paid on the first group of factors, the ones that make individuals to commit with a career choice, understanding commitment as '*the strength of individuals' ties with a particular group*'. The level of commitment to a particular group or category determines how group characteristics, norms, or outcomes influence the perceptual, affective, and behavioural responses of individual belonging to that group (Ellemers et al., 2002).

Second, literature has treated indistinctly these groups of factors, the ones that affect PI, and the ones that do not affect PI. So, all the factors are included in order to distinguish between the

ones that affect the level of commitment of the individual and, consequently, their identity; and the ones that do not affect that commitment.

5.2.1.1. Literature review

In this case the literature review gives us the possibility to identify other studies closely related with our own and provides us a framework for establishing the importance of the study and a benchmark for comparing the results with other findings (Miller, 1991; Creswell, 2009).

A multidisciplinary literature review is conducted by using databases as Scopus and Web of knowledge. By considering multiple disciplines, all the factors that influence PI in the higher education context are expected to being identified. The search criterion is limited to articles published from 1995 to 2015. Keeping in mind that our aim is to identify the factors considered previously in the literature that affect PI and, based on the relationship between PI and the decision to study a particular bachelor degree, the key terms used to conduct our searches, in order to identify these factors, are divided into three groups:

- **First group-** ‘sources’ and ‘Professional Identity factors’: by using these keywords articles that analyse several factors or influential sources, related with PI, are expected to being found.
- **Second Group-** ‘Professional Identity construction’, ‘Professional Identity development’ and ‘Professional Identity formation’: the keywords are related with the process by which individuals construct their PI, so it has been though that it could be possible that authors who analyse that process had identified influential factors although not being specified in the title.
- **Third group-** ‘degree choice factors’: for the reasons exposed before, the factors related with the bachelor degree choice have been considered too, due to the fact that maybe some extrapolation could be stated in relation with PI.

It is important to note that although some of these terms may seem interchangeable, there is a clear preference between disciplines to use one instead of another. In fact, in the Business Management literature there is tendency to use the term PI construction, while within the education literature the most common concept used is PI formation.

Also, the references of the identified articles are screened, in order to include in our study the ones that are not indexed within the two databases mentioned before (*see* Epigraph 6.1. *Identification of the influential factors*, on Chapter 6. Results).

5.2.1.2. Qualitative exploratory pilot study

The aim, when developing the qualitative study, is to find factors that have not been considered previously in the literature and that influence PI and the decision to study a bachelor degree as well as to confirm the identified factors.

5.2.1.2.1. Sampling decisions

In order to identify the influential factors, a **purposeful sampling method** is used. Schatzman and Strauss (1973) asserted that this sampling method is a practical necessity that is *‘shaped by the time the researcher has availability to him, by his framework, by his starting and developing interests, and by any restrictions placed upon his observations by his hosts’*. So, the sample that is central for the purpose of our research aim, a sample that is information-rich, is selected. Within the multiple types of purposeful sampling, convenience sampling is the one chosen by the authors, as defined by Battaglia (2008) *‘this is a type of nonprobability sampling in which people are sampled simply because they are ‘convenient’ sources of data for researchers’*. So, based on what have been mentioned, for the purpose of this research students from two different bachelor degrees are chosen: **tourism** and **geography**. Those bachelor degrees are chosen for four reasons. First, tourism is considered a new bachelor degree, a non-traditional profession. So, the knowledge and information about this profession that society has is scarce. And, from this point could arise other factors not considered previously that affect PI construction. Second, most of the studies analysing PI have focused on healthcare disciplines, considered as extreme cases, because of the high PI associated to them (Pratt et al., 2006), so there is a need to consider other professional fields. Third, geography is a traditional profession, useful to confirm the identified factors in the literature as well as to find new factors not considered, because of the little importance given to this bachelor when analysing PI influences. And, fourth, access to data is provided, considering that the authors are teaching a subject about qualitative methodologies in these two bachelor degrees.

At the end, the sample is made up of 63 third-year university students, tourism (n=40) and geography (n=23). These students have been divided in four Focus Groups. Demographically, our sample consists in a 59% belonging to women and 41% to men (*see Table 5.2. Focus Group Distribution*). Respondents ages have been asked and most of them are in their twenties.

Table 5.2.
Focus Group Distribution

Focus Group Number	Bachelor Degree	Women	Men
1	Tourism	12	5
2	Tourism	10	1
3	Tourism	8	4
4	Geography	7	16

5.2.1.2.2. Data collection through Focus Groups

The primary method of data collection is using Focus Groups. These are defined by Thomas et al. (1995) as *‘a technique involving the use in-depth group interviews in which participants are selected because they are a purposive, although not necessarily representative, sampling of a specific population, this group being ‘focus’ on a given topic’*.

There are several reasons behind this decision. First, this data collection technique provides a way of obtaining data relatively quickly from a large number of research participants (Wilkinson, 2004). Second, it allows respondents to react to and build upon the responses of other group members’, creating a synergistic effect (Stewart and Shamdasani, 1990). And, third, these are good techniques to delve into the motivations of individuals (Lewis, 2001).

The four Focus Groups are conducted into the classroom context, during a subject of qualitative methodology techniques, serving as an example of this methodology, the first day of the course. The fact that all the participants knew each other, because they were classmates, is important for our research because it has reduced the social desirability bias, just as Wooten and Reed (2000) exposed, *‘when the participants already know each other, they are more prone to provide an authentic self-presentation’*. The Focus Groups have lasted between 60-90 minutes. After asking for permission, and making the students to sign a consent form, the Focus Groups are recorded by using a video camera and a recorder. The Focus Groups are transcribed verbatim. A semi-structured protocol is used, being modified during each wave of data collection to take advantage of the emerging themes (Spradley, 1979), nevertheless, in each set of protocols are five broad common themes developed in open-ended questions.

The conducted Focus Groups are intended to give answer to the following questions (*see* Table 5.3 for the Questions Guide):

- How do students perceive their PI?
- Why students have chosen Tourism or Geography bachelors’ degrees?
- Which factors have influenced their choice?

Table 5.3
Focus Group questions example by theme

1. Students perceptions of their PI

Can you define yourself in professional terms using the following sentence? I am...
What do you understand by Professional Identity? Do you have one? Which one?

2. Reasons for choosing their bachelor degrees

Why did you choose this bachelor degree and not another one?
When you decided to choose this bachelor degree? And how did you do take that decision?
What or who do you think influenced your wish to work in this profession?

3. Influence on their choice

3.1. Social experience

How do you think your friends/relatives would define your future profession?
How do you think the media portray your profession?
Does the information that the media provide affect you in any way?
What image do you think society has of your profession? How does this affect you? (Does it make you feel more or less identified with this profession? Why?)

3.2. Educational experience

Which subject did you find easiest at school? How do you think this has affected your Professional Identity?
Would you say that this is a very general or very specific bachelor degree? Why? In what sense?

3.3. Perceived congruence with the profession

Can you see a similarity between the values associated with this profession and your own values?
Has this influenced your Professional Identity?

3.4. Professional experience

Have you had any work experience in the area that you are studying or in any other areas?
Has your perception of this bachelor degree changed as a result of these experiences? In what sense? Why?

5.2.1.2.3. Data analysis

The qualitative data obtained from the four Focus Groups is analysed by using a **qualitative interpretative analysis** (Stokes et al., 2013). Through this method, underlying themes, in relation to our objective -to identify the factors that influence students' PI-, are identified.

Step 1. Creating prior coding categories: deductive category development

Reviewing the literature several factors identified as influential on students' PI and their bachelor degree choice are identified. These factors are gathered in multiple groups attending their essence, so multiple initial coding categories are created and, basing on the literature, a definition is provided to each of those categories (Myring, 2000).

Table 5.4.
Deductive codes examples

Category	Subcategory	Description
Social Experience	Family	Influences on students' Professional Identity and their decision to study a particular bachelor degree that come from their proximal familiar context
Educational Experience	Subjects	Influences on students' Professional Identity and their decision to study a particular bachelor degree that come from the educational context, in particular from the subjects they have coursed. E.g. students that were good in one subject and decided to be enrolled in a particular bachelor degree because of that.
Social of Profession	Image of the Prestige	Influence exerted on Professional Identity and the decision to study a particular bachelor degree by the prestige associated to the profession.

Step 2. Reviewing transcripts and adding new codes: Deductive category application and Inductive category creation

After the literature review, the Focus Groups with tourism and geography students are conducted. Once the transcriptions of the Focus Groups are done, all the highlighted passages are coded by using the existing codes, trying to confirm the created codes through the data -deductive-. The passages that can not be categorized with the existing coding scheme are given another code -inductive- (Myring, 2000).

The final coding solution represents the factors that influenced the interviewed students PI. With the resulting factors, identified through Focus Groups, the initial conceptual framework has been developed (*see Figure 3.2. General influences on Professional Identity for the initial conceptual framework -chapter 3, epigraph 3.3-*).

Table 5.5.
Inductive codes examples

Category	Subcategory	Description
Degree characteristics	Degree Tradition	Influences on students' Professional Identity and their decision to study a particular bachelor degree that come from the seniority of a bachelor degree
Degree characteristics	Professional Versatility	Influences on students' Professional Identity and their decision to study a particular bachelor degree that come from the professional options they have once finishing their studies. E.g. Bachelor degrees that let students to develop more than one specific profession such as Tourism.
Degree characteristics	Degrees' Name	Influences on students' Professional Identity and their decision to study a particular bachelor degree that come from the facility to identify the professional that develops the profession with a specific name.

5.2.2. Second stage: construction and validation of the PISTIS (Professional Identity Strength Influences Scale)

This part of our work is endowed to our second objective, *the development and validation of a scale to measure the influencing factors on PI in higher education.*

As exposed in chapter 4, was found that despite the extant interest in explaining the construction of PI in different disciplines -Medicine, Education, Psychology, Management, among others- (Niemi, 1997; Hallier and Summers, 2010; Pratt et al., 2006) as well as in identifying influencing factors (Adams et al., 2006; Lordly and MacLellan, 2012; Shlomo et al., 2012), there is still a gap regarding the influence of each factor on PI. In fact, there has been no previous systematic research attempt to study the factors affecting PI strength in the context of higher education. This gap might be explained by the lack of a reliable and valid measure of each of these sources. Therefore, the aim of this stage is to develop and validate a reliable instrument that measures the source of influence on individuals' PI strength adapted to the students' population.

According to Hinkin (1998) the questionnaire is developed following four sequential steps:

- **Step 1:** item generation
- **Step 2:** questionnaire administration
- **Step 3:** Exploratory Factor Analysis (EFA) and internal consistency
- **Step 4:** Confirmatory Factor Analysis (CFA)

Steps 2 and 3 are repeated in two pilot studies. Step 4 is just developed in the second pilot study.

5.2.2.1. Step 1: items generation

One of the most common questions when generating the items is '*how many items are necessary?*' (Hinkin, 1998). Harvey et al. (1985) proposed that four items per scale are needed to test the homogeneity of items within each latent construct. So, when generating the scale, an initial pool of items big enough to retain, at least, after the analysis, four items per scale is provided.

Scale items can be developed, by using two different approaches: deductive and inductive (Hunt, 1991). **Deductive approach** is used when literature provides enough information in order to generate the items. To adopt this approach it is necessary a good understanding of the phenomenon under study. The definition from the literature should let the researcher elaborate an initial pool of items (Schwab, 1980). In contrast, **inductive approach** is appropriate when the conceptual basis for a construct do not result in an easily identifiable dimension for which items can then be generated (Hinkin 1998). So, in our particular case, in order to generate scale items both deductive and inductive approaches are adopted. A deductive approach is used, initially, because literature in PI in higher education is extensive and provide, somehow, a good foundation, that let identify the different factors that influence PI, and that let elaborate several items. However, since there has not been any scale validated, analysing factors with an influence on PI on students and, also, due to the abstract nature of these elements, an inductive approach, by using data obtained from Focus Groups with university students for being able to detect factors that have influenced their PI and their bachelor degree choice, is adopted. The information related to these factors is turned into items of the PISTIS -Professional Identity Strength Influenced Scale-. Positive and negative worded items are included to reduce the risk of response bias (Anastasi 1961; Likert 1932; Mehrens and Lehmann 1983; Nunnally 1978). However, as it is going to be explained later, other measures will be adopted to reduce response bias.

In order to assess the appropriateness of the instrument, four experts from different universities from Spain -Seville, Madrid and Tarragona- and abroad -Limerick-, with experience in developing questionnaires, rate the PISTIS. This let us delete several items.

The items are scaled by using a 5-point Likert scale standing from 1 'I fully disagree' to 5 'I fully agree', where students must indicate their level of agreement.

5.2.2.2. Step 2: questionnaire administration

In this step, items should be presented to a sample representative of the actual population of interest (Hinkin, 1998). For our study, the questionnaire is administered to a population of students from different bachelor degrees, since one of our objectives is to construct a questionnaire adapted to the whole students' population. Choosing a heterogeneous sample the variability of the items is assured (Ferrando and Anguiano-Carrasco, 2010). Concerning the size of the sample, it is worth saying that this topic has been under debate for a long time. Anderson and Gerbing (1991) stated that small samples are appropriate; however, Cohen (1969) exposed that when the sample size increases, the likelihood of attaining statistical significance also increases. Research has suggested that 150 individuals is an adequate sample size for conducting an EFA and, 200 individuals in the case of CFA (Hinkin, 1998). For this reason, in order to conduct the second step, a limit of 150 individuals is established. Finally, in the first pilot study, a total of 208 questionnaires, used to conduct the EFA, have been obtained. And, in the final study, a total of 604 questionnaires, randomly divided in two groups -one group for the EFA and the other one for the CFA-, have been collected. The whole sample is used to conduct the Final Factor Analysis.

For being able to distribute in a proper way the questionnaire to the students, the Vice-chancellorship for teaching at the University Rovira and Virgili is contacted. After several appointments, the permission to deliver the questionnaire to the students is given, due to the fact that the study is considered important for the university (*see* Appendix C for the permission and, for the information concerning the data protection). In the moment of handing out the questionnaires, the students are controlled and, the ones that seem that they are not answering the questionnaire are directly removed from the study.

5.2.2.3. Step 3: Exploratory Factor Analysis and internal consistency

To reduce the initial pool of items, a three-step procedure is followed. First, the descriptive statistics are analysed. Second, an EFA is computed. And third, the reliability of the used 5-point Likert scale is analysed.

In the first part of this stage, the descriptive statistics are analysed. Items are assessed in terms of:

- Items with standard deviation $< .80$ are considered for removal
- Both items with $KMO < .80$ and common variance $< .10$ are proposed for removal (Kaiser 1970). Items with a high common variance are expected to being retained.

In the second part of this stage, an EFA is conducted. It allows the reduction of a set of observed variables to a smaller set of variables (Hinkin, 1998). The researcher should retain just the items that load in one factor. The criterion used to assess items, in the EFA, is: items with factor loadings $< .30$, in the factor analysis, are considered for removal (Kline 1994).

And, finally, in the third part the internal consistency is assessed. Reliability is defined as '*the accuracy or precision of a measuring instrument and it is a necessary condition for validity*' (Kerlinger, 1986). The reliability should be assessed after a unidimensionality has been established (Gerbing and Anderson, 1988). The most common way to compute the internal consistency is by using the Cronbach's alpha, but it is recommended to use it in conjunction with factor analysis (Cortina, 1993).

The criterion used is: Reliability -internal consistency- Cronbach's α coefficient $\geq .80$ is considered desirable for each domain and, the removal of an item should not increase the internal consistency (Bland and Altman, 1997; DeVellis, 1991; DeVon, et al. 2007); and, if the item correlation with the global scale -corrected item-total correlation- is $< .20$, the item is proposed for removal (Streiner and Norman, 2003).

To compute the descriptive statistics as well as to assess the internal consistency, the SPSS statistics 20 (IBM Corp., 2011) is used. The EFA is performed using MATLAB (The MathWorks Inc, 2007) and FACTOR 6.01 (Lorenzo-Seva and Ferrando, 2006).

5.2.2.4. Step 4: Confirmatory Factor Analysis

Hinkin (1998) stated that if the former step is properly followed, it is highly likely that new scales will be internally consistent and possess content validity. From the third step, information about the number of factors, the relationship among the variables and, the factors and the relationship between the factors are expected to be obtained. By using this information, several hypotheses are written and a CFA is conducted (Ferrando and Anguiano-Carrasco, 2010). As noted by Hinkin (1998), CFA should be just a confirmation that the prior analyses have been conducted thoroughly and appropriately. And, the CFA responds to two different purposes:

1. To assess the goodness of fit of the measurement model, comparing a single common factor model with a multi-trait model with the number of factors equal to the number of construct in the new measurement (Jöreskog and Sörbom, 1999).
2. To examine the fit of individual items within the specified model using the modification indices and t values.

In this study, the CFA is computed by using LISREL 8.5. (Jöreskog and Sörbom, 2001). The CFA is developed just in the second pilot study with a sample of 304 students, different from the sample used to conduct the EFA. This sample is selected randomly.

5.2.2.5. Acquiescence response bias

When individuals are asked to self-report a questionnaire, the responses registered are susceptible of an important bias response known as the acquiescence responding AC. Cronbach (1942) defined acquiescence as the tendency to agree with positive worded questions irrespective of the content. Baumgartner and Steenkamp (2001) also defined disacquiescence as the tendency to disagree with items regardless of the content. Although in a well-designed questionnaire the prime determinant of individuals' responses is the content dimension that the questionnaire intends to measure, response biases are expected to influence individuals' scores to a certain degree. The approaches that deal with acquiescent response in the specific sense assume that it should be possible to identify acquiescence as a common style factor behind a set of items that are semantically balanced (Mirowsky and Ross, 1991). In a balanced scale, with respect to the content trait, half of the items are worded in one direction and the other half in the contrary. In our questionnaire, AC response bias is controlled using the procedure proposed by Lorenzo-Seva and Ferrando, (2009), taking into account a two-steps procedure: 1. The inter-item correlation matrix is analysed to remove the variance caused by acquiescent responding from the content items with a totally or partially balanced scale; and 2. The resulting residual inter-item correlation matrix is analysed using factor analysis to identify the content variables of interest.

5.2.3. Third stage: determination of the influence of the identified factors on Professional Identity strength

This third, and last, stage of the present thesis aims to cover the following objective: *to test the relationship between first-year university students' PI and the identified factors as well as to compare PI strength among those students.*

5.2.3.1. Sample

The sample is constituted by first-year university students (n=604) of multiple bachelor degrees taught in the University Rovira and Virgili (*see Table 5.6. Disciplines and Bachelor degrees' classification*). Of the total of individuals a 65.06% are female, a 34.11% are male and a 0.83% have not answered. The participants are between 18 and 48 years old (M=19 years, SD=3.55). Considering multiple bachelor degrees gives us the possibility to analyse the existing differences on the influence that the identified factors have on PI. First-year university students are chosen because this would let us analyse, in future projects, the influence that the university have on these students PI.

Table 5.6.
 Disciplines and bachelor degrees classification
 Source: Own elaboration

Discipline	Bachelor Degree	N
Arts and Humanities -AH- (n=25)	English Philology	13
	Catalan Philology	1
	Spanish Philology	4
	History	2
	Art History	5
Architecture and Engineering -AIE- (n= 67)	Agricultural Engineering	2
	Architecture	14
	Electric Engineering	13
	Chemical Engineering	11
	Computer Engineering	16
	Mechanical Engineering	7
	Telecommunications Engineering	4
Science -C- (n=157)	Molecular biology	39
	Biotechnology	30
	Oenology	26
	Chemistry	62
Communication Sciences -CC- (n= 23)	Audio-visual Communication	3
	Journalism	7
	Advertising	1
	Labour relations	12
Law and Economics -CEJA- (n=114)	Business Management, Finance and Economy	47
	Law	46
	Geography	5
	Tourism	16
Educational Science and Psychology -CEP- (n=117)	Early Childhood Education	27
	Elementary Education	28
	Social Education	15
	Pedagogy	12
	Psychology	13
	Social Work	22
Healthcare Science -CS- (n=101)	Physiotherapy	20
	Nursery	17
	Medicine	56
	Dietetics	7

5.2.3.2. Variables

The included variables in the present research are the identified factors through the literature review and the qualitative study, that remained after the validation of the questionnaire, as well as several control variables, in order to determine the characteristics and profiles of the students that composed the sample; and, the PI strength. The variables are the following:

Control variables:

- **Age-** this variable corresponds to the years that the individual have. This is a quantitative variable that adopted multiple values.
- **Bachelor degree option-** this variable is related with the place occupied by the bachelor degree, that students are studying, in their application form for accessing to the university, that is, if it was their first option or if it was their second option. This is a qualitative dichotomous variable that takes the value 0 if this was the first option and 1 if it was not.
- **Degree-** this variable includes the information about the number of bachelor degrees that each individual has studied. This is a quantitative dichotomous variable that takes the value 0 if this was the first bachelor degree and 1 if it was not.

Explanatory variables

- **External Motivation Conditionals (EMC)**, this variable is related with the external influences that the individual had. It is a quantitative scale variable measured by 9 items rated in a 5-point Likert scale, including items about the influences exerted by family, friends and the social image of the profession.
- **Personal Motivation Conditionals (PMC)**, this variables is related with personal factors, such as the perceived congruence with the profession in terms of values, believes or abilities, that make the individuals to commit with a professional path or want to identify themselves with it. This quantitative scale variable is measures by 5 items rated in a 5-point Likert scale.
- **Educational Experience Conditionals (EEC)**, this variable includes the information about the influences coming from the educational context, which had an effect on the individual, when deciding which particular professional path to take. This quantitative scale variable is measure by 4 items rated in a 5-point Likert scale.

Explained variable

- **Professional Identity strength-** this variable includes the information about students' identification strength with their future profession. This quantitative scale variable is measured by 9 items rated in a 5-point Likert scale, the MacLeod Clark Professional Identity questionnaire developed by Adams et al. (2006).

5.2.3.3. Measures

To collect the data, it is necessary to use two scales: the adaptation of the Professional Identity scale (Adams et al., 2006), already developed and validated, the aim of which is to measure students' PI; and, the Professional Identity Strength Influences Scale (PISTIS), that has been developed in order to measure each of the identified factors.

5.2.3.3.1. MacLeod Clark Professional Identity scale (MCPIS-9)

The MacLeod Clark Professional Identity scale (MCPIS-9), adapted by Adams et al. (2006) to suit students' population from the initial scale created by Brown (1986), which measured group identification, is used. Nine items related with group identification and measured with a 5-point Likert scale, integrate the questionnaire (*see* Adams et al., 2006). By using this scale, our aim is to measure the identification of students with the profession they are preparing for, and to analyse the existing correlation among each factor.

Table 5.7.

Items MacLeod Clark Professional Identity scale (Adams et al., 2006)

Items	Factor Loading
I feel like I am a member of this profession	0.468
I feel I have strong ties with members of this profession	0.466
I am often ashamed to admit that I am studying for this profession	0.673
I feel myself making excuses for belonging to this profession	0.705
I try to hide that I am studying to be part of this profession	0.734
I am pleased to belong to this profession	0.732
I can identify positively with members of this profession	0.634
Being a member of this profession is important to me	0.610
I feel I share characteristics with other members of the profession	0.554

5.2.3.3.2. The PISTIS

(*See* epigraph 6.2. *Construction and validation of the PISTIS for the description of the questionnaire*).

5.2.3.4. Analysis

For being able to answer our research questions introduced before, three different analysis are conducted:

1. **Cluster analysis**, which permits us to analyse if there are any differences between students PI strength.
2. **Multiple Correspondence analysis** and **Multiple Hierarchical Regression Analysis**, which allows us to analyse the relationship between the variables.

5.2.3.4.1. Cluster Analysis

Cluster Analysis is an *‘exploratory data analysis tool for organizing observed data into meaningful taxonomies, groups, or clusters, based on combinations of IV’s, which maximizes the similarity of cases within each cluster while maximizing the dissimilarity between groups that are initially unknown’* (Burns, 2008, p.553). This technique of classifying individuals into groups does not require previous knowledge about the group each one belongs to. To classify students in two different groups according to their PI -high or low- is our basic purpose when assessing a cluster analysis. That would let us see if there are any differences in this variable between students from different bachelor degrees; and, if any difference has existed, to analyse whether the influence of the factors on the bachelor degrees with a high PI is the same than the influence that these have on individuals with a low PI.

5.2.3.4.2. Multiple Correspondence Analysis (MCA)

Abdi and Valentin (2007) stated that MCA allows analysing the pattern of relationships of several categorical dependent variables. This method is used to analyse a set of observations described by a set of nominal variables. Each of the nominal variables comprises multiple levels, and each level is coded as a binary variable.

In our particular case, to compute a MCA allows us to: first, study the similarities between the individuals from a multidimensional perspective; second, to assess the relationship between the variables and study the association between the categories; and, third, categorize the individuals based on existing variables and categories.

5.2.3.4.3. Multiple Hierarchical Regression Analysis

The Hierarchical Regression Analysis '*is a sequential process involving the entry of predictors' variables into the analysis in steps*' (Lewis, 2007, p.10). This analysis is useful in social sciences, since it is perceived as an appropriate tool for analysis when variance on a criterion variable is explained by predictor variables that are correlated with each other (Pedhazur, 1997; Lewis, 2007), and correlated variables are usually found in social sciences. This method is commonly used to analyse the effect of a predictor variable after controlling other variables. This control is achieved by assessing the adjusted R^2 at each step of the analysis, so computing the increment in the variance.

When conducting a Hierarchical Regression Analysis, to test the influence of the factors on students' PI strength is aimed. First, if there is any relationship between PI and the factors without splitting the sample and without considering the bachelor degree of precedence is analysed. Second, if there is any relationship between PI and the factors dividing the sample attending the discipline is tested (*see Table 5.6. Disciplines and bachelor degrees classification*). And, third, if there is any relationship between PI and the factors, dividing the sample considering the bachelor degree studied, is analysed.

5.3. Chapter conclusions

Chapter 5 was divided in two different parts. The first part was related with the epistemology and methodology decisions; and, the second part was related with the Research Design.

Concerning the first part, and based on the aim of the present thesis, to identify the factors that influence PI and to test the existing relationships between them and PI. First, a pragmatic worldview was proposed as a best philosophical alternative. The adoption of a philosophical perspective affects consequently the other decisions concerning the research approach, method or data collection technique. Second, both a deductive and inductive approach were proposed to guide our research, because not only was just expected to test theory but also to build theory, identifying the existing factors that influence PI on a students' population. Third, concerning the research strategy, a sequential mixed method was chosen as the best option. Based on that, the research method to follow is the mixed method, adopting as data collection methods focus groups and questionnaires.

The second part of the chapter, related with the Research Design, was divided in three different stages. First, it was exposed that the identification of the factors would be by using two different paths: a literature review, that would let identify the factors already considered within the literature; and, an exploratory qualitative study that would let confirm the identified factors with a Spanish sample. Second, the process followed to construct and validate the questionnaire, aimed to measure the factors identified as possible influences on PI, was explained. And third, the multiple analyses, being the Cluster analysis, MCA and the Hierarchical Regression analysis, that would be developed in order to test the relationships were explained and delineated.

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PART III

RESULTS AND DISCUSSION

➤➤ CHAPTER 6. Results

➤➤ CHAPTER 7. Discussion and conclusion

CHAPTER SIX

RESULTS

- Introduction
- Identification of the influential factors
- Construction and validation of the Professional Identity Strength Influences Scale
- Testing the influences on Professional Identity Strength
- Conclusions
- References

CHAPTER 6. Results

6.0. Introduction

In the previous chapter 5, the selection of the Research Strategy, adopting a philosophical perspective that guided all the following research decisions as well as the research method and the data collection techniques that at last resulted in a specific Research Design, was explained in depth.

In this chapter, the results from our empirical work are presented. In order to do so, the present chapter is divided in three different parts. First, an initial conceptual framework of the factors that influence Professional Identity (PI), identified among the existing research and through a qualitative pilot study, is presented. Second, a questionnaire, to measure the influence of these factors and to confirm the constructed conceptual framework, is developed and validated through an exploratory and a confirmatory analysis. And, third, the effects that these factors as well as other control variables exert on PI are assessed.

6.1. Identification of the influential factors

As exposed in chapter 5, the first stage of the present thesis corresponds to the identification of the influential factors on students' PI. This has been done in a two-part procedure. First, the literature has been reviewed aiming to find the factors that previous studies had already contemplated. Second, based on the identified factors, a qualitative exploratory pilot study has been developed. The basic aim, in this second part, was to find new influential factors as well as to confirm, by using a Spanish sample, the factors that other authors already found.

The results presented in this part aim to cover the following objective of this thesis: *to construct an integrative conceptual framework of the influencing factors on PI in higher education*. So, the following questions aimed to being answered:

1. A. What are the factors that have been acknowledged as influential to PI within the literature on this topic?
1. B. What other factors are recognised by students to influence their career choice?

6.1.1. Literature review

Following the steps proposed in chapter 5, the search of the articles concerned about the factors that affect both, students' PI and their bachelor degree choice, has been conducted, in order to identify the influencing factors considered within the literature. The articles found were 281, after removing the repeated ones on the two used databases (*see Table 6.1. Number of articles by Keyword*).

Table 6.1.
Number of articles by keyword

Keyword	Number of articles
Professional Identity Construction (PIC)	74
Professional Identity Formation (PIF)	48
Professional Identity Development (PID)	112
Professional Identity Sources (PIS)	1
Professional Identity Factors (PIFa)	3
Degree choice factors (DCF)	6
Students Career choice factors (CCF)	37

The 281 articles has been screened, removing the ones that did not focus explicitly on the factors that influence PI, or the decision to study a particular bachelor degree, on a student population. For example, articles such as the ones comparing PI in two different periods, or the ones focusing on the factors that influenced PI or bachelor degree choice decision in a non-student population, and those focusing on a postgraduate student population, have been removed. After conducting that search, and screening the references of the articles, **thirteen** studies about the factors that influence PI and the bachelor degree choice, in a student population, -**four** of them focused on the factors that influence PI and **nine** on the factors that affect the bachelor degree choice- have been identified (*see Table 6.2. Identified articles*). As shown, there are few studies that have focused on the factors that influence PI, so, scarce consideration has been given to this topic, although the relevance that this has to achieve a better understanding about the process of PI construction.

Table 6.2.
Identified articles
Source: Own elaboration

Keyword	Focused on...	Title	Authors	Year	Bachelor Degree
PID	Professional Identity	The link between vocational Identity, study choice motivation and satisfaction with studies	A.Smitina	2010	Applied Sciences
PIFa	Professional Identity	Development of professional identity among social work students: contributing factors	S.B. Shlomo, D.Levy and H. Itzhaky	2012	Social Work
PIF	Professional Identity	Investigating the factors influencing professional identity of first-year health and social care students	K. Adams, S. Hean, P. Sturgies and J.M. Clark	2006	Medicine and Social Care
	Professional Identity	Dietetic students' identity and professional socialization	D. Lordly and D. MacLellan	2012	Dietetics and Nutrition
CCF	Degree Choice	The career choice of first-year occupational therapy students: a follow-up study	C.Craik and J-M. Zaccaria	2003	Occupational Therapy
CCF	Degree Choice	Factors influencing career choice of management students in India	T.Agarwala	2008	Business Management
DCF	Degree Choice	Psychometric study of a questionnaire for the assessment of factors associated with the choice of degrees and universities in the Spanish public system	A. Hervás, J.G. Olmos, M.P.Cebollero, R.C. Lladró and P.P.Soriano	2013	Various
CCF	Degree Choice	Factors influencing veterinary students' career choices and attitudes to animals	J.A. Serpell	2005	Veterinary
CCF	Degree Choice	Factors influencing students career choices among secondary school students in Kisumu Municipality, Kenya	K.Edwards and M.Quinter	2011	Various
DCF	Degree Choice	Factors influencing the choice of a university degree: the case of recreation, parks and tourism administration studies	M.J. Iglesias-Martinez, M.A. Martiñez Ruiz and J.Tortosa.Martínez	2012	Tourism
CCF	Degree Choice	Factors influencing career choice among secondary school students: implications for career guidance	B. Ogowewo	2010	Multiple Degrees
CCF	Degree Choice	Understanding the motivation: a qualitative study of dental students' choice of professional career	J. Gallagher, W. Clarke and N. Wilson	2007	Odontology
CCF	Degree Choice	A follow-up study of the factors shaping the career choice of library school students at the university of Alabama	S.D. Taylor, R.A. Perry and J.L Barton	2009	Librarians

Once all the articles have been gathered, several factors have been identified. The identified factors have been classified in six different groups. The groups are the following:

1. **Expected outcomes**- this group includes the factors related to what individuals predict that they will obtain once they finish their studies, based on the image society has about a profession.
2. **Social experience**- in here the factors related to the information about professions obtained from different social sources, that make individuals to want to become a particular professional, are included.
3. **Intrinsic factors**- this group included personal factors that make students feel more congruent with the chosen profession.
4. **Educational context and professional experience**- with this tag, the factors related to the educational and work experiences individuals have had before of the incorporation to the university are labelled.
5. **Degree characteristics**- the factor's influence here is endowed with the bachelor degree traits that make this more or less desirable for individuals.
6. **Other**- this group includes other factors that influence students' PI and/or their decision to take a specific path.

In table 6.3, the reader can find the multiple factors gathered according the proposed initial classification as well as whether these factors influence students' PI, the bachelor degree choice or both.

Table 6.3
Factors identified as influences on Professional Identity and Degree choice classification,
Source: Own Elaboration

Classification	Factors	Professional Identity (PI) Degree Choice (DC)	Authors
Expected outcomes	Economic benefits	PI and DC	Smitina (2010); Agarwala (2008); Edwards & Quinters (2011); Ogowewo (2010); Gallagher et al. (2007); Taylor et al. (2009)
	Professional Status	DC	Craik & Zaccaria (2003); Gallagher et al. (2007)
	Opportunity for promotion	DC	Craik & Zaccaria (2003); Agarwala (2008); Edwards & Quinters (2011)
	Quality of life associated to the degree	DC	Agarwala (2008)
	Preferred Job	DC	Serpell (2005); Edwards and Quinters (2011); Iglesias-Martinez et al. (2012); Gallagher et al. (2007); Taylor et al. (2009)
	Availability of jobs	DC	Edwards & Quinters (2011); Iglesias-Martinez et al. (2012); Ogowewo (2010)
Social experience	Prestige	DC	Ogowewo (2010); Taylor et al. (2009)
	Recommendation (Family/peers)	PI and DC	Adams et al. (2006); Lordly & MacLellan (2012); Craik & Zaccaria (2003); Agarwala (2008); Hervás et al. (2013); Iglesias-Martinez et al. (2012); Keshishian et al. (2010); Taylor et al. (2009)
	Career Orientation	DC	Agarwala (2008)

Table 6.3. Continuation

Classification	Factors	Professional Identity (PI) Degree Choice (DC)	Authors
Intrinsic Factors	Interest orientation	PI and DC	Smitina (2010); Edwards & Quinters (2011); Ogowewo (2010)
	A-motivation	PI	Smitina (2010)
	Empathic concern	PI	Shlomo (2012)
	Self-differentiation	PI	Shlomo (2012)
	Sense of coherence	PI	Shlomo (2012)
	Values (social/personal)	PI and DC	Shlomo (2012); Craik & Zaccaria (2003); Agarwala (2008)
	Cognitive flexibility	PI	Adams et al. (2006)
	Self-reported knowledge	PI and DC	Adams et al. (2006); Agarwala (2008)
	Skills and abilities	DC	Agarwala (2008); Ogowewo (2010)
	Love of the career	DC	Agarwala (2008)
Educational context/ professional experience	Life ambition	DC	Ogowewo (2010)
	Satisfaction with supervision	PI	Shlomo (2012)
	Team experience	PI	Adams et al. (2006)
	Work Experience	PI	Adams et al. (2006)
	Participation and influential events	PI	Lordly & MacLellan (2012)
	Education and Training	DC	Agarwala (2008); Edwards & Quinters (2011); Iglesias-Martinez et al. (2012); Keshishian et al. (2010)
Degree characteristics	Academic Environment	DC	Keshishian et al. (2010)
	Career Barriers	PI and DC	Smitina (2010); Agarwala (2008)
	Degree prestige	DC	Craik & Zaccaria (2003)
	Challenging career	DC	Ogowewo (2010)
Other	Chance, luck or circumstances	DC	Agarwala (2008)
	Lack of access to other degrees	DC	Agarwala (2008)
	Demographic factors	DC	Serpell (2005); Edwards & Quinters (2011)

6.1.2. Qualitative exploratory pilot study

The aim when conducting the qualitative pilot study was to confirm the existing factors found within the literature, with a Spanish sample, as well as to detect new factors not considered in previous studies. While looking at the data, new factors that influenced the students' bachelor degree choice and their PI have been identified as well as the factors already found in the literature have been confirmed (*see Figure 6.1. Initial conceptual Framework of the influencing factors*). Although, it has been detected that tourism and geography students' bachelor degree choice was influenced by factors identified previously in the literature, it has been decided to present just the new identified factors. These are going to be introduced in the following lines.

The new identified factors are all associated with the degree characteristics. First, some students referred to the **degree's tradition** as an important factor that influenced their PI in a negative way, making this lower. A girl, in the first focus group, exposed that traditional bachelor degrees, such as medicine, that have been in the labour market for a long time, were more easy to be identified with, but new bachelor degrees, as tourism, make difficult this identification because of their novelty.

It's so young this speciality, isn't it? Medicine has been around for a long time, hasn't it? Tourism is a twentieth-century discipline. So it is quite modern (FG1, #10, 20 years)

Second, **professional versatility** has been also found important when deciding the bachelor degree. In the third focus group, with tourism students, was found that individuals when choosing this bachelor degree valued its professional versatility, the possibility to take multiple professional paths once they have finished it.

It is quite a versatile degree. Thank God it is versatile, so when you get tired of something you can do something else. On the other hand, though, you need constant training... which makes it difficult to identify with the profession (FG1, #4, 20 years)

Third, **perceived heterogeneity** of the same bachelor degree at different universities has been found as negatively related to PI. Students found it difficult to have a specific PI concerning tourism when there was no homogeneity in the structure of the bachelor degree among the universities that have it in their curriculum.

You can study in different cities (universities) and the degree may vary. Indeed, you don't study tourism; this degree is different in each city, so that makes difficult the identification with this profession because it is not centralized. (FG3, #22, 20 years)

And, fourth, the **degree name** also has seemed to be important. Students felt that the inexistence of a specific name, associated with the professional that develops the profession they wish to develop in the future, made difficult to identify or express their identification with the profession.

We don't even have a name. And that also affects our identification with the profession. When you finish architecture you are an architect, you finish medicine and you are a doctor, but you finish tourism and who am I?

So, according to the results obtained from the qualitative pilot study and the literature review, a group of factors, classified into different groups according the exerted influenced, have been identified. Through the qualitative pilot study, not only most of the factors considered previously in the existing research, such as the intrinsic factors and the social experience, have been confirmed but also four new influential sources, included within the degree characteristics group -degree tradition, professional versatility, perceived heterogeneity of the bachelor degree and degrees' name-, have been identified (*see* Figure 6.1. for the initial conceptual framework of the influential factors). So, the following figure is an answer to the questions introduced in the introduction concerning the factors acknowledged within the literature and the other factors not considered previously.

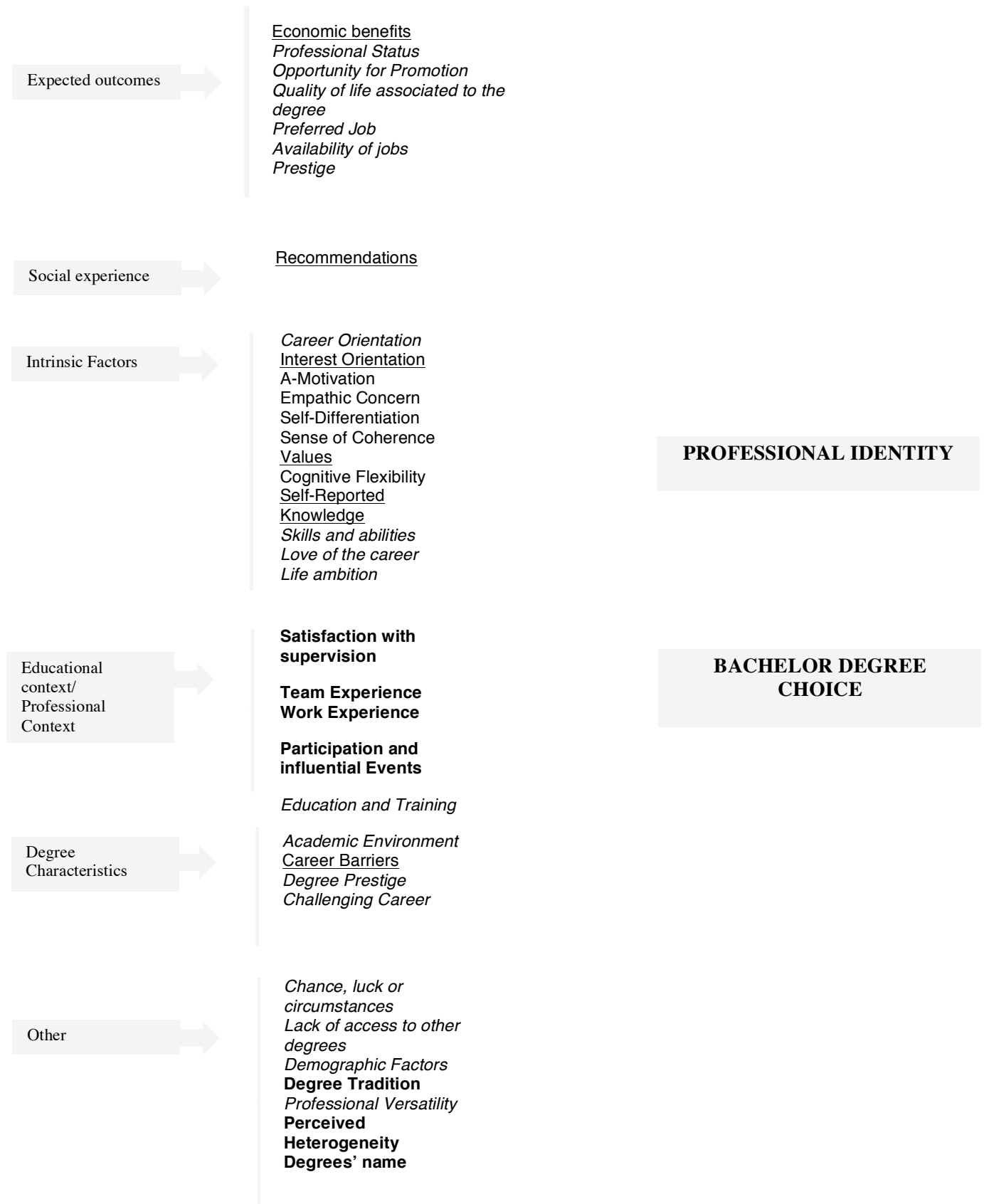


Figure 6.1. Factors classification by category

Bold: Professional Identity factors; *Italics:* Bachelor degree factors; Underlined: Both factors

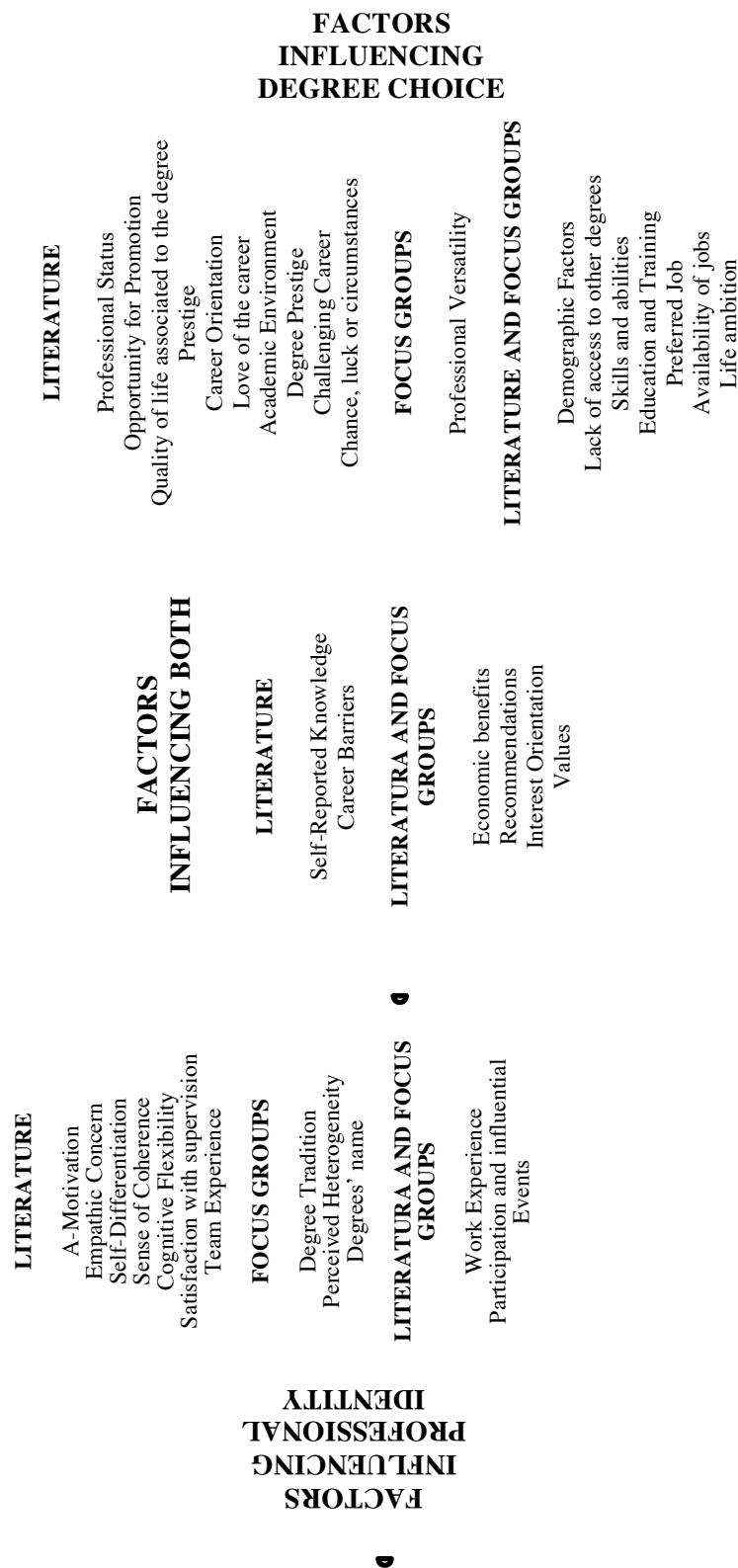


Figure 6.2. Initial Conceptual Framework

6.2. Construction and validation of the PISTIS (Professional Identity Strength Influences Scale)

Aiming to cover the second objective of this thesis, *to develop and validate a scale to measure the influencing factors on PI in higher education*, in this part of the thesis, the **Professional Identity Strength Influences Scale (PISTIS)**, for the study of the possible factors that influence students' self-definition in terms of their future profession, has been developed and validated. Basing on the results obtained from the qualitative study with Focus Groups, and the review of the literature about students' PI and the influencing factors, the questionnaire has been elaborated. With the process of development and validation of the questionnaire, the following questions are answered:

- 2.A. What are the influencing factors on the PI of first-year university students?
- 2.B. How these factors can be defined/ interpreted?
- 2.C. What are the psychometric properties of the scale developed?

It is important to note that this questionnaire is aimed at pre-university and university students.

The questionnaire has been developed by first conducting an initial exploratory study, with a sample of 208 first-year university students; and, second, an Exploratory, Confirmatory and Final Factor Analysis, with a sample of 604 first-year university students, have been carried, in order to develop the final conceptual framework. It is worth saying, as explained in chapter 5, that this sample has been divided randomly, in two different samples, one used to conduct the second Exploratory Factor Analysis (EFA) and the other one for the Confirmatory Factor Analysis (CFA). The whole sample has been used to assess the Final Factor Analysis.

6.2.1. Exploratory study

With this first exploratory study, the initial item reduction has been carried out, and the initial questionnaire has been constructed, before developing the second Exploratory and Confirmatory study. To do so, this stage has begun with the item generation, followed by a series of preliminary analysis and an EFA.

6.2.1.1. Item generation

As expressed in chapter 5, in order to generate scale items both deductive and inductive approaches have been used (Hinkin, 1998). The information gathered from the Focus Groups and the literature review, about the factors, has been used to develop the items (*see* Epigraph 6.1. *Identification of the influential factors*; for more details about the literature review and the focus groups).

Initially the items were elaborated around the following topics:

- Social experience
- Educational and professional experience
- Degree characteristics
- Intrinsic factors- perceived congruence with the profession and, personal development and self-enhancement-
- Expected outcomes- professional image-
- Other -demographic characteristics-

At first, 95 items has been proposed, divided into 7 groups: **social experience** which included family, friends, media and other influences had 42 items; **educational experience** had 24 items and included elements as previous educational content and bachelor's degree content; **perceived congruence with the profession** had 7 items; **professional interest** had 4 items; **professional image** had 11 items; **professional experience** had 3 items; **personal development and self-enhancement** 4 items. Positively and negatively worded items have been included to reduce the risk of response bias (Anastasi, 1961; Likert, 1932; Mehrens and Lehmann, 1983; Nunnally, 1978; Rossi, Wright and Anderson, 1983).

Four experts from different universities in and outside Spain -Seville, Madrid, Tarragona-, and -Limerick- have examined the PISTIS to assess the appropriateness of the instrument. After that revision, and after eliminating the confusing and repetitive items, the number of items included in the PISTIS has been 84-item, divided into: social experience 32 items; influential events 7 items; educational experience 20; perceived congruence with the profession 6 items;

professional image 8 items; professional experience 3 items; personal development and self-enhancement 4 items.

Each item has been rated on a 5-point Likert-scale where 1 stands for completely disagree and 5 for completely agree.

6.2.1.2. First Exploratory Factor Analysis and internal consistency

At first, a pool of 84 items have been considered, divided into 7 groups referring the factors considered as influential on PI. As exposed in chapter 5, items have been assessed in terms of: 1. Items with standard deviation $< .80$ have been considered for removal; 2. Both items with $KMO < .80$ and common variance $< .10$ have been proposed for removal (Kaiser, 1970); 3. Items with factor loadings $< .30$ in the factor analysis have been considered for removal (Kline, 1994); 4. Reliability -internal consistency- Cronbach's α coefficient $\geq .80$ is considered desirable for each domain and the removal of an item should not increase the internal consistency (Bland and Altman, 1997; DeVellis, 1991; DeVon et al., 2007); 5. If the item correlation with the global scale -corrected item-total correlation- was $< .20$, the item has been proposed for removal (Streiner and Norman, 2003); 6. Scales with low responsiveness rate has been proposed for removal. After the initial analyses of the items, their psychometric properties and the initial EFA, 32 items has been finally selected (*see* Table 6.4. for the selected number of items). Scales such as personal development and professional experience have been eliminated, the first one because the scale did not meet the expectations ($\alpha = .447 < .80$), and the second case because of the low responsiveness rate (32.67 % of missing values). The analyses presented in here are based on the remaining 32 items (*see* Table 6.5. for the remaining items after the first exploratory study).

Table 6.4.
Final number of items for each factor

Scale	Number of items
Family (F)	6
Other social actors (OSA)	7
Social Image (SI)	7
Educational experience (EE)	4
Perceived congruence with the profession (PCP)	8

Table 6.5
Items of the PISTIS after the Exploratory Study

Factor	Item
F	My family has influenced my decision to study this degree
F	My family gave me advice about different possible degrees
F	My family wanted me to study so that I could work in this profession
F	My family's opinion of this profession reinforces my professional identity
F	My parents got me interested in this profession
F	My parents' professions made me choose this degree
OSA	My friends have influenced my decision to study this degree
OSA	My friends' opinion of this profession made me choose this degree
OSA	My friends' opinion of this profession is important to me
OSA	My friends' opinion of this profession reinforces my professional identity
OSA	My teachers have influenced my decision to study this degree
OSA	One of my teachers at school was a role model for me in the sense that he/she inspired my decision to choose this degree
OSA	The careers guidance officer at my school advised me to study this degree
SI	The image portrayed by the media of this profession was important to me when I chose this degree
SI	The image of this profession portrayed on television made me want to work in it
SI	The possibility of understanding what was wrong with me or of finding a solution to my problem influenced my decision to study this degree
SI	I participated in an extracurricular activity that influenced my decision to choose this degree
SI	I have chosen this degree because of the social prestige of the profession
SI	I have chosen this degree because it is highly sought after in the employment market
SI	I have chosen this degree because of the salary prospects
EE	The subjects that I was good at have influenced my decision to choose this career
EE	I have chosen this degree because of the skills and competencies that I acquired during my time at school
EE	My pre-university education (primary/secondary) was not important in the choice of this degree
EE	None of my subjects at primary or secondary school were related to the profession for which I am studying
PCP	I have decided to study this degree because the content does not coincide with my interests
PCP	I was aware of the study programme before I started the degree
PCP	I identify with this degree because I like the content
PCP	I feel that my values are consistent with those of this profession
PCP	I believe that this profession will allow me to be myself
PCP	I believe that my personality is ideal for this profession
PCP	I am the "odd one out" in this profession, that is, I am not the usual type of person who does this for a living
PCP	I believe that I do not have the characteristics needed for this profession

F: Family; **OSA:** Other social actors; **SI:** Social image; **EE:** Educational experience; **PCP:** Perceived congruence with the profession

6.2.1.2.1. Preliminary analyses

For each of the 32 items, univariate and multivariate statistics have been computed. Univariate statistics are shown in table 6.6. Mean has values ranging from 1.614 to 4.030 while variance ranges from .742 to 2.039.

Table 6.6.
Univariate statistics

Variable	Mean	Confidence Interval	Variance
1	1.960	(1.67 2.26)	1.325
2	3.020	(2.65 3.39)	2.039
3	2.327	(2.00 2.66)	1.666
4	2.832	(2.50 3.17)	1.704
5	2.356	(2.04 2.67)	1.536
6	2.139	(1.80 2.47)	1.704
7	1.713	(1.44 1.98)	1.096
8	1.614	(1.36 1.86)	0.950
9	2.327	(2.03 2.62)	1.349
10	2.535	(2.24 2.83)	1.298
11	2.525	(2.22 2.83)	1.378
12	2.267	(2.00 2.53)	1.087
13	2.248	(1.93 2.56)	1.513
14	2.535	(2.19 2.88)	1.813
15	1.950	(1.64 2.26)	1.433
16	2.792	(2.46 3.13)	1.709
17	1.960	(1.65 2.27)	1.503
18	3.564	(3.21 3.92)	1.889
19	3.366	(3.00 3.73)	1.995
20	2.356	(2.03 2.69)	1.675
21	1.871	(1.55 2.19)	1.538
22	4.099	(3.85 4.35)	0.980
23	3.455	(3.11 3.80)	1.773
24	4.030	(3.78 4.28)	0.920
25	3.485	(3.23 3.74)	1.002
26	3.990	(3.77 4.21)	0.742
27	3.832	(3.58 4.09)	0.991
28	1.832	(1.56 2.10)	1.090
29	1.673	(1.44 1.91)	0.834
30	2.228	(1.92 2.53)	1.404
31	2.644	(2.35 2.94)	1.338
32	2.842	(2.55 3.14)	1.321

After calculating the Polychoric correlation matrix for the 32 items, the Kaiser-Meyer-Olkin (KMO) index is .703 higher than .6, which means the correlation matrix is appropriate for factor analysis, as suggested by Tabachnick and Fidell (2012).

6.2.1.2.2. First Exploratory Factor Analysis (EFA)

To compute the EFA, the FACTOR program (Lorenzo-Seva and Ferrando, 2006) has been used. The correlation matrix has been analysed using parallel analysis based on minimum rank factor analysis (PA-MRFA) (Timmerman and Lorenzo-Seva, 2011) followed by an oblique rotation, because correlation among factors was expected, and Promin (Lorenzo-Seva, 1999) has been used because is a recommended method among the oblique methods, because this implies an improvement on several stages in comparison with other methods such as Oblimin (Ferrando and Anguiano-Carrasco, 2010).

Parallel Analysis indicates the presence of 5 factors that initially have been labelled, as **family (F)**, **other social actors (OSA)**, **social image (SI)**, **educational experience (EE)**, and **perceived congruence with the profession (PCP)**. Some of the items included initially within one factor has been, after that analysis, regrouped to another one because they have appeared as representative of another dimension.

The proportion of common variance explained is .19, .22, .21, .15 and .23, respectively, for each factor. The final 5-factor solution explains the 55% of the common variance.

Bentler's (1977) simplicity index has been computed in order to assess the factor simplicity of the rotated solution; the result obtained is .92 close to 1, which indicates maximal factor simplicity. Taking into account this result high factor simplicity can be suggested. As it is shown in table 6.7, items 1 to 6 are related with family, items 7 to 10 and 13 to 15 are related to other social actors, items 11, 12, 16, 17, 30, 31 and 32 are related to social image, items 18-21 are related with educational experience and items from 25 to 29 are related with perceived congruence with the profession.

The inter-factor correlation matrix, between the five factors identified initially -F, OSA, SI, PCP and EE-, shows modest correlations, from -.03 to .53. The correlation among PCP and the other factors, and OSA and EE is negative, indicating that when students decided to be enrolled in a particular bachelor degree, taking into account the perceived congruence with themselves, the influence of the other factors is low. The internal consistency of all the questionnaire is .85, using as an acceptable value for new scales .70 (DeVellis, 1991; DeVon et al., 2007). The result obtained indicates a high correlation between items, being the questionnaire consistently reliable.

Table 6.7.
Oblique exploratory factor solution

Items		Family (F)	Other social actors (OSA)	Social image (SI)	Educational experience (EE)	Perceived congruence with the profession (PCP)
1	FAMILY1	0.73	-0.06	0.16	-0.04	0.05
2	FAMILY4	0.47	-0.16	0.09	-0.13	-0.21
3	FAMILY5	0.57	0.03	0.10	-0.01	0.01
4	FAMILY6	0.76	-0.01	-0.21	-0.08	0.08
5	FAMILY7	0.86	0.01	-0.01	0.007	0.01
6	FAMILY8	0.50	0.15	0.23	0.07	0.06
7	FRIENDS1	0.11	0.65	0.03	0.36	-0.04
8	FRIENDS2	0.10	0.62	0.05	0.30	-0.05
9	FRIENDS5	0.08	0.41	0.04	0.14	0.11
10	FRIENDS7	0.29	0.48	-0.04	0.08	0.08
13	OTHER1	-0.10	0.83	-0.12	-0.06	-0.03
14	OTHER2	-0.24	0.88	-0.16	-0.10	-0.04
15	OTHER6	0.10	0.46	0.17	-0.15	-0.13
11	MEDIA1	0.09	0.11	0.46	0.14	0.09
12	MEDIA4	-0.69	0.12	0.51	0.09	-0.01
16	EVENTS3	-0.07	-0.17	0.70	-0.10	0.07
17	EVENTS4	-0.27	0.36	0.58	0.32	0.08
30	IMA1	0.05	0.03	0.68	0.02	-0.06
31	IMA3	0.11	0.07	0.40	-0.04	-0.03
32	IMA6	0.01	-0.25	0.55	-0.04	-0.04
18	PREVCONT2	0.04	0.06	0.15	-0.86	-0.02
19	PREVCONT3	-0.04	-0.04	0.27	-0.72	0.05
20	PREVCONT4	0.03	-0.12	0.24	0.43	-0.13
21	PREVCONT7	0.04	-0.08	0.31	0.47	-0.01
22	DEGCONT2	-0.17	-0.11	0.36	-0.15	0.56
23	DEGCONT3	-0.01	0.10	0.16	0.16	0.66
24	DEGCONT4	-0.02	0.02	0.09	-0.04	0.81
25	PERCIVCONG1	-0.15	0.05	0.22	0.03	0.56
26	PERCIVCONG2	0.02	0.06	0.08	-0.08	0.68
27	PERCIVCONG3	0.05	0.08	0.08	-0.02	0.75
28	PERCIVCONG6	-0.15	0.21	0.31	-0.03	-0.54
29	PERCIVCONG7	-0.13	0.15	0.33	0.05	-0.60
Cronbach's alpha		0.88	0.88	0.85	0.86	0.88

Inter-factor correlation matrix

	SI	PCP	OSA	F	EE
SI					
PCP	-.06				
OSA	.53	-.09			
F	.50	-.14	.43		
EE	.04	-.27	-.03	.23	

6.2.2. Confirmatory study

The aim, in this confirmatory stage, was to validate the questionnaire by using another sample, making the final item reduction, as well as confirming the results. The total amount of answers has been randomly divided, in this stage, in two groups ($n=300$ for the EFA and, $n=304$ for the CFA). After that, with the total of individuals ($n=604$) a Final Factor Analysis, in order to confirm the results obtained in the two previous analyses -EFA and CFA-, has been conducted.

6.2.2.1. Item reduction

The 32-items that remained from the previous exploratory study has been used in another exploratory study of 604 undergraduate students and, those items with loadings lower than .30 or with complex loadings (greater than .30 in more than one factor) have been removed. Finally, the 19 items with the highest loadings on each factor have been used to create the final scale.

6.2.2.1.1. Second Exploratory Factor Analysis

The polycoric correlation matrix has been computed between 19 items from the PISTIS inventory. The KMO index value is .77. Kaiser and Rice (1974) suggested that this value is fair, so the KMO value suggests that the correlation matrix is suited for factor analysis.

The Optimally Implemented Parallel Analysis (Timmerman and Lorenzo-Seva, 2011), which indicates that there are three dimensions underlying the data, has been computed. This result is consistent with the three dimensions related to content scales. These three dimensions have been named as **External Motivation Conditionals (EMC)**, **Personal Motivation Conditionals (PMC)** and **Educational Experience Conditionals (EEC)**. The first one includes the items related to the external influences on PI and the decision to study a particular bachelor degree; the second one includes all the items related to the perceived congruence between the individual and the profession; and, the third one involves the items related to the educational context.

The procedure explained on chapter 5 to determine the AC response bias has been applied (Lorenzo-Seva and Ferrando, 2009). Three content factors has been retained using Unweighted Least Square (ULS) factor analysis. To determine the loading factors related to the three content factors, Promin rotation (Lorenzo-Seva, 1999) has been computed. To assess the fit of the rotated loading matrix, the congruence index (Tucker, 1951) between the rotated loading matrix and the ideal loading matrix has been computed. The congruence values range between .95 and .99. As the coefficients are above the threshold of .94, it was conclude that there is a good factor similarity between the rotated and the ideal loading matrixes (Lorenzo-Seva and Ten Berge,

2006). Finally, only one inter-factor correlation index shows a substantial value: -.20 between EMC and PMC.

6.2.2.1.2. Scale analysis

The reliability estimated on the basis of the factor scores for the scales have been computed. These estimates are presented in table 6.8. In addition, the table shows the summary of the correlations between the items and the corresponding factor scores. The three factors demonstrate high scale reliabilities of EMC ($\alpha=.835$), EEC ($\alpha=.848$) and PMC ($\alpha=.849$). The inter-item correlation for the EMC ranges from .006 to .642; for the EEC ranges from -.273 to .474; and, for the PMC ranges from -.412 to .480.

In order to evaluate the effect of demographic variables on the EMC, EEC and PMC scores, the means of each factor differentiating by gender, bachelor degree and disciplines have been compared. First, when assessing gender relevance, the Wilcoxon Test has been computed. This aims to test the significance of the differences of the means in two different samples -i.e. male and female- by using ranking methods (Wilcoxon, 1945). In the light of the results, it is manifest that no significant differences exist across gender categories for the EMC, EEC and PMC (*see Table 6.9. Mean comparison by gender*). Second, to analyse the differences considering the disciplines, first, the bachelor degrees has been gathered in groups according the classification used in University Rovira and Virgili and other public universities in Spain; and, after that, the Kurskal Wallis test has been computed, this test is intended to compare more than two samples -i.e. different disciplines or bachelor degrees- in order to determine if the samples come from the same population or differ (Kruskal and Wallis, 1952). In this specific case, just EEC and PMC seem to have a significant effect, so exists evidence to conclude that there is a differences in the median test scores among the different disciplines (*see Table 6.10. Mean comparison by academic degree*). In particular, science students' show a higher mean value in EEC, probably because the bachelor degrees included in this group are closely related with the subjects taught in high school; contrary to this, educational sciences and psychology show a lower mean value. In PMC particular case, healthcare sciences students' show a higher mean value while economics and law students show a lower value.

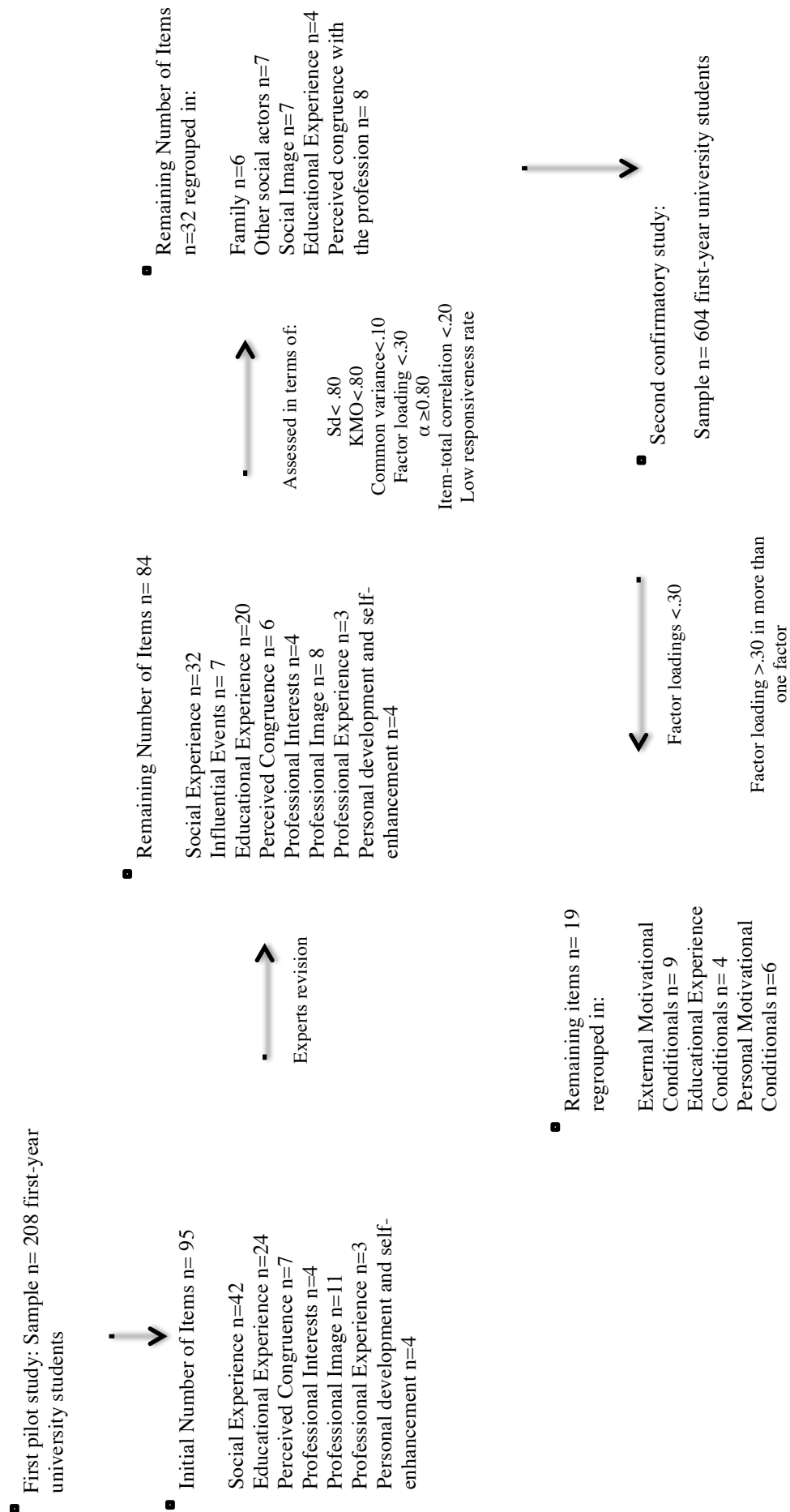


Figure 6.3. Item reduction and aggregation process

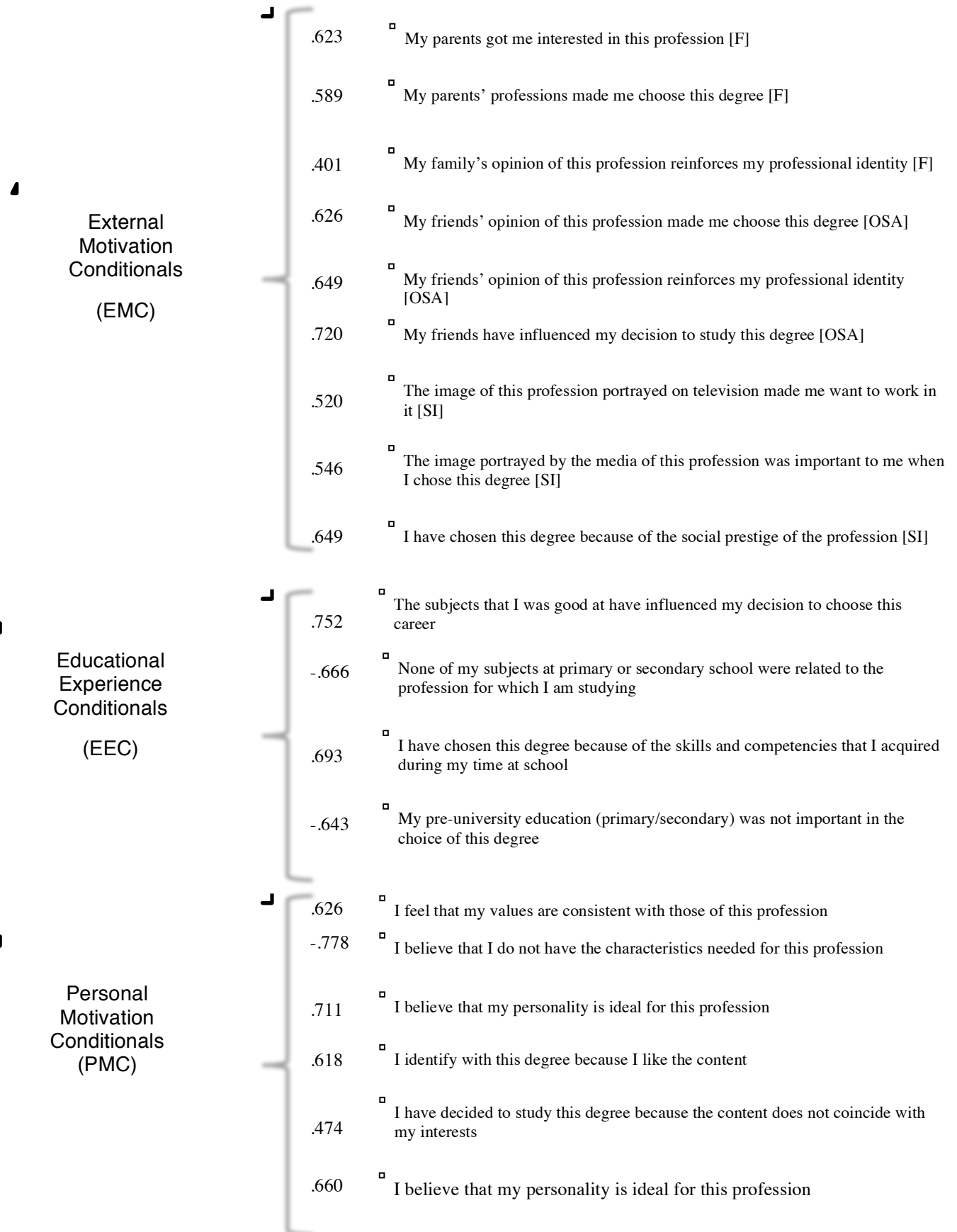


Figure 6.4. Scale items corresponding under each factor

Table 6.8.
Descriptive statistics for scales

	Correlation between items and their corresponding scale		Reliability of factor scores
	Minimum	Maximum	
EMC	.006	.642	.835
EEC	-.273	.474	.848
PMC	-.412	.480	.849

Table 6.9.
Mean comparison by gender

Factors	Men		Women		W <i>Wilcoxon test</i>
	mean	sd	mean	sd	
EMC	50.85	10.38	49.55	9.76	37428.5
EEC	50.59	10.39	49.65	9.87	38463.5
PMC	49.05	10.83	50.54	9.56	43695.5

***p<0.001; **p<0.01; *p<0.05; +p<0.1

6.2.2.2. Confirmatory Factor Analysis and Final Factor Analysis

6.2.2.2.1. Confirmatory Factor Analysis

In order to study the replicability of the factor structure obtained in the first sample, a CFA has been carried out on the second sample. First, the polychoric correlation matrix has been computed and the variance, due to AC has been partialized, following the procedure proposed by Lorenzo-Seva and Ferrando (2009). And, second, ULS estimates have been computed from the residual covariance. It has been proposed that the model should retain three factors, as the EFA explained above suggested. In order to identify the factors, five-marker items –e.g. two markers for factors EMC and PMC, and a single marker for factor EEC- have been selected. To select the marker items, the simplest items from the previous EFA have been selected.

Although there is a lack of agreement about what the CFA cut-off values should be when assessing model adjustment, there is certain consensus that values equal or greater to .90 for the Comparative Fit Index (CFI) and the Goodness of Fit Index are an acceptable fit (Hu, and Bentler, 1999). The values obtained for these indices, in our study, were CFI = .95, GFI = .95. In addition, RMSR observed is .065, suggesting that the values in the residual covariance matrix are low. Therefore, it is concluded that the data show a good fit to the proposed model.

6.2.2.2.2 Final Factor Analysis

Given that both the second EFA and the CFA studies developed led to similar conclusions, the whole sample (N=604) has been used to estimate the factor loading, and the weights on estimate factor scores (*see* Table 6.11. for the loading matrix obtained from the Final Factor Analysis). The aim was to use the largest possible sample in order to obtain the best possible estimates. The factor analysis has been computed as the previous one, already explained. In this case, however, a semi-specified Procrustes rotation (Brown, 1972) has been used in order to obtain the rotated solution that was optimally congruent with the proposed factor solution. The values obtained for these indices in our study are CFI = .96, and GFI = .96. In addition, RMSR is .060. Table 6.11 shows the loading values after rotation. The loading values, for the content factor, show that the items are related to the corresponding expected scale. As the table shows, most of the items load on the AC scale. That is to say that control of AC bias response is a convenient strategy when developing the PISTIS inventory.

Table 6.11
Loading matrix obtained in the Final Factor Analysis.

Item	AC	EMC	EEC	PMC
1	.267	.623	-.053	-.041
2	.117	.589	-.167	.094
3	.264	.401	.048	-.091
4	.237	.626	.088	-.169
5	.271	.649	.007	.107
6	.180	.720	.037	-.128
7	.426	.520	.021	.095
8	.468	.546	.018	-.036
9	.317	.649	.031	.040
10	.279	-.103	.752	-.053
11	.362	-.044	-.666	-.091
12	.404	-.112	.693	-.153
13	.324	-.215	-.643	-.175
14	.474	-.061	-.073	.626
15	.089	.021	.021	-.778
16	.270	.024	-.181	.711
17	.167	-.088	.318	.618
18	.178	.045	.191	.474
19	.422	-.032	-.101	.660

**The loading values in bold face correspond
to the expected salient loadings

In order to obtain factor scores free of AC bias, individuals' scores for the PISTIS inventory must be obtained using factor score estimates. The factors scores have been computed following the procedure proposed by Ten Berge, Krijne and Shapiro (1999). The factor weights used to compute these factor scores are available on request from the authors.

6.3. Testing the influences on Professional Identity

This part has been divided in three different sections. First, students have been tried to being categorised according to their degree of PI strength. Second, a Multiple Correspondence Analysis (MCA) has been conducted in order to study the similarities between individuals, and assess the relationship between the variables. And, third the influences that the identified factors -EMC, PMC and EEC- and other control variables -age, bachelor degree option, and first or second degree- exert on PI have been tested.

The results presented in this part aim to give answer to the following objectives and the corresponding sub-questions:

1. To compare PI strength among first-year university students: that has been done by using Cluster analysis
 - 3.A. Are there any differences in PI strength among students from different bachelor degrees?
 - 3.B. And if so, what degrees' students show the highest PI strength and what degrees students show the lowest PIS?
 - 3.C. What socio-demographic characteristics explain PI strength?
2. To test the influence of the factors on students' PI strength: this objective has been covered by conducting Multiple Hierarchical Regression Analysis; and, also, a MCA has been computed aiming to have an initial idea about these relationships
 - 4.A. Are there any differences on the influence of the factors within different degrees? And if so what are they and how they can be explained?
 - 4.B. Are there any differences on the influence of the factors on PI? And if so, how the different influence can be explained?
 - 4.C. Are there different patterns of socio-demographic characteristics and influencing factors? And if so, what are they?

6.3.1. Degrees with higher or lower Professional Identity

Before testing the relationship between PI and the three identified factors, the individuals have been gathered in terms of the strength of their PI. The basic aim in here was to ascertain if there were differences in PI strength according to different bachelor degrees, and in case that this was so, to compare the factors that influence PI between groups of individuals with higher and lower PI. Sub-questions 3.A., 3.B. and 3.C were aimed to being answered.

Table 6.12.
Cluster analysis results by disciplines

Bachelor Degree	SG	%	C1	%	C2	%	TOTAL
Molecular Biology	0	0,00%	2	5,13%	37	94,87%	39
Biotechnology	0	0,00%	1	3,33%	29	96,67%	30
Oenology	0	0,00%	5	19,23%	21	80,77%	26
Chemistry	0	0,00%	8	12,90%	54	87,10%	62
Physiotherapy	0	0,00%	2	10,00%	18	90,00%	20
Nursery	0	0,00%	10	58,82%	7	41,18%	17
Medicine	1	1,79%	1	1,79%	54	96,43%	56
Dietetics and Nutrition	1	12,50%	2	25,00%	5	62,50%	8
Psychology	0	0,00%	2	15,38%	11	84,62%	13
Business Management	1	2,27%	7	15,91%	36	81,82%	44
Audio-visual Communication	0	0,00%	0	0,00%	3	100,00%	3
Law	0	0,00%	1	2,17%	45	97,83%	46
Childhood education	0	0,00%	0	0,00%	27	100,00%	27
Primary Education	0	0,00%	0	0,00%	28	100,00%	28
Social Education	0	0,00%	0	0,00%	15	100,00%	15
Geography	0	0,00%	0	0,00%	5	100,00%	5
Pedagogy	0	0,00%	2	16,67%	10	83,33%	12
Journalism	0	0,00%	1	14,29%	6	85,71%	7
Advertisement	0	0,00%	3	23,08%	10	76,92%	13
Social Work	0	0,00%	1	4,55%	21	95,45%	22

Table 6.12. (Continuation)

Tourism	0	0,00%	0	0,00%	15	100,00%	15
History	0	0,00%	0	0,00%	2	100,00%	2
Art History	0	0,00%	1	20,00%	4	80,00%	5
English	1	7,69%	0	0,00%	12	92,31%	13
Catalan	0	0,00%	0	0,00%	3	100,00%	3
Spanish	0	0,00%	0	0,00%	4	100,00%	4
Architecture	0	0,00%	1	7,14%	13	92,86%	14
Agricultural Engineering	0	0,00%	0	0,00%	2	100,00%	2
Mechanic Engineering	0	0,00%	0	0,00%	7	100,00%	7
Electric Engineering	0	0,00%	0	0,00%	11	100,00%	11
Informatics Engineering	0	0,00%	0	0,00%	11	100,00%	11
Chemical Engineering	0	0,00%	0	0,00%	11	100,00%	11
TOTAL	4		50		537		591

SG- Number of Individuals without classification; C1 – Number of individuals classified in Cluster ; C2 – Number of individuals classified in Cluster 2

As it is shown in table 6.12, the results do not seem to show any differences in the PI strength between individuals from different bachelor degrees. The majority of the individuals felt identified with their future profession, and just a few did not identify with their future professions -3.A.-. Only 50 individuals appear to show a low PI. The more relevant fact from these data is that a high percentage of the students with low PI were from Nursery -3.B.-. It is worth saying that this profession, contrary to medicine, has not a long tradition as such, being unclear sometimes the associate tasks. As Paulo (2013) exposed, still today there is an uncertainty and complexity about the nursing role. So, it is difficult to communicate a real sense of the profession that influences nursery students' PI (Reid et al., 2011).

Any socio-demographic variable that explained these results have not been found -3.C.-

The huge amount of individuals with a high PI can be explained tentatively by two facts:

1. Individuals really identified with their profession
2. Social Desirability- individuals answered the questions aiming to identify with the profession because they felt that this is what was expected.

The huge imbalance between the samples of students from different bachelor degrees impedes the development of the analysis initially planned. Nevertheless, in the last epigraph, in order to have an initial picture of the influences on the identified factor on students PI strength of the multiple bachelor degrees' included in our study, this has been assessed.

6.3.2. Multiple Correspondence analysis (MCA)

To conduct a MCA have permitted us, firstly, to study the similarities between the individuals from a multidimensional perspective; secondly, to assess the relationship between the variables -gender, age, ECM, EEC, PMC and discipline- and, to study the association between the categories (*see* Table 6.13. for the categories); and, thirdly, to categorize the individuals basing on the existing variables and categories (Abdi and Valentin, 2007; Husson and Josse, 2014). Table 6.14 shows the salient values obtained after computing the MCA. With the MCA question 4.C. has been answered.

<i>Table 6.13.</i>	
MCA variables and Categories	
Variables	Categories
Gender	Male
	Female
Age	<19
	19-21
	>21
Disciplines	Arts and Humanities
	Architecture and Engineering
	Science
	Communication Science
	Law and Economics
	Educational Science and Psychology
	Helathcare Science
ECM	Low
	Medium
	High
EEC	Low
	Medium
	High
PMC	Low
	Medium
	High
Additional Variables	Categories
Bachelor Degree Option	First Option
	Second Option
Bachelor Degree	First Degree
	Second Degree

Table 6.14.
Rotated coordinates of variables, salient values

Variable	Dimension 1	Dimension 2
ECM		
Low		
Medium		
High		-0.664
EEC		
Low	0.869	
Medium		
High	-1.032	
PMC		
Low		-1.060
Medium		
High		
Gender		
Male		-1.026
Female		
Age		
<19		
19-21		
>21	0.948	
Discipline		
Arts and Humanities	-0.978	1.146
Architecture an Engineering		-1.520
Science	-1.184	
Communication Science		
Law and Economics	0.609	
Educational Science and Psychology	1.048	
Helathcare Science		0.967

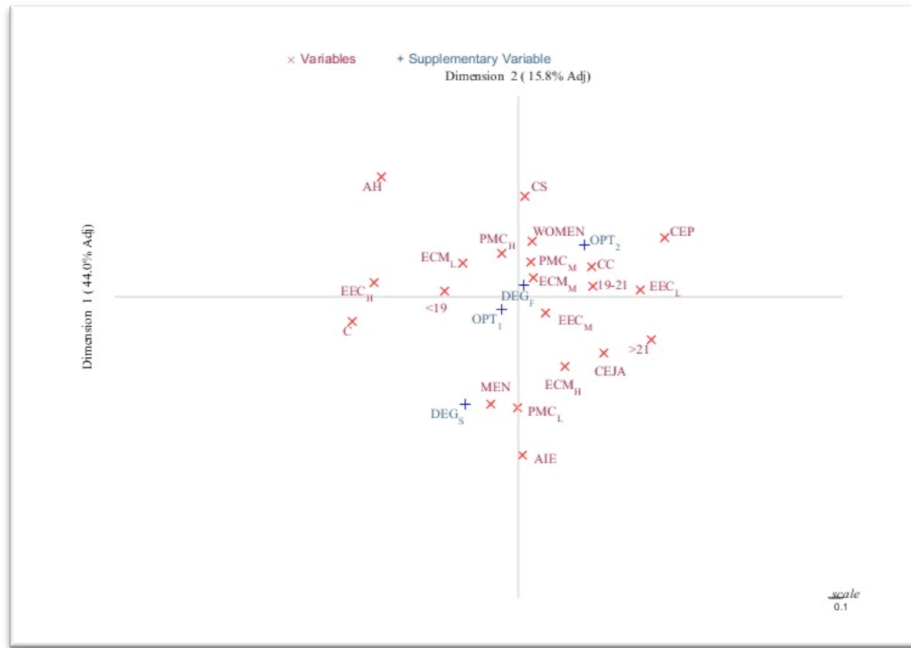


Figure 6.5. MCA representation

As it is seen in table 6.14, the **first dimension** differentiates on the one hand, between students older than 21 years-old, students from the following disciplines law and economics and, educational science and psychology, whose PI have been scarcely related to their Educational Experience -EEC_ Low-; and, on the other hand between students from arts and humanities and, science students whose PI has been highly related with Educational Experience -EEC_ High-.

In parallel, the **second dimension**, separate between male students, from architecture and engineering discipline, which PI has been highly related with External Motivational Conditionals -ECM_ High- and, scarcely related with Personal Motivational Conditionals -PMC_ Low-; and, arts and humanities and, healthcare science students whose PI has been negatively related with ECM_ High and as well as by PMC_ Low.

So, with regard to question 4.C. it is seen that there is no relevant relationship between the factors and the socio-demographic characteristics of our sample. Just in Dimension 2 it is shown that to be a male students form Architecture and Engineering is related with ECM.

6.3.3. Differences among the influences of the factors on students' Professional Identity

Once the aggrupation of the variables and the categories was analysed; and, once if there were any differences between students' PI strength was assessed; the effect that independent variables -EEC, EMC, PMC, age, bachelor degree option and degree- have on PI has been assessed. To do that Multiple Hierarchical Regressions (Cohen and Cohen, 1983) have been computed. These analyses have been conducted, first, with the whole sample, in order to detect if any of the identified factors indeed have some effect over the dependent variable. And, after that, the sample has been divided according to disciplines and bachelor degrees in order to detect any differences in the factors that influence PI. The results presented in the following epigraphs uses the standardized variables. With these analyses, it is aimed to give answer to sub-questions 4.A., 4.B. and 4.C.

6.3.3.1. Previous analyses

The intercorrelation between variables using bivariate correlations (*see* Table 6.15. *Correlation Matrix*) and variance inflation factors (VIF) (*see* Table 6.16. *VIF values by factor*) has been examined. The results of the Pearsons' correlations are lower than 0.5. And the results obtained after computing the VIF reveal no sign of multicollinearity, the values range between 1.050 and 1.076 and, is lower than the tolerable upper bound of 10.

Table 6.15.
Correlation Matrix

	IP	EMC	EEC	PMC
IP	1			
EMC	-.006	1		
EEC	-.027	-.009	1	
PMC	.366	-.179	-.028	1

Table 6.16
VIF values by factor

Factor	VIF value
EMC	1.050
EEC	1.059
PMC	1.076

6.3.3.2. Relationship between students Professional Identity and the factors considering the whole sample

Multiple Hierarchical Regressions has been used to assess the effect of the independent variables -PMC, EEC and EMC- on the dependent variable (PI). Doing so, sub-question 4.B. and 4.C have been answered. Table 6.17 shows the results from the Hierarchical Regression Analysis for the whole sample. **Model 1** reports the baseline with the control variables, which together just explain the 1.8% of the variance in the data. **Model 2** adds the factors -PMC, EEC and EMC- to the previous model, and together explains the 13.2% of the variance in the data.

As it is seen in the results just the personal motivation conditional seem to be related with students' PI ($\beta = .349$, $p < .001$), when all the variables are included. In model 1 the bachelor degree option (option) also seems to positively affect PI ($\beta = .124$, $p < .01$).

Table 6.17.

Results of the Hierarchical Regression Analysis for the whole sample

N=604						
Control variables	Model 1			Model 2		
	β	Std. error	t	β	Std. error	t
Age	.021	.120	.485	.038	.114	.352
Option	.124	.108	2.951**	.060	.104	.140
First Degree	-.050	.151	-1.171	-.027	.145	.510
Independent variables ^a						
PMC				.349	.042	8.505***
EEC				-.019	.042	-.455
EMC				.059	.041	1.463
Adjusted R ^x	.018			.132		
Model F	3.469*			14.053***		
All coefficients are standardized beta weights. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$						
^a The three factors (PMC, EMC, EEC) were standardized within the sample (mean =0, standard deviation =1)						

6.3.3.3. Relationship between students Professional Identity and the Factors dividing the sample

This section aims to give an answer to sub-question 4.A. The results of the Hierarchical Regression Analyses for disciplines and bachelor degrees are shown in the tables 6.19 to 6.47. Nevertheless, considering the huge amount of information in these tables, a summary about the most important results in terms of significance is provided in table 6.18.

Focusing, first, on the disciplines, only students from sciences, law and economics, arts and humanities and, architecture and engineering have some independent variable that influences their PI. **Science** students' PI is influenced by PMC ($\beta = .552, p < .001$), EMC ($\beta = .207, p < .01$) and by the bachelor degree option ($\beta = .158, p < .05$), this together explain the 29,7% of the variance of the data. Basing on our data, **law and economics** students' PI is influenced by PMC ($\beta = .591, p < .001$), and the model explains the 32,4% of the variance of the data. **Arts and humanities** students PI is, as well, influenced by PMC ($\beta = .613, p < .01$) explaining the 32% of the variability on the data. Finally, **architecture and engineering** students' PI is, as well, influenced by PMC ($\beta = .326, p < .05$), although, the model explains just a 8,4% of the variance of the data. For the other disciplines included in our study no significant relationship was found.

In relation to the significant relationships found between PI and the explanatory variables, in terms of the students' bachelor degrees, as shown below in table 6.18, **medicine** students PI is influenced by PMC ($\beta = .501, p < .001$) and the model explains the 19,3% of the variance of the data. **Molecular biology** students' PI is influenced by PMC ($\beta = .605, p < .001$) explaining the model the 33,9% of the variance on the data. The PI of **biotechnology** students is influenced by their age ($\beta = .727, p < .001$) and PMC ($\beta = .487, p < .01$), together these variables explain the 63,7% of the variability on the data. **Oenology** students' PI is related with EMC ($\beta = .555, p < .05$) and PMC ($\beta = .666, p < .05$), these explain the 67,8% of the variability of the data. The PI of **chemistry** first-year university students is endowed to PMC ($\beta = .481, p < .01$), but the whole model just explains the 10,3% of the variability of the data. Both **business management and law** students' PI is influenced by PMC ($\beta = .684, p < .001$; and $\beta = .439, p < .01$, respectively), and the models explain the 47,6% and the 29,6 % of the variance of the data respectively. Finally, **tourism** students' PI is influenced by the bachelor degree option, if there was their first choice or not ($\beta = .614, p < .05$) and the determination coefficient is 28,9%.

Table 6.18.

Summary of the disciplines where students' Professional Identity is significantly influenced by some independent variables

	Retained Factors	β	p-value	R ²
Healthcare Sciences	None	None	None	None
Medicine	PMC	.501	p<.001	.193
Sciences	Option	.158	p< .05	
	PMC	.552	p<.001	.297
	EMC	.207	p<.01	
Molecular Biology	PMC	.605	p<.001	.339
Biotechnology	Age	.727	p<.001	
	PMC	.487	p<.01	.637
Oenology	PMC	.666	p<.05	.678
	EMC	.555	p<.05	
Chemistry	PMC	.481	p<.01	.103
Law and Economics	PMC	.591	p<.001	.324
Business Management	PMC	.684	p<.001	.476
Law	PMC	.439	p<.01	.296
Tourism	Option	.614	p<.05	.289
Art and Humanities	PMC	.613	p<.01	.320
Architecture and Engineering	PMC	.326	p<.05	.084

Table 6.19

Results of the Hierarchical regression analysis for Healthcare Sciences whole sample

N=	Model 1			Model 2		
Control variables	β	Std. error	t	B	Std. error	t
Age	.050	.423	.486	.052	.468	.456
Option	.084	.461	.805	.054	.479	.497
First Degree	-.126	.383	-1.228	-.136	.391	-
						1.297
Independent variables ^a						
PMC				.167	.184	1.614
EEC				.016	.187	0.141
EMC				0.006	.121	.056
Adjusted R ^x		-.002			-.005	
Model F		.941			.911	

All coefficients are standardized beta weights. * $p < 0.05$; ** $p < 0.01$; $p < 0.001$

^a The three factors (PMC, EMC, EEC) were standardized within the sample (mean =0, standard deviation =1)

Table 6.20

Results of the Hierarchical regression analysis for Healthcare Sciences: Physiotherapy

N=20	Model 1			Model 2		
Control variables	β	Std. error	t	β	Std. error	T
Age	.043	.899	.140	.315	1.123	.813
Option	-.032	.730	-.127	-.094	.801	-.341
First Degree	-.333	.899	-1.073	-.267	.957	-.809
Independent variables ^a						
PMC				.141	.508	.498
EEC				-.451	.464	-
						1.242
EMC				.105	.206	.373
Adjusted R ^x		-.089			-.194	
Model F		.511			.512	

All coefficients are standardized beta weights. * $p < 0.05$; ** $p < 0.01$; $p < 0.001$

^a The three factors (PMC, EMC, EEC) were standardized within the sample (mean =0, standard deviation =1)

Table 6.21.

Results of the Hierarchical regression analysis for Healthcare Sciences: Nursery

N=18						
Control variables	Model 1			Model 2		
	β	Std. error	t	β	Std. error	t
Age	-.357	1.122	-1.460	-.277	1.627	-
						.781
Option	-.172	1.484	-.705	-.263	1.920	-.831
First Degree	-	-	-	-	-	-
Independent variables ^a						
PMC				-.083	1.034	-
						.275
EEC				-.249	.753	.668
EMC				-.239	.552	-
						.910
Adjusted R ^x		.019			-.078	
Model F		1.161			.753	
All coefficients are standardized beta weights. * p<0.05; ** p<0.01; p<0.001						
^a The three factors (PMC, EMC, EEC) were standardized within the sample (mean =0, standard deviation =1)						

Table 6.22.

Results of the Hierarchical regression analysis for Healthcare Sciences: Dietetics and Nutrition

N=7						
Control variables	Model 1			Model 2		
	β	Std. error	t	β	Std. error	t
Age	.552	1.746	1.094	.707	3.475	.704
Option	-.029	1.594	-.057	-.030	3.056	-
						.031
First Degree	-	-	-	-	-	-
Independent variables ^a						
PMC				.355	2.888	.378
EEC				-.318	1.420	-
						.309
EMC				-.155	1.248	-
						.180
Adjusted R ^x		-.068			-2.532	
Model F		.808			.140	
All coefficients are standardized beta weights. * p<0.05; ** p<0.01; p<0.001						
^a The three factors (PMC, EMC, EEC) were standardized within the sample (mean =0, standard deviation =1)						

Table 6.23.

Results of the Hierarchical regression analysis for Healthcare Sciences:
Medicine

N=	Model 1			Model 2		
56						
Control variables	β	Std. error	t	β	Std. error	t
Age	.005	.472	.029	.006	.423	.40
Option	.136	.803	.809	.103	.725	.676
First Degree	.134	.215	.965	.063	.200	.485
Independent variables ^a						
PMC				.501	.102	4.018 ***
EEC				.149	.123	1.131
EMC				.112	.074	.880
Adjusted R ^x		-.022			.193	
Model F		.613			3.159 *	
All coefficients are standardized beta weights. * p<0.05; ** p<0.01; p<0.001						
^a The three factors (PMC, EMC, EEC) were standardized within the sample (mean =0, standard deviation =1)						

Table 6.24.

Results of the Hierarchical regression analysis for Science whole sample

N= 157	Model 1			Model 2		
Control variables	β	Std. error	t	β	Std. error	t
Age	.078	.346	.872	.097	.302	1.250
Option	.204	.186	2.346*	.158	.160	2.098*
First Degree	-.113	.434	-1.288	-.093	.385	-1.189
Independent variables ^a						
PMC				.552	.074	6.993***
EEC				.107	.099	1.320
EMC				.207	.083	2.616**
Adjusted R ^x		.030			.297	
Model F		2.369			10.232***	
All coefficients are standardized beta weights. * p<0.05; ** p<0.01; p<0.001						
^a The three factors (PMC, EMC, EEC) were standardized within the sample (mean =0, standard deviation =1)						

Table 6.25.

Results of the Hierarchical regression analysis for Science: Molecular
Biology

N=	Model 1			Model 2		
39						
Control variables	β	Std. error	t	β	Std. error	t
Age	.091	.632	.522	.082	.528	.565
Option	.253	.300	1.450	.184	.259	1.218
First Degree	-.096	.873	-5.60	-.096	.731	-.672
Independent variables ^a						
PMC				.605	.114	3.949***
EEC				-.075	.183	-.524
EMC				-.047	.150	-.292
Adjusted R ²		-.006			.339	
Model F		.927			3.987	
All coefficients are standardized beta weights. * p<0.05; ** p<0.01; p<0.001						
^a The three factors (PMC, EMC, EEC) were standardized within the sample (mean =0, standard deviation =1)						

Table 6.26.

Results of the Hierarchical regression analysis for Science: Biotechnology

N=	Model 1			Model 2		
30						
Control variables	β	Std. error	t	β	Std. error	t
Age	.702	.752	4.463***	.727	3.857 ***	
Option	.013	.330	.084	.032	.235	
First Degree	-	-		-	-	
Independent variables ^a						
PMC				.487	3.395**	
EEC				.237	1.361	
EMC				.161	1.234	
Adjusted R ²		.442			.637	
Model F		10.092***			9.074***	
All coefficients are standardized beta weights. * p<0.05; ** p<0.01; p<0.001						
^a The three factors (PMC, EMC, EEC) were standardized within the sample (mean =0, standard deviation =1)						

Table 6.27.

Results of the Hierarchical regression analysis for Science: Oenology

N= 14						
Control variables	Model 1			Model 2		
	β	Std. error	t	β	Std. error	t
Age	-.083	.550	-.458	.049	.464	.317
Option	.787	.415	4.174***	.151	.502	.662
First Degree	-.345	.716	-.1731	-.066	.649	-.365
Independent variables ^a						
PMC				.666	.213	2.793*
EEC				-.107	.260	-.481
EMC				.555	.226	2.410*
Adjusted R ^x		.465			.678	
Model F		6.506**			7.659***	

All coefficients are standardized beta weights. * p<0.05; ** p<0.01; p<0.001

^a The three factors (PMC, EMC, EEC) were standardized within the sample (mean =0, standard deviation =1)

Table 6.28.

Results of the Hierarchical regression analysis for Science: Chemistry

N= 62						
Control variables	Model 1			Model 2		
	β	Std. error	t	β	Std. error	t
Age	-.051	.585	-.345	-.059	.535	-.439
Option	.058	.320	.400	.051	.301	.375
First Degree	-.182	.664	-1.244	-.062	.685	-.412
Independent variables ^a						
PMC				.481	.158	3.223**
EEC				.077	.188	.525
EMC				.093	.155	.675
Adjusted R ^x		-.011			.103	
Model F		.822			2.655*	

All coefficients are standardized beta weights. * p<0.05; ** p<0.01; p<0.001

^a The three factors (PMC, EMC, EEC) were standardized within the sample (mean =0, standard deviation =1)

Table 6.29.

Results of the Hierarchical regression analysis for Educational Sciences and
Psychology whole sample

N=	Model 1			Model 2		
117						
Control variables	β	Std. error	t	β	Std. error	t
Age	-.001	.171	-.007	-.008	.172	-.087
Option	.140	.180	1.480	.127	.185	1.306
First Degree	.121	.249	1.279	.124	.250	1.305
Independent variables ^a						
PMC				.052	.092	.526
EEC				-.157	.099	-
						1.570
EMC				.013	.094	.130
Adjusted R ^x		.007			.006	
Model F		1.251			1.115	
All coefficients are standardized beta weights. * p<0.05; ** p<0.01; p<0.001						
^a The three factors (PMC, EMC, EEC) were standardized within the sample (mean =0, standard deviation =1)						

Table 6.30.

Results of the Hierarchical regression analysis for Educational Sciences and
Psychology: Psychology

N=	Model 1			Model 2		
13						
Control variables	β	Std. error	t	β	Std. error	t
Age	-.213	1.058	-.712	-.164	1.399	-.415
Option	-	-	-	-	-	-
First Degree	.507	.911	1.693	.518	1468	1.073
Independent variables ^a						
PMC				.177	.719	.427
EEC				-.053	.874	-.139
EMC				.074	.859	.170
Adjusted R ^x		.079			-.325	
Model F		1.474			.461	
All coefficients are standardized beta weights. * p<0.05; ** p<0.01; p<0.001						
^a The three factors (PMC, EMC, EEC) were standardized within the sample (mean =0, standard deviation =1)						

Table 6.31.

Results of the Hierarchical regression analysis for Educational Sciences and
Psychology: Childhood Education

N=	Model 1			Model 2		
27						
Control variables	β	Std. error	t	β	Std. error	t
Age	.071	.304	.310	.023	.342	.091
Option	.047	.374	.219	.058	.463	.219
First Degree	-.212	.655	-.944	-.247	.754	-
						.958
Independent variables ^a						
PMC				-.028	.162	-
						.101
EEC				.169	.219	.702
EMC				-.064	.262	-
						.280
Adjusted R ^x		-.090		-.223		
Model F		.315		.239		

All coefficients are standardized beta weights. * p<0.05; ** p<0.01; p<0.001

^aThe three factors (PMC, EMC, EEC) were standardized within the sample (mean =0, standard deviation =1)

Table 6.32.

Results of the Hierarchical regression analysis for Educational Sciences and
Psychology: Primary Education

N=	Model 1			Model 2		
28						
Control variables	β	Std. error	t	β	Std. error	t
Age	.020	.375	.100	-.019	.426	-
						.081
Option	.086	.375	.423	.084	.399	.387
First Degree	.163	.429	.791	.176	.456	.799
Independent variables ^a						
PMC				-.088	.204	-
						.369
EEC				-.107	.223	-.426
EMC				.005	.165	.021
Adjusted R ^x		-.078		-.200		
Model F		.347		.249		

All coefficients are standardized beta weights. * p<0.05; ** p<0.01; p<0.001

^aThe three factors (PMC, EMC, EEC) were standardized within the sample (mean =0, standard deviation =1)

Table 6.33.

Results of the Hierarchical regression analysis for Educational Sciences and
Psychology: Social Education

N=	Model 1			Model 2		
15						
Control variables	β	Std. error	t	β	Std. error	t
Age	-.145	.546	-.472	-.553	.579	-
						1.696
Option	.520	.659	1.750	.231	.649	.789
First Degree	.174	.931	.651	-.186	1.108	-.595
Independent variables ^a						
PMC				.159	.351	.574
EEC				.076	.292	-.280
EMC				-.515	.298	-
						1.795
Adjusted R ^x		.226			.379	
Model F		2.365			2.426	

All coefficients are standardized beta weights. * p<0.05; ** p<0.01; p<0.001
^a The three factors (PMC, EMC, EEC) were standardized within the sample (mean =0, standard deviation =1)

Table 6.34.

Results of the Hierarchical regression analysis for Educational Sciences and
Psychology: Pedagogy

N=	Model 1			Model 2		
12						
Control variables	β	Std. error	t	β	Std. error	t
Age	.578	.412	2.238	.392	.921	.679
Option	.206	.394	.798	.322	.630	.779
First Degree	-	-	-	-	-	-
Independent variables ^a						
PMC				.265	.340	.727
EEC				-.138	.648	-
						.213
EMC				.090	.389	.178
Adjusted R ^x	.308			.064		
Model F	.219			3.446		

All coefficients are standardized beta weights. * p<0.05; ** p<0.01; p<0.001
^a The three factors (PMC, EMC, EEC) were standardized within the sample (mean =0, standard deviation =1)

Table 6.35.

Results of the Hierarchical regression analysis for Educational Sciences and
Psychology: Social Work

N=	Model 1			Model 2		
22						
Control variables	β	Std. error	t	β	Std. error	t
Age	.029	.340	.125	.174	.472	.541
Option	-.235	.283	-1.019	-.252	.318	-.973
First Degree	-.327	.379	-1.415	-.380	.411	-
						1.516
Independent variables ^a						
PMC				-.154	.235	-.575
EEC				.021	.166	.082
EMC				.302	.219	.918
Adjusted R ^x		.002			-.125	
Model F		1.014			.648	
All coefficients are standardized beta weights. * p<0.05; ** p<0.01; p<0.001						
^a The three factors (PMC, EMC, EEC) were standardized within the sample (mean =0, standard deviation =1)						

Table 6.36.

Results of the Hierarchical regression analysis for Law and Economics
whole sample

N=	Model 1			Model 2		
137						
Control variables	β	Std. error	t	β	Std. error	t
Age	-.009	.225	-.094	-.007	.187	-.090
Option	.203	.268	2.178*	.072	.228	.911
First Degree	-.025	.295	-.260	-.039	.250	-.478
Independent variables ^a						
PMC				.591	.066	7.361***
EEC				.031	.071	.397
EMC				.119	.074	1.502
Adjusted R ^x	.015			.324		
Model F	1.593			10.200***		
All coefficients are standardized beta weights. * p<0.05; ** p<0.01; p<0.001						
^a The three factors (PMC, EMC, EEC) were standardized within the sample (mean =0, standard deviation =1)						

Table 6.37.

Results of the Hierarchical regression analysis for Law and Economics:
Business Management

N=	Model 1			Model 2		
47						
Control variables	β	Std. error	t	β	Std. error	t
Age	-.194	.365	-1.219	-.111	.278	-.915
Option	.207	.497	1.310	-.006	.380	-.048
First Degree	-.055	.515	-.336	-.002	.426	-.013
Independent variables						
PMC				.684	.100	5.685***
EEC				.088	.144	.718
EMC				.189	.153	1.556
Adjusted R ^x	0.15			.476		
Model F	1.210			7.348***		
All coefficients are standardized beta weights. * p<0.05; ** p<0.01; p<0.001						
a The three factors (PMC, EMC, EEC) were standardized within the sample (mean =0, standard deviation =1)						

Table 6.38.

Results of the Hierarchical regression analysis for Law and Economics: Law

N=	Model 1			Model 2		
46						
Control variables	β	Std. error	t	β	Std. error	t
Age	.344	.505	2.215*	.239	.458	1.695
Option	-	-	-	-	-	-
First Degree	-.060	.366	-.389	-.108	.323	-.791
Independent variables ^a						
PMC				.439	.093	3.348**
EEC				-.212	.104	-1.600
EMC				-.132	.089	-1.001
Adjusted R ^x		.065			.296	
Model F		2.502			4.624**	
All coefficients are standardized beta weights. * p<0.05; ** p<0.01; p<0.001						
^a The three factors (PMC, EMC, EEC) were standardized within the sample (mean =0, standard deviation =1)						

Table 6.39.

Results of the Hierarchical regression analysis for Law and Economics:
Tourism

N=	Model 1			Model 2		
16						
Control variables	β	Std. error	t	β	Std. error	t
Age	-.174	.807	-.639	-.187	.820	-.674
Option	.380	.807	1.391	.614	.758	2.393*
First Degree	-	-	-	-	-	-
Independent variables ^a						
PMC				.671	.356	2.136
EEC				.410	.224	1.459
EMC				.556	.189	1.951
Adjusted R ^x		.037			.289	
Model F		1.247			2.054	

All coefficients are standardized beta weights. * p<0.05; ** p<0.01; p<0.001

^a The three factors (PMC, EMC, EEC) were standardized within the sample (mean =0, standard deviation =1)

Table 6.40.

Results of the Hierarchical regression analysis for Law and Economics: Work
Relations

N=	Model 1			Model 2		
12						
Control variables	B	Std. error	t	β	Std. error	t
Age	.247	1.003	.680	.075	1.193	.173
Option	.234	.777	.621	.265	1.718	.318
First Degree	.068	1.268	.201	-.179	2.379	-.281
Independent variables ^a						
PMC				.057	1.212	.065
EEC				.466	.506	1.136
EMC				.233	.505	.478
Adjusted R ^x		-.158			-.401	
Model F		.500			.475	

All coefficients are standardized beta weights. * p<0.05; ** p<0.01; p<0.001

^a The three factors (PMC, EMC, EEC) were standardized within the sample (mean =0, standard deviation =1)

Table 6.41.

Results of the Hierarchical regression analysis for Communication Sciences
whole sample

N=	Model 1			Model 2		
11						
Control variables	β	Std. error	t	β	Std. error	t
Age	-	-	-	-	-	-
Option	-.220	1.693	-.677	-.151	1.997	-.393
First Degree	-	-	-	-	-	-
Independent variables ^a						
PMC				-.099	.701	-.240
EEC				-.492	.731	-
						1.350
EMC				.081	.601	.199
Adjusted R ^x		-.057			-.214	
Model F		.459			.560	
All coefficients are standardized beta weights. * p<0.05; ** p<0.01; p<0.001						
^a The three factors (PMC, EMC, EEC) were standardized within the sample (mean =0, standard deviation =1)						

Table 6.42.

Results of the Hierarchical regression analysis for Art and Humanities
whole sample

N=	Model 1			Model 2		
25						
Control variables	β	Std. error	t	β	Std. error	t
Age	.012	.569	.053	.154	.456	.838
Option	-.091	.507	-.408	-.202	.407	-1.127
First Degree	-.012	.759	-.053	.233	.621	1.253
Independent variables ^a						
PMC				.613	.234	3.248**
EEC				-.286	.157	-1.629
EMC				-.227	.202	-1.301
Adjusted R ^x		-.133			.320	
Model F		.062			2.883*	
All coefficients are standardized beta weights. * p<0.05; ** p<0.01; p<0.001						
^a The three factors (PMC, EMC, EEC) were standardized within the sample (mean =0, standard deviation =1)						

Table 6.43.

Results of the Hierarchical regression analysis for Architecture and
Engineering whole sample

N=	Model 1			Model 2		
67						
Control variables	B	Std. error	t	β	Std. error	t
Age	.132	.276	1.040	.093	.270	.746
Option	.058	.316	.451	.022	.310	.173
First Degree	-.102	.389	-.798	-.096	.387	-.754
Independent variables ^a						
PMC				.326	.105	2.614*
EEC				.154	.104	1.213
EMC				.045	.103	.340
Adjusted R ^x	-.019			.084		
Model F	.600			1.959		
All coefficients are standardized beta weights. * p<0.05; ** p<0.01; p<0.001						
^a The three factors (PMC, EMC, EEC) were standardized within the sample (mean =0, standard deviation =1)						

Table 6.44.

Results of the Hierarchical regression analysis for Architecture and
Engineering: Architecture

N=	Model 1			Model 2		
14						
Control variables	β	Std. error	t	β	Std. error	t
Age	-	-	-	-	-	-
Option	.051	.560	.177	.139	.743	.363
First Degree	-.416	.560	-1.448	.032	.789	.080
Independent variables ^a						
PMC				.651	.303	1.572
EEC				.160	.205	.458
EMC				-.271	.243	-.840
Adjusted R ^x		.015			.021	
Model F		1.093			1.051	
All coefficients are standardized beta weights. * p<0.05; ** p<0.01; p<0.001						
^a The three factors (PMC, EMC, EEC) were standardized within the sample (mean =0, standard deviation =1)						

Table 6.45.

Results of the Hierarchical regression analysis for Architecture and
Engineering: Electric Engineering

N=	Model 1			Model 2		
13						
Control variables	β	Std. error	t	β	Std. error	t
Age	.027	.680	.089	-.263	.889	-.654
Option	-	-	-	-	-	-
First Degree	-.277	1.076	-.902	-.468	1.681	-.976
Independent variables ^a						
PMC				.067	.503	.165
EEC				.546	.447	1.125
EMC				.074	.382	.167
Adjusted R ^x		-.104			-.215	
Model F		.434			.575	
All coefficients are standardized beta weights. * p<0.05; ** p<0.01; p<0.001						
^a The three factors (PMC, EMC, EEC) were standardized within the sample (mean =0, standard deviation =1)						

Table 6.46.

Results of the Hierarchical regression analysis for Architecture and
Engineering: Informatics Engineering

N=	Model 1			Model 2		
16						
Control variables	β	Std. error	t	B	Std. error	t
Age	.193	.549	.704	-.012	.553	-.045
Option	-.154	.709	-.481	-.140	.722	-.430
First Degree	.538	1.099	1.739	.171	1.190	.510
Independent variables ^a						
PMC				.675	.284	2.052
EEC				-.044	.272	-.151
EMC				.031	.234	.102
Adjusted R ^x		.041			.185	
Model F		1.201			1.530	
All coefficients are standardized beta weights. * p<0.05; ** p<0.01; p<0.001						
^a The three factors (PMC, EMC, EEC) were standardized within the sample (mean =0, standard deviation =1)						

Table 6.47.
Results of the Hierarchical regression analysis for Architecture and
Engineering: Chemical Engineering

N=	Model 1			Model 2		
11						
Control variables	β	Std. error	t	β	Std. error	t
Age	-	-	-	-	-	-
Option	.195	.455	.600	.574	.675	1.189
First Degree	-.339	.610	-1.043	-.196	.769	-.478
Independent variables ^a						
PMC				-.321	.360	-.689
EEC				.420	.208	1.066
EMC				.046	.227	.110
Adjusted R ^x		-.034			-.251	
Model F		.836			.598	
All coefficients are standardized beta weights. * p<0.05; ** p<0.01; p<0.001						
^a The three factors (PMC, EMC, EEC) were standardized within the sample (mean =0, standard deviation =1)						

6.4. Chapter conclusions

Chapter 6 exposed the results obtained from our research. The first stage of the fieldwork implied the identification of the influencing factors. A total of 36 possible factors were identified, in the literature and through Focus Groups, as factors with a relevant influence on PI (n=12), on the Bachelor degree choice (n=18) or on both of them (n=6). These were conceptually redistributed in six different groups -social experience, educational and professional experience, degree characteristics, intrinsic factors, expected outcomes and others-.

At the second stage, by using the initial conceptual model of influencing factors obtained from the literature review and the Focus Groups, a scale was constructed and validated to specifically measure these influences. In the first part, the exploratory study, the psychometric properties of PISTIS, from a sample of 208 first year Spanish university students, provided evidence of its content validity. This is seen via judge analysis and the EFA, and internal consistency. During the scale validation process, some of the factors first considered such as professional experience, degree accessibility and geographical proximity, and personal development and self-engagement were removed. The second part, the confirmatory study, the EFA, with a sample of 300 first-year university students, suggested a three-factor structure; and, the CFA (n=304) and the Final Factor Analysis (n=604) cross-validated this structure. So, our validation efforts supported the factors of External Motivation Conditionals (EMC), Educational Experience Conditionals (EEC), and Personal Motivation Conditional (PMC). Overall, the results, using a sample of 604 first-year Spanish university students, supported the psychometric properties of the PISTIS, and resulted in our final conceptual framework.

At the third stage, using the data obtained using the questionnaire developed, the relationship between the identified factors and PI was tested. First, in order to analyse the relationship between several variables -gender, age, ECM, EEC, PMC, discipline- and, study the association between the categories, a MCA was computed. From the results obtained five assumptions are extracted:

- First, PI of students over 21 years old is scarcely related with their educational experience.
- Second, students' PI from bachelor degrees grouped within law and economics and, educational science and psychology is scarcely correlated with their educational experience.
- Third, arts and humanities and, science students are highly related with their educational experience.
- Fourth, PI of male students and students from bachelor degrees gathered within architecture and engineering discipline PI has been highly related with External

Conditionals -ECM_ High- and scarcely related with personal conditionals -PMC_ Low-.

- Fifth, arts and humanities and, healthcare science students Professional Identities are negatively related with External Motivational Conditionals as well as by Personal Motivational Conditionals.

Second, by computing cluster analyses, the existing aggrupation between individuals according to their PI strength was analysed. It was found that most of the students had a strong PI, nevertheless, nursery students were divided in two differentiated groups, students' with high PI and students with a weak PI. That is probably because they really felt identified with the profession or because of social desirability.

Third, by conducting Multiple Hierarchical Regression analysis, the effect that multiple variables -age, degree, bachelor degree option, PMC, EMC and EEC- had on PI was assessed. By considering, first, the whole sample and, then, splitting this attending the disciplines and the bachelor degrees this was done. For the whole sample, just PMC seemed to have a significant positive relationship with PI, when all the variables were included. When the sample was divided, and included all the variables, PMC appeared as a positive influential factor on bachelor degrees such as medicine, molecular biology, biotechnology, oenology, chemistry; business management and law; and, on disciplines such as law and economics, arts and humanities, architecture and engineering and science. Other factors were found to exert a positive influence, as EMC in the science field or in the bachelor of oenology. The option was also significant for science students in general, and for students from the bachelor degree of tourism. Finally, the age was found significant for biotechnology students. So, to sum up PI in a population of first-year university students is influenced generally by PMC, but when analysing by bachelor degrees this identity is also influenced by other factors such as EMC, and other variables such as the bachelor degree option and the age.

6.5. References

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CHAPTER SEVEN

CONCLUSIONS

- Introduction
- Summary of this research
- Main findings and Implications
- Research limitations and Future research
- References

CHAPTER 7. Discussion and conclusions

7.1. Summary of this research

The existing literature about Professional Identity (PI) suggests that its construction is mediated by several factors. Aiming to increase our understanding of this research area, multiple factors that influence its construction were identified. This was done by, first, conducting a multidisciplinary literature review that focused explicitly on the factors that influence PI construction and, also, on the factors that influence students' bachelor degree choice¹; and, second, by conducting a qualitative study aiming to identify new influential factors as well as to confirm the existence of the ones identified within the literature.

Once all the factors were gathered, an initial conceptual framework with the identified factors was proposed. After that, considering the inexistence of a valid and reliable measure to assess the influence of the factors that influence PI, a questionnaire was constructed and validated by using two samples. The first exploratory analysis let us remove 63 items, leaving just 32 items in the questionnaire. After that, a confirmatory study, that made us remove 13 new items, was conducted. Therefore, the final measure instrument consisted of 19 items grouped by three different factors -EMC 9 items, EEC 4 items and PMC 6 items-.

Once the instrument was constructed, data was collected in order to further assess the impact of these factors on the PI of first-year university students. This was assessed in three different ways. First, a multiple correspondence analysis (MCA) was conducted in order to test the existing relationship between several variables -gender, age, EMC, EEC, PMC and Disciplines- and the association between these. Second, a cluster analysis was developed to explore students' aggrupation according to their PI strength. Third, by developing multiple hierarchical regression analysis, the influence that the identified remaining factors had on student's PI strength was tested introducing first the control variables and then the factors. The entire sample was first considered; and, then, this sample was divided considering the bachelor degree program and the discipline of provenance. The aim was to test if there were any differences on this influence between bachelor degrees and disciplines.

¹ It is worth saying that, if we based this on Marcia's Status Paradigm (1966), both groups of factors might be related.

7.2. Main contributions and implications

Literature on PI has rarely been concerned about the identification of the factors that mediate students' PI. The current study highlights the importance of several factors on the construction of individuals' PI. In the following epigraph, the theoretical implications of the present research as well as the practical implication that arise from the results are going to be explained.

7.2.1. Theoretical contributions

In this epigraph, the theoretical implications that arise from the developed research are going to be presented. First, the focus would be on the contribution that the construction and validation of the new instrument of measurement have, the PISTIS -Professional Identity Strength Influences Scale-. Second, the resulting conceptual framework is going to be presented, emphasising the theoretical implication that arises from the results obtained from the analyses and introducing a new reinterpretation of Marcias' Status Paradigm (1966).

7.2.1.1. A new instrument of measurement of the factors that have influence on Professional Identity: the PISTIS (Professional Identity Strength Influences Scale)

The PISTIS was constructed and validated to measure the factors that influence PI construction. Prior research on the influence of specific factors on PI has focused on variables such as self-reported knowledge, individual team understanding, self-differentiation, personal values, family, previous work experience, among others (Adams et al., 2006; Shlomo et al., 2012). These studies show basically the proneness of an individual to construct a stronger PI or a lower one from the moment that they are focused on intrinsic psychological constructs -specific personality traits inner to the self-. Although, Adams et al. (2006) research considered variables like family or work experience, the interest shown on external influences is scarce. Based on previous research of Adams et al. (2006) and the development of an initial conceptual framework (*see* Figure 6.1. *Initial conceptual framework influential factors*), a questionnaire was constructed and validated, which aimed to cover the research gap since there was no reliable instrument to measure these factors. The validation efforts supported three factors EMC, PMC and EEC, and suggested the removal of some of the influences previously considered during our first exploratory analysis -professional experience, degree accessibility and geographical proximity and, personal development and self-engagement-. The second exploratory study, with a sample constituted by students from all the bachelor degree programs taught at URV, also made us remove some of the items.

In this study, PI was considered, initially, as an antecedent of bachelor degree choice. It was asserted that students decided to obtain a particular bachelor degree because they immediately identified with

it. For this reason, both groups of factors, namely the ones that influenced individuals' bachelor degree choice and the ones that influenced their PI construction, were, initially, included aiming to reduce or group, through our analysis, the initial amount of influences found. After the validation, a group of factors related to PI and the bachelor degree choice remained. These factors were EMC -e.g., social actors and social image-, EEC -e.g., educational experiences- and PMC -e.g., personality-. Therefore, summarizing, the construction and validation of the PISTIS imply one theoretical contribution: *the development of a new instrument to measure the factors that influence PI construction.*

7.2.1.2. Conceptual framework of the influencing factors on Professional Identity

Based on the results gotten and using Marcias' Identity Status Paradigm Theory (1966), a conceptual framework was constructed. First, Marcias' theory let us assert that there are three different kinds of students: the ones who went through a self-exploration process, and their decision to obtain a specific bachelor degree was influenced by their PI -moratorium, achieved and diffused identity individuals-; the ones who decided to obtain a particular bachelor degree because they were influenced by several factors but did not identify with this -diffused identity individuals-; and, the ones who decided to obtain a particular bachelor degree because of their PI but did not go through a self-exploration process -foreclosed identity individuals-. Therefore, three different paths exist when talking about bachelor degree choice. In figure 7.1, those paths have been represented. The first path is concerned about the students who, after going into a self-exploration process, decided to obtain a particular bachelor degree, students whose PI strength was influenced by one or more of the resulting factors from our study, and whose PI influenced their bachelor degree choice. The second path is focused on students who decided to obtain a bachelor degree without being immersed in a self-exploration process, and could be influenced by other factors or the ones considered previously. And, the third path is centred on students who decided to choose a bachelor degree without going through a self-exploration process, just because they identified with the profession. Our study was not concerned about the third and second paths, so the constructed conceptual framework only includes the first path. In this framework, the results obtained from the analysis made with the whole sample, the sample divided by discipline and the sample divided by bachelor degree has been represented (*see Figure 7.2. Conceptual framework of the influencing factors considering the whole sample and dividing it by discipline and by bachelor degree*).

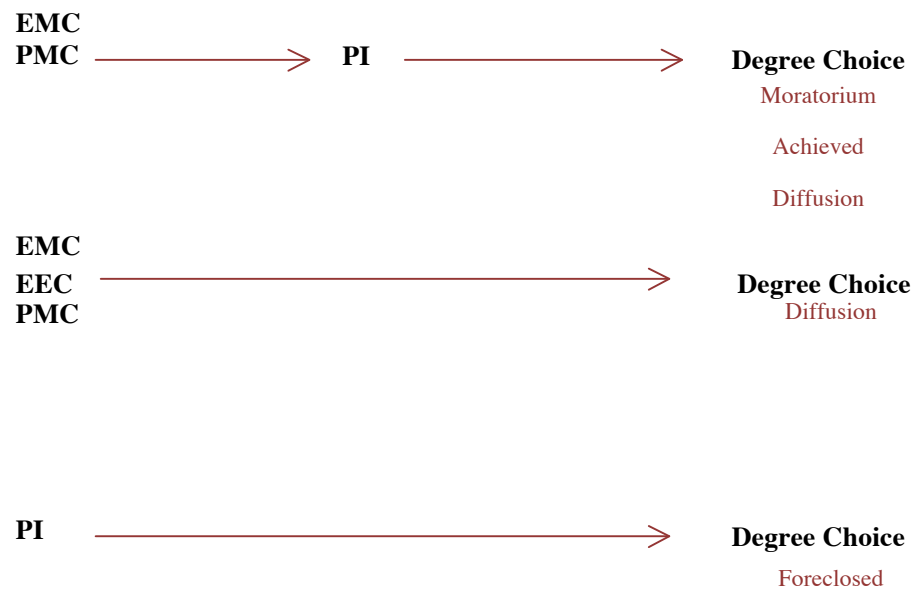
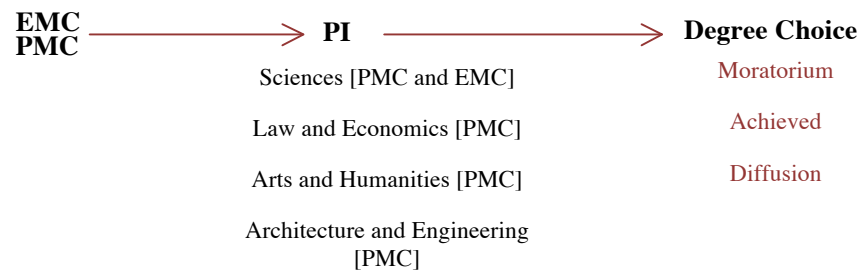


Figure 7.1. Multiple paths for bachelor degree choice
Source: own elaboration

Whole sample



By discipline



By Bachelor Degree

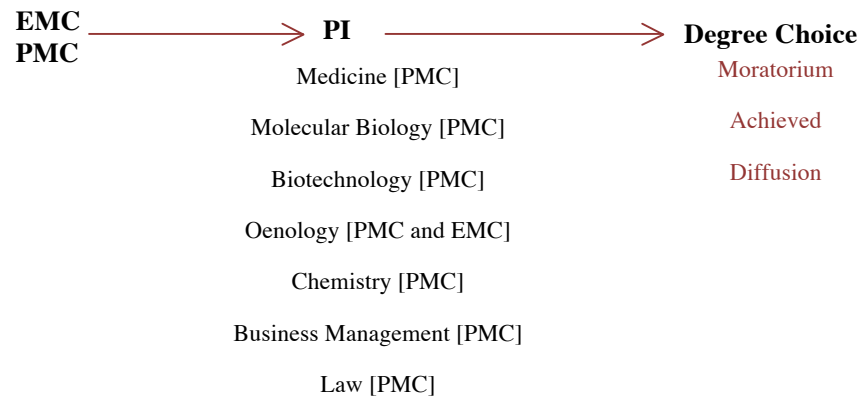


Figure 7.2. Conceptual framework of the influencing factors considering the whole sample and dividing it by discipline and by bachelor degree
Source: own elaboration

In the following sub-sections, the theoretical contributions that derive from the resulting conceptual framework are going to be described, in order to cover the following objective: *to test the relationship between the factors and the students' PI*. Using the hierarchical regression analysis, the influences that the variables PMC, EEC and EMC had on students' PI were tested, including, as control variables, the age, the order of the option and the degree (see Epigraph 5.4.3.2. *Variables*, for their explanation).

7.2.1.2.1. PMC influences students' Professional Identity considering the whole sample

The analysis conducted with the whole sample -without making any distinctions between bachelors degrees- showed that just PMC influenced students' PI. Also, Agarwala (2008) and Iglesias-Martinez et al. (2012) found that Personal Motivational Conditionals were relevant when deciding what bachelor degree to obtain. In particular, the first author found that the love for the career was relevant, while the second author found that the interests and the intellectual ability perceived by students in relation to the bachelor degree were relevant. Therefore, when considering the whole samples the influence of the other two factors, EEC and EMC, does not appear to be significant; just PMC seems to explain PI. Then, it could be stated that students' PI is not influenced by their educational background or by the information transmitted by their social proximal context -family, friends or social image-; it is influenced by the perceived congruence they have in relation with the profession they wish to develop in the future. So, the higher the perceived congruence with the profession, the higher would be the individual's PI.

7.2.1.2.2. PMC, EMC and the order of the option influence science students' Professional Identity

When the data was analysed dividing by discipline, it was found that science students' PI was influenced by PMC, EMC and the order of the option. Similarly, Soethou (2004) found that the interest shown in science influenced science students' bachelor degree choice. Therefore, the perceived congruence these students felt between themselves and the profession -PMC- seems to explain part of their PI. Considering EMC, it is important to note that sciences are well known by individuals and, the social image held by this discipline is positive, so the information that students have about the bachelor degrees included within that group make them enhance their identification with their future profession.

Finally, as said, the order of the option also affected these students' PI. Some bachelor degrees' cut-off mark to be accepted in the program is higher than others, so, some students end up obtaining another bachelor degree instead of the one they chose as their first option.

7.2.1.2.3. PMC alone influences law and economics, architecture and engineering students' Professional Identity

The results show that law and economics and, architecture and engineering students' PI was influenced by PMC. The perceived congruence that these students had with the chosen profession seems to be related to PI. The higher the PMC, the higher was their PI. The professions included in this group are clearly defined within society. The information students have about them made it easy to perceive congruence in terms of value and beliefs.

It is important to note that, contrary to other studies, any influences were found in the engineering students' PI from EMC -family, friends or media-. Mann et al. (2009) found that PMC and EMC -social network, mentors or their cohort- influenced engineering student's PI.

7.2.1.2.4. PMC alone influences medicine, molecular biology, chemistry, business and management students' Professional Identity

When splitting the data based on bachelor degrees, it was found that medicine, molecular biology, chemistry, business and management students' PI was influenced by the PMC. As it was said, previous studies have also endowed the decision to study a particular bachelor degree to PMC (Agarwala, 2008; Iglesias-Martinez et al., 2012).

7.2.1.2.5. PMC and EMC influence oenology students' Professional Identity

It was also found that oenology students' PI was both influenced by PMC and EMC. Oenology is a well-known profession within Spain, so the information that students gathered from their proximal informational sources influenced their decision to obtain this bachelor degree, as did their perceived congruence with the profession.

7.2.1.2.6. The order of the option influences tourism students' Professional Identity

Tourism students were influenced by the order of option when choosing the bachelor degree. As it was repeatedly said, when administering the questionnaire, the reasons why they chose the bachelor degree they were studying were asked, and also the order of the option, and the bachelor degree they wanted to obtain if, for example, tourism was not their first option. It is interesting to note that most of the students in this bachelor program, initially, wanted to obtain a different bachelor degree, such as business management, but they did not get the necessary mark to get into the program, so they had to study their second option, which was tourism.

7.2.1.2.7. Professional Identity as a mediator variable between the influencing factors and the bachelor degree choice

As it was said, during our research, PI was considered as a mediator variable of bachelor degree choice and, therefore, decided to include both group of factors: the ones that influenced individuals' bachelor degree choice and the ones that influenced their PI construction. After our validation efforts, three factors were obtained, EMC, EEC and PMC. The basic aim was to test the influence of those factors on students' PI strength.

Before testing that influence, if there was any aggrupation between students according to their PI strength was analysed. Although some differences on the strength of the identification were found, all students seemed to strongly identify with their bachelors degrees. Therefore, we had a sample of students with high levels of identification with their future profession. After that, the relationship between the identified factors -EMC, EEC and PMC- and students' PI strength was tested. First, the whole sample was considered; second, the sample was divided considering the disciplines; and, third, the sample was split taking into account the bachelor degree program. When doing so, it was found, that the only factors that appeared significant were EMC and PMC. Paying more attention to the wording/formulation of items that constituted the three factors, it was found that EMC and PMC included items considered influential on the degree choice and PI construction -e.g., recommendations, values, interests, among others- (*see Figure 6.1. Initial conceptual framework of the influential factors*) and EEC included only items considered as influences on the bachelor degree choice. So, just EMC and PMC were finally found as influential on PI strength.

Therefore, interpreting our results based on Marcias' status paradigm theory (1966), it is seen that individuals may be classified into three different groups, according to whether they experienced self-exploration or not, when obtaining a bachelor degree. First, there are individuals whose decision to study a particular bachelor degree was guided by PI and they went through a self-exploration process -moratorium, achieved and diffusion status individuals-. In that case, PI acts as an antecedent of bachelor degree choice. These students identified with the profession. This particular case is extremely related to our results, as was indicated our students presented high levels of identification with the professions, being their PI an antecedent of their bachelor degree choice, that is their PI influenced their bachelor degree choice, and this identification was influenced in different particular cases by factors such as EMC and PMC (*see Figure 7.1. Multiple paths for bachelor degree choice*). Therefore, it can stated that moratorium, achieved and, sometimes, diffused identity individuals that went through a self-exploration process and decided to obtain a particular bachelor degree based on their PI may be influenced by factors such as EMC and PMC, but not by EEC. Second, it were found students whose bachelor degree decision was guided by other factors because they had not yet constructed an identity -diffusion status individuals-; and, third, there were those who constructed a PI without a self-exploration process and this did not guide their decision to obtain a bachelor degree -foreclosed individuals-. Any statement can not be made about the last two cases because there is not data about that.

Therefore, summarizing from the former lines, a theoretical implication arises. It was proposed the existence of two different groups of factors: the ones that just affect students bachelor degree choice, in which case the self-exploration process is irrelevant and there is not commitment or identification with the chosen path; and second, the ones that affect PI and the bachelor degree choice, in which case students go through a self-exploration process and are committed to their chosen path. That let us give another interpretation to Marcias' theory (1966), providing a new classification of individuals according to whether or not they had decided to obtain a bachelor degree based on their PI or based on other factors (*see Figure 7.1. Multiple paths for bachelor degree choice*).

7.2.2. Practical implications

In this part, the practical implications that derive from the results gotten, during the analyses developed in this research, are going to be introduced. First, the attention would be paid on the implications that come from the development and validation of the PISTIS and the testing of the differences, for the university strategies and for the counsellor guidance. And, second, the implications arisen from the conceptual framework are going to be exposed.

7.2.2.1. Practical implications from the PISTIS (Professional Identity Strength Influences Scale) and the differences found in students' Professional Identity strength

In this part, the practical implications arisen from the scale created and the results gotten after testing the differences in the strength of students' PI for different bachelor degrees are going to be explained.

7.2.2.1.1. Practical implications for university strategies

Several practical implications arise from the results obtained about the differences in students PI strength and the constructed scale, in terms of university strategies.

- **Useful to set the basis for the development of different educational strategies to enhance PI.** The perception that students have about a profession is modified in line with the different pedagogical approaches and arrangement of the university and the views of the discipline that are exposed in it (Reid et al., 2011). Based on the results obtained, contrary to Adams et al. (2006) that found that social work students were the ones that had the weakest PIs among the bachelor degrees they considered, in our particular case, having considered bachelor degrees studied by the previous authors -medicine, midwifery, nursing, occupational therapy, pharmacy, physiotherapy, podiatry, radiography, social work and audiology- and others, it was found that nursing students were the ones with the lowest PI. The nursing profession has had a troubled history, and nurses historically have struggled to define their work in conjunction to the other professions (Willets and Clarke, 2014). Still today, there is an uncertainty and complexity about the nursing role (Paulo et al., 2013). Apart from that, Hsiung (2012) exposed that nurses transform their PI through globally informed and locally situated practices (Miró-Bonet et al., 2013); this means that nurses construct their PI in the work context. Students composed our sample, so they had not had work experiences yet. This lack of experience made it difficult to establish a clear and comprehensive description of nursing because, as exposed by Willets and Clarke (2014), this requires specific attention to the workplace settings and the social actions through

which nurses meet the daily demands of the profession. Contrary, it was found that architecture students were the ones with higher PI. In their academic program, these students have subjects closely related with their future profession, while nursing students have to wait until the second year to do so. This could be an explanation of the obtained results. Therefore, that result leads us to encourage universities to include professional practices from the first year, helping students to acquire a better image of their future profession and construct a realistic PI, and benefiting from the outcomes derived from having students with strong PIs. These outcomes include decreasing dropout rates and related costs (Simitina et al., 2010).

- **Useful to set the basis for the university recruitment strategies.** As it was exposed throughout the theoretical contributions (*see* Epigraph 7.2.1. *Theoretical contributions*), students may decide to choose one or another bachelor degree by going through one of the three exposed paths -using PI as antecedent of bachelor degree choice or, not using this as antecedent-. It was seen, when assessing the differences in the strength of the students' identification with the profession, that the vast majority of the students identified with the chosen path. Contrary to the results obtained by Adams et al. (2006) that found that the strength of professional identification varied by profession, it was found that our students' sample from different bachelor degrees showed scarce differences in their PI strength. Therefore, in that case, it could be asserted the students of our sample decided to obtain their bachelor degree based on their PI. So, we encourage high schools and universities to apply measures in order to enhance students' previous PI, making students' transition to universities easy. For example, by using the PISTIS, universities could be aware of which factors influence the bachelor degrees, and allocate more resources to the recruitment process trying to enhance, from the very first moment, students' PI -e.g., making campus or courses before the incorporation to the university-.

7.2.2.1.2. Practical implications for counselor guidance

This instrument could help counsellors in guiding students individually, being administered simultaneously with the MacLeod Clark Professional Identity scale created by Adams et al. (2006). With the questionnaire of Adams et al. (2006), a counsellor could detect students with low PI. In these particular cases, it would be interesting to increase these students' identification with the profession from the very first moment, considering the academic benefits that this has for both the university and the student. As acknowledged by Smitina (2010), a strong PI is related to lower dropout rates, lower academic failure, and less bachelor degree switches. After detecting students with a lower PI, the PISTIS could be administered in order to achieve a better perspective of which sources have indeed influenced these students, and interfere with the controllable factors, such as EMC and PMC; or, reorient these students, if they identify or wish to obtain another bachelor degree.

7.2.2.2. Practical implications from the conceptual framework

It was generally found, when considering the whole sample, that PMC influenced students' PI. Nevertheless, when dividing the sample in accordance to the discipline and the bachelor degree, it was found several differences in the results. The results gotten, as expressed on epigraph 7.2.2.1.2, may be useful for career guidance concerns. As exposed, it would be interesting to administer both questionnaires to students: the MacLeod Clark Professional Identity scale created by Adams et al. (2006) and the PISTIS, when managing individually students' PI. Nevertheless, based on the results gotten and always keeping in mind that this was an exploratory analysis, it would be interesting to design university programs intended for specific bachelor degrees. This would help to ensure that students are ready for entry-level practice (Lordly and MacLellan, 2012) and address vocational orientation in a more focused way to adapt career choice to their PIs by exploring the considered factors. For example, it was found that some students' PI for specific bachelor degrees -e.g. medicine, business management, molecular biology, among others- was influenced by PMC and others were influenced by EMC -e.g. oenology-. As a result, two implications arise for the university. It is worth saying that students with a lower PI would be the ones that chose a bachelor degree considering other factors not related with PI because they were not committed to the chosen path from the beginning and they did not go through a self-exploration process. In the following lines, it is going to be exposed how counsellors may interfere with those factors to increase the students' identification with their future profession.

- On the one hand, EMC is related to the influences exerted by family, friends and the social image that the profession has. The information transmitted by these sources is subjectively manipulated by the perception they have about the profession. It is difficult to intervene directly with these sources and change the information transmitted by them. Nevertheless, it is possible for the university to provide students with a new reality about the chosen profession without subjectivity that characterized the previous information they possessed. This may be achieved by introducing different activities as acknowledged by Glaser-Segura et al. (2010). These measures are: in-vitro activities, such as role games, which has to be designed considering what an organization wants from their employees; and, self-directed activities, such as reading magazines and journals related to the professional area (Watson and Bargiela-Chiappini, 1998).
- On the other hand, PMC is related to the perceived congruence students feel that they have with their future profession. To interfere with this factor, students need to be first informed about the reality of the profession, as it was exposed before when talking about EMC. And, after that, students need to increase their knowledge about themselves in order to establish a connection between the chosen profession and their inner values and beliefs. Therefore, universities should introduce activities aimed to increase these students' self-knowledge and the knowledge about the profession in order to strengthen the ties they feel they have within that profession, intervening in the factor PMC.

This counselling intervention would help students pass through the crisis period or self-exploration where they will evaluate their basic values, beliefs and objectives so they can engage in a self-reflection process and actively process and elaborate self-relevant information (Niemi, 1997). If after the exposed interventions students do not feel any attachment/commitment or identification with the chosen path, counsellors could reorient them to another bachelor degree more congruent with the student.

Moreover, developing these programs would have a positive impact since the formation of a strong PI early in students careers has been found to enable the successful transition to the workplace, motivate the beginning practitioner and assist in establishing confidence in their role (Islam, 2008). This would not only benefit higher education by decreasing the dropout rate, academic failure, and the number of bachelor degree switches -and the associated costs- (Smitina, 2010) but may also create more productive, intrinsically motivated, creative, satisfied and better-prepared professionals and future workers (Canrinus et al., 2012).

7.2.2.2.1. The consideration of EMC and EEC in the development of university strategies to increase students' Professional Identity

A MCA was conducted aiming to analyse the similarities between individuals, and the relationship between variables. From the results obtained several implications derived for disciplines such as art and humanities, architecture and engineering, and healthcare. These implications are related with the factors EMC and EEC, and are as follows:

- First, it was found that art and humanities students' PI was related to the highest values of the factor EEC. It is interesting to note here that the bachelor degrees included within this discipline -history, art history, English, Catalan and Spanish- are related to the subjects taught in high school. And, the items that defined the variables EEC are related with the influence that high school exerted on PI and the decision to study a specific bachelor degree. Based on that, considering that there is a relationship between the variables EEC and bachelor degrees that are related with the subjects taught in the high school, it would be interesting for the universities or high schools to organize activities, such as courses or competitions, related with the bachelor degrees whose representation within the high school is scarce, in terms on subjects taught. In this way, they would contribute to increase the knowledge that students have about other unknown bachelor degrees.
- Second, it is seen that male students, architecture and engineering students, healthcare students and high EMC variables were related. Architecture and engineering bachelor degrees are perceived as being related with having greater job opportunities for graduated individuals. When the questionnaires was administered, the reasons that made students to choose their bachelor degrees were asked and, in fact, in the case of architecture and engineering students, most of them referred to the job opportunities and to attributes related with the perceived social image of the professions. In the case of healthcare students, the

reasons they gave for choosing those bachelor degrees were the social image of the profession, the existing perception that the professions were closely related with helping others. Within EMC, items related with the social image of the profession were included. And, finally, male individuals usually obtain these bachelor degrees. These results make us ask several questions: Is there any gender differences between the factors that influence PI? What role does social prestige and greater job opportunities play in PI construction? With these results, it is seen that it is important for universities to try to resolve the image that some bachelor degrees present outside. For example, they might consider offering conferences with professionals about the bachelor degrees in question, trying to show what it really means to be part of the profession; or, going to the high schools to explain the reality behind the profession, trying to avoid the existing stereotypes.

7.3. Research limitations and suggestions for future research

From our research, there are several limitations that should be acknowledged:

First, given that the questionnaire was validated using just a Spanish sample, it could be difficult to make inferences with other countries. To overcome this limitation, we encourage researchers to more accurately investigate these influences on other non-Spanish countries.

Second, response rates between bachelor degrees differed; we collected more questionnaires for some bachelor degrees than other bachelor degrees. This hindered the comparison between them.

Third, the construct PI was considered as a factor that may determine the decision to choose a particular career. At the same time, it was supposed that this variable was influenced by other factors, some of which were considered in previous literature as influential on the career choice, for example, social actors, skills and abilities or financial considerations (Agarwala, 2008; Edwards and Quinter, 2011; Hervás et al., 2013). To cope with this limitation, future research should analyse the existing relationship among the decision to study a particular bachelor degree and students previous PI before starting their career, and adopting the decision to obtain a particular bachelor degree as an independent variable and PI as a moderator independent variable. That could be assessed by using structural equations modelling.

Finally, fourth, our questionnaire was aimed at first-year university students. Therefore, the factor work experience was removed because the vast array of our sample has not had work experience yet: although, literature has found this factor to be relevant on PI (Adams et al., 2006; Cohen-Scali, 2003). Future research should study the influence of this with students who have work experience.

7.4. References

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APPENDIX

➤ APPENDIX A

➤ APPENDIX B

➤ APPENDIX C

APPENDIX

A

➤ Table 3.3. Articles found through literature review on Scopus and WOK databases

Table 3.3. Articles found through literature review on Scopus and WOK databases

Global Filed	Specific Field	Authors	Title	Year	Journal
Social Science	Education	Chirkina S.E.	"Features of formation of future educational psychologists' professional identity during their retraining"	2015	Review of European Studies
Social Science	Education	Meyer E.M.	"The Development of Professional Identity and the Formation of Teams in the Veterans Affairs Connecticut Healthcare System's Center of Excellence in Primary Care Education Program (CoEPCE)"	2014	Academic Medicine
Social Science	Psychology	Castro-Tejerina J.	"PsyTizens": The Co-construction of the Professional Identity of Psychology Students in the Postmodern World"	2014	Integrative Psychological and Behavioral Science
Social Science	Education	Barr J. Et al.	"Developing a patient focussed professional identity: an exploratory investigation of medical students' encounters with patient partnership in learning"	2014	Advances in Health Sciences Education
Healthcare Science	Nursery	Hensel D.	"Typologies of professional identity among graduating baccalaureate-prepared nurses"	2014	Journal of Nursing Scholarship
Healthcare Science	Nursery	Hood K.	"Prior experience of interprofessional learning enhances undergraduate nursing and healthcare students' professional identity and attitudes to teamwork"	2014	Nurse Education in Practice
Social Science	Education	Tracey M.W.	"Instructional designers as reflective practitioners: Developing professional identity through reflection"	2014	Educational Technology Research and Development
Healthcare Science	Pharmacy	Noble C.	"Becoming a pharmacist: Students' perceptions of their curricular experience and professional identity formation"	2014	Currents in Pharmacy Teaching and Learning
Healthcare Science	Medicine	Cruess R.L.	"Reframing medical education to support professional identity formation"	2014	Academic Medicine
Healthcare Science	Medicine	Korkmaz H.	"Exploring first grade medical students' professional identity using metaphors: Implications for medical curricula"	2014	Medical Education Online
Healthcare Science	Nursery	Posluszny L.	"Shaping undergraduate professional identities through mentoring and promoting the future of nursing"	2014	AORN Journal
Engineering	Engineering	Dehing A.	"The Development of engineering students professional identity during workplace learning in industry: A study in Dutch bachelor education"	2013	Engineering education
Social Science	Social Education	Wiles F.	"Not Easily Put Into a Box': Constructing Professional Identity"	2013	Social Work Education
Social Science	Education	Izadinia M.	"A review of research on student teachers' professional identity"	2013	British Educational Research Journal
Social Science	Counselling	Dollarhide C.T.	"Professional identity development of counselor education doctoral students"	2013	Counselor education and supervision
Healthcare Science	Nursery	Cowin L.S.	"The psychometric properties of five professional identity measures in a sample of nursing students"	2013	Nurse Education Today

Healthcare Science	General	Franco M.	"The influence of professional identity on the process of nurses' training: An empirical study"	2013	Leadership in Health Services
Social Science	Business Management Education	Hamilton S.E.	"Exploring professional identity: The perceptions of chartered accountant students"	2013	British Accounting Review
Social Science	Education	Dang T.K.A.	"Identity in activity: Examining teacher professional identity formation in the paired-placement of student teachers"	2013	Teaching and Teacher Education
Social Science	Education	Sutherland L.	"Examining the role of authenticity in supporting the development of professional identity: An example from teacher education"	2012	Higher Education
Social Science	Education	Timostsuk I.	"The role of emotions in student teachers' professional identity"	2012	European Journal of Teacher Education
Social Science	Education	Trede F.	"Role of work-integrated learning in developing professionalism and professional identity"	2012	Asia-Pacific Journal of Cooperative Education
Healthcare Science	Medicine	Goldie J.	"The formation of professional identity in medical students: Considerations for educators"	2012	Medical Teacher
Arts and Humanities	Reflexive Practice	Dyer M.A.	"Supporting professional identity in undergraduate Early Years students through reflective practice"	2012	Reflective Practice
Healthcare Science	General	Shlomo S.B.	"Development of Professional Identity among Social Work Students: Contributing Factors"	2012	Clinical supervisor
Healthcare Science	Dietetics	Lordly D.	"Dietetic students' identity and professional socialization: In preparation for practice"	2012	Canadian Journal of Dietetic Practice and Research
Healthcare Science	Medicine	Weaver R.	"Part of the team': Professional identity and social exclusivity in medical students"	2011	Medical Education
Engineering	Engineering	Eliot M.	"Constructing professional portfolios: Sense-making and professional identity development for engineering undergraduates"	2011	Journal of Engineering Education
Social Science	Education	Leyva V.L.	"First-generation Latina graduate students: Balancing professional identity development with traditional family roles"	2011	New Directions for Teaching and Learning
Social Science	Business	Graves N.	"Eportfolio: A tool for constructing a narrative professional identity"	2011	Business Communication Quarterly
Healthcare Science	General	MacLeod A.	Caring, competence and professional identities in medical education	2011	Advances in Health Sciences Education
Social Science	Education	Lim H.W.	"Concept maps of Korean EFL student teachers' autobiographical reflections on their professional identity formation"	2011	Teaching and Teacher Education
Social Science	Education	Rogers G.	"Learning-to-learn and learning-to-teach: The impact of disciplinary subject study on student-teachers' professional identity"	2011	Journal of Curriculum Studies
Social Science	Business Management Education	Hallier J.	"Dilemmas and outcomes of professional identity construction among students of human resource management"	2011	Human Resource Management Journal
Social Science	Education	Dowling F.	"Are PE teacher identities fit for postmodern schools or are they clinging to modernist notions of professionalism?" A case	2011	Sport Education and Society

Social Science	Education	Ezer H.	study of norwegian pe teacher students' emerging professional identities"	2010	-
Social Science	Education	Timostsuk I.	"Perception of teacher education and professional identity among novice teachers"	2010	Teaching and Teacher Education
Social Science	Education	Luke M.	"Student teachers' professional identity"	2010	Counselor Education and Supervision
Healthcare Science	Medicine	Helmich E.	"Chi Sigma Iota chapter leadership and professional identity development in early career counselors"	2010	Medical Education
Social Science	Psychology	Orkibi H.	"Medical students' professional identity development in an early nursing attachment"	2010	Arts in Psychotherapy
Social Science	Education	Glaser-Segura D.A.	"Creative arts therapies students' professional identity and career commitment: A brief pilot study report"	2010	Education and Training
Social Science	Education	Williams J.	"Development of professional identity in Romanian business students"	2010	Teaching and Teacher Education
Arts and Humanities	Linguistics	Macleane R.	"Constructing a new professional identity: Career change into teaching"	2010	Discourse Studies
Social Science	Education	Lamote C.	"First-year law students' construction of professional identity through writing"	2010	European Journal of Teacher Education
Social Science	Law	Terry K.S.	"The development of student teachers' professional identity"	2009	Journal of Legal Education
Social Science	Education	Schepens A.	"Externships: A signature pedagogy for the apprenticeship of professional identity and purpose"	2009	Educational studies
Social Science	Education	Gilardi S.	"Student teachers' professional identity formation: Between being born as a teacher and becoming one"	2009	Innovative Higher Education
Social Science	Education	Angot J.	"Inquiry-based learning and undergraduates' professional identity development: Assessment of a field research-based course"	2008	Education and training
Social Science	Education	Luehmann A.L.	"The formation of professional identity in French apprenticeship managers"	2008	Journal of the Learning Sciences
Social Science	Psychology	Grion V.	"Using blogging in support of teacher professional identity development: A case study"	2007	PsychNology Journal
Social Science	Education	Khapova S.N.	"On line collaboration for building a teacher professional identity"	2007	Career Development International
Social Science	Law	Sommerlad H.	"Professional identity as the key to career change intention"	2007	Journal of Law and Society
Social Science	Business Management	Pratt M.G.	"Researching and theorizing the processes of professional identity formation"	2006	Academy of management journal
Social Science	Education	Neumeister K.L.S.	"Constructing professional identity: The role of work and identity learning cycles in the customization of identity among medical residents"	2006	Journal for the Education of the Gifted
Social Science	Business	Dobrow S.R.	"An emerging professional identity: Influences on the achievement of high-ability first-generation college females"	2005	Career Development International
			"Developmental networks and professional identity: A		

	Maanagement	longitudinal study"	
Social Science	Education	Loui M.C.	2005
Healthcare Science	Nursery	Heung Y.Y.J.	2005
Social Science	Psychology	Ikiugu M.N.	2003
Healthcare Science	Nursery	Cook T.H.	2003
Healthcare Science	Medicine	Kaiser R.	2002
Social Science	Education	Duemer L.	2002
Social Science	Education	Asher N.	2002
Social Science	Genre	Katila S.	2002
Healthcare Science	Medicine	Handelman, W.	2014
Healthcare Science	Nursery	Hensel D.	2014
Science	Chemistry	Kim-Prieto, C.	2013
Arts and Humanities	Pragmatics	Reissner-Roubicek, Sophie	2012
Healthcare Science	Medicine	Lindquist, I	2006
Social Science	Business Management	Dannels, DP	2000

APPENDIX B

- Focus Group Consent Form
- Focus Group Protocol
- Focus Group Transcriptions

FOCUS GROUP CONSENT FORM

**Fulla de consentiment informat**

Jo, (Nom del participant) _____

Declaro haver estat informat dels objectius del projecte d'investigació i acordo participar en aquest, acceptant:

1. Participar com a membre actiu en la entrevista.
2. Que la entrevista sigui gravat.
3. Que les dades obtingudes siguin utilitzades amb fins de recerca i puguin ser publicades respectant la confidencialitat i protegint l'anonimat.

Firma:

Data:

FOCUS GROUP PROTOCOL

Guió Focus Group:

Bon dia/ Bona tarda a tothom.

Primer de tot agrair-vos la vostra participació i el vostre temps. El Focus Group tindrà una durada aproximada d'uns 90 minuts. La finalitat d'aquest Focus Group és obtenir informació sobre els factors que influeixen en la identificació amb una professió.

La sessió serà gravada amb càmera de vídeo i gravadora, amb la finalitat de poder accedir a les dades posteriorment. Per tant, seria important que parléssiu alt i clar. Hi ha algú que tingui algun inconvenient?.

Aquestes gravacions seran confidencials i en qualsevol moment volem garantir l'anonimat de les persones que participeu en aquesta sessió. Per tant, esperem que us sentiu lliures de donar les vostres opinions en qualsevol moment, i no tingueu por de ser francs.

Us demanaríem que sigueu respectuosos amb les opinions dels altres i que doneu la oportunitat a tothom de participar.

Alguna pregunta abans de començar

Informació participants:

Cognoms	
Nom	
Telèfon	
Adreça	
Gènere	
Edat	
Origen ètnic	
Nacionalitat	
Estatus social	
Professió dels pares	

Es aquesta la teva primera carrera?	Si	No
La carrera que estàs estudiant va ser la teva primera opció?	Si	No

(Si la resposta a la anterior pregunta és negativa)

Quina va ser la teva primera opció?	
--	--

Preguntes del Focus Group:**'Warm-up questions'**

Amb la finalitat de que tots us aneu coneixent, farem una ronda de presentacions. En la qual us demanem que digueu el vostre nom i us definiu a vosaltres mateixos atenent la següent estructura : *Jo sóc...* I en termes professionals (si no ho fan així el primer cop), com completariéu la següent estructura?: *Jo sóc...*

Que enteneu per Identificació Professional? En teniu alguna?

Actualment esteu estudiant per _____. És la vostra primera carrera? És la primera opció que vau escollir?

Perquè vau optar per aquesta carrera i no per una altra?

Des de petits havíeu volgut ser _____ o al llarg dels anys les vostres primeres aspiracions professionals s'han vist modificades?

Què creieu o qui creieu que va influir en aquest desig professional?

I en el cas de canviar...què creieu que pot haver provocat aquest canvi en les vostres idees?

Experiència Social

Actualment en el vostre entorn familiar o social pròxim hi ha algú que sigui _____? Qui? De què treballa?

Aquesta persona us parla sobre la seva professió i el que aquesta implica? Com us afecta aquesta informació?

Si us haguéssiu de posar en la pell dels vostres amics/familiars, com creieu que definirien la vostra futura professió?

En relació als mitjans de comunicació, com creieu que aquests mostren la vostra professió? La informació que proporcionen us afecta d'alguna manera?

Mireu algun programa de televisió/pel·lícula/sèrie relacionada amb els vostres estudis? Com creieu que mostra al _____? Aquesta visió us motiva o desmotiva a l'hora de seguir estudiant aquesta carrera?

Quina imatge sobre la vostra professió creieu que té la societat? En quina manera us afecta això? (us fa sentir més o menys identificats amb aquesta? Perquè?)

Al llarg de la vostra vida com estudiants hi ha algun professor/conegut/professional, etc. (alguna figura) que us hagi inspirat / que sigui un model a seguir en l'àmbit professional? Qui? Com?

Això ha fet que us identifiqueu més o menys amb una determinada professió?

Contingut Educacional

Quina era la vostra assignatura preferida a l'escola/institut? Perquè?

Quina assignatura era la més fàcil per vosaltres a l'escola/institut? Com creieu que ha afectat això a la vostra Identificació Professional?

Us ha costat accedir a aquest ensenyament? Ha exercit alguna influència en la vostra decisió la nota d'accés? Si la nota hagués estat més alta haguéssiu decidit estudiar _____? Perquè? Quina carrera haguéssiu escollit?

Actualment, amb la crisi econòmica que estem experimentant i la pujada dels preus en la matrícula universitària, us heu vist obligats a desestimar determinades carreres professionals tot i ser més atractives als vostres ulls? Quines? Creieu que això influeix en el vostre sentiment de pertinença a aquesta professió? Perquè?

Diríeu que és una carrera molt general o molt específica? Perquè? Això us ajuda a sentir-vos part de la professió de _____? En quin sentit?

Quines assignatures us agraden més de la carrera? Perquè? Us ajuda això a decantar-vos cap a una sortida o cap una altra? Perquè?

Imatge Professional

Que significa per vosaltres ser_____ (quina imatge creieu que tindríeu si fóssiu_____)? Com creieu que a través dels anys us heu arribat a formar aquesta idea de la professió?

Quan acabeu la carrera que sereu? Creieu que el fet de que hi hagi un nom associat al professional que desenvolupa aquesta professió us motiva a dedicar-vos-hi ? Perquè?

Quins valors i creences associaríeu a aquesta professió?

Percebeu similitud entre els valors associats a aquesta professió i els vostres propis valors?

Ha influït això en la vostra identificació professional?

Creieu que socialment hi ha professions que s'associen a dones i d'altres a homes? És el vostre cas? Us a portat a desestimar certes carreres aquesta separació de les professions atenent el gènere? Perquè? En el cas d'aquesta carrera, creieu que està més relacionada amb al figura de la dona o amb la de l'home? Com us fa sentir això?

Experiència Laboral

Heu tingut alguna experiència laboral en el camp que esteu estudiant o en altres camps?

Creieu que aquesta experiència ha influït en la vostra selecció d'ensenyament? I en la vostra identificació professional? Com?

Heu canviat la idea que teníeu associada a aquesta carrera en base a aquestes experiències? En quin sentit? (PQ?)

Expectatives futures

L'accés al mercat laboral a vegades pot ser més restringit en determinades carreres, sobretot en els temps que corren. Això ha influït en la vostra decisió d' estudiar _____? Com?

En què us agradaria treballar? Com us veieu en el vostre futur professional?

Finalment, hi ha algun altre factor que no s'hagi comentat que creieu ha influït en la vostra decisió de selecció d'ensenyament? I en la vostra identificació professional? Quin? Com? _____?

Moltes gràcies per la vostra col·laboració.

FOCUS GROUPS TRANSCRIPTIONS

****Focus Group transcription can be consulted in the attached CD**

APPENDIX C

- Questionnaire administration permission
- Data protection informative document
- Questionnaire used in the first exploratory study
- Questionnaire used in the second exploratory study

QUESTIONNAIRE ADMINISTRATION PERMISSION



MARIA MARQUÈS I BANQUÉ, Vicerectora de Docència i EEES de la Universitat Rovira i Virgili,

MANIFESTO

Que sóc coneixedora de la tesi doctoral "*Investigating the factors influencing professional identity of University students*" que es troba realitzant la doctoranda Alba Barbarà Molinero, sota la direcció de la Dra. Rosalía Cascón Pereira i la Dra. Ana Beatriz Hernández Lara, inscrita al Departament de Gestió d'Empreses.

Que en el context d'aquesta tesi doctoral s'ha dissenyat el qüestionari d'identitat professional PISTIS (*Professional Identity Strength Influences Sales*) amb la finalitat d'estudiar la influència que determinats factors poden exercir en el procés de construcció de la Identitat Professional dels estudiants.

Que el contingut d'aquesta recerca i les diverses possibilitats d'aplicació dels seus resultats són d'interès institucional per la Universitat Rovira i Virgili.

És per tot això que,

DEMANO la col·laboració d'aquells membres de la comunitat universitària als quals la doctoranda es pugui adreçar en el context de la realització de la seva recerca i, molt particularment, en el procés de recollida de dades.

Agraint per avançar la teva col·laboració, rep una cordial salutació.

DATA PROTECTION INFORMATIVE DOCUMENT

‘Us informem que les dades que es recullen s'utilitzaran en l'estudi desenvolupat a la Facultat d'Economia i Empresa de la URV sobre els factors que incideixen en la identitat professional dels estudiants universitaris. Aquest estudi consisteix en un qüestionari inicial durant el primer curs de l'ensenyament i si s'escau en contactes posteriors amb els participants pel seguiment de l'estudi. Aquestes dades es tractaran de forma confidencial i anònima i en cap cas es publicaran dades personals.

En compliment de l'art. 5 de la Llei orgànica 15/1999, de 13 de desembre, de protecció de dades de caràcter personal, us informem que les dades personals que proporcioneu s'incorporaran i es tractaran en el fitxer de Gestió Acadèmica, la finalitat del qual és gestionar l'expedient acadèmic i organitzar la docència i l'estudi.

El responsable d'aquest fitxer és el Gerent de la Universitat Rovira i Virgili, amb domicili a Tarragona, carrer de l'Escorxador, s/n. Teniu dret a accedir, rectificar i, si s'escau, cancel·lar les vostres dades i a oposar-vos al seu tractament, en les condicions previstes en la legislació vigent. Per exercir aquest drets, heu d'adreçar un escrit o formulari al C/Escorxador, s/n 43003 Tarragona.'

FIRST EXPLORATORY STUDY QUESTIONNAIRE

QÜESTIONARI IDENTITAT PROFESSIONAL (QIP)

□

INSTRUCCIONS

El qüestionari d'identitat professional (QIP) s'ha dissenyat amb la finalitat d'estudiar l'influència que determinats **factors** poden haver exercit en el procés de construcció de la teva **Identitat Professional**, entenent aquesta com la descripció que una persona fa d'ella mateixa en termes professionals (p. ex. Jo sóc metge)

El qüestionari es troba dividit en set apartats: Dades Personals, Força de la Identitat Professional, Experiència Social, Experiència Educativa, Idoneïtat Percebuda amb la Professió, Imatge Social de la Professó i Experiència Laboral

No hi ha límit de temps per contestar el qüestionari, probablement necessitaràs entre **20-30 minuts**. Tot i que demanem les teves dades personals, aquestes seran totalment confidencials,

Instruccions per el seu emplenament:

- Quan parlem d'Identitat Professional o Professió ens estem referint a aquella relacionada amb la carrera que estàs cursant i per la què t'estàs preparant.
- Per tal de respondre a les preguntes, utilitza la següent escala:
 - 1- Totalment en desacord
 - 2- En desacord
 - 3- Indiferent
 - 4- D'acord
 - 5- Totalment d'acord

Recorda:

1-Totalment en desacord; 2- En desacord; 3- Indiferent; 4- D'acord; 5- Totalment d'acord

DADES IDENTIFICATIVES

Nom i cognoms: _____

Edat: _____

Sexe: Femení ☐ Masculí ☐

Ocupació dels pares:

Mare: _____

Pare: _____

És la primera carrera que estudies? Si ☐ No ☐

Si no la és, què vas estudiar primer? _____

Vas acabar ? Si ☐ No ☐

És aquesta carrera la teva primera opció? Si ☐ No ☐

Si no la és, quina carrera vas escollir en primera opció?

Per què estàs estudiant aquesta carrera?

Completa el següent enunciat:

Al acabar aquests estudis m'agradaria ser _____

(Professionalment)

Recorda:

1- Totalment en desacord; 2- En desacord; 3- Indiferent; 4- D'acord; 5- Totalment d'acord

Indica amb una creu la casella corresponent a la teva resposta:

Força de la Identitat Professional (Adams et al, 2006; Brown, 1986)					
1	Sento que sóc un membre d'aquesta professió	1	2	3	4 5
2	Sento que tinc forts llaços amb els membres d'aquesta professió	1	2	3	4 5
3	Sovint em sento avergonyit/da al admetre que estic estudiant per aquesta professió	1	2	3	4 5
4	Me'n adono que poso excuses per tal de pertànyer a aquesta professió	1	2	3	4 5
5	Intento amagar que estic estudiant per formar part d'aquesta professió	1	2	3	4 5
6	Estic content/a de pertànyer a aquesta professió	1	2	3	4 5
7	Puc identificar-me positivament amb els membres d'aquesta professió	1	2	3	4 5
8	Ser un membre d'aquesta professió és important per a mi	1	2	3	4 5
9	Sento que tinc característiques en comú amb altres membres d'aquesta professió	1	2	3	4 5

Recorda:

1- Totalment en desacord; 2- En desacord; 3- Indiferent; 4- D'acord; 5- Totalment d'acord

Indica amb una creu la casella corresponent a la teva resposta:

		1	2	3	4	5	
I- Experiència social	Família	1- He decidit estudiar aquesta carrera per influència de la meva família					
		2- La meva família evita parlar de temes professionals	1	2	3	4	5
		3- La meva família no aprova la meva decisió d'estudiar aquesta carrera	1	2	3	4	5
		4- La meva família em va aconsellar sobre les diferents carreres possibles	1	2	3	4	5
		5- La meva família volia que estudiés per exercir aquesta professió	1	2	3	4	5
		6- L'opinió de la meva família sobre aquesta professió reforça la meva identitat professional	1	2	3	4	5
		7- Els meus pares van fer que m'interessés per aquesta professió	1	2	3	4	5
		8- La professió dels meus pares ha fet que escollís aquesta carrera	1	2	3	4	5
		9- Parlar de temes professionals és comú en la meva família	1	2	3	4	5
	Amics	1- He decidit estudiar aquesta carrera per influència dels meus amics	1	2	3	4	5
2- L'opinió que els meus amics tenen sobre aquesta professió ha fet que escollís aquesta carrera		1	2	3	4	5	
3- Els meus amics critiquen aquesta professió		1	2	3	4	5	
4- L'opinió que els meus amics tenen sobre aquesta professió em resulta indiferent		1	2	3	4	5	
5- L'opinió dels meus amics sobre aquesta professió és important per mi		1	2	3	4	5	
6- No acostumo a parlar amb els meus amics sobre les diferents opcions professionals		1	2	3	4	5	
7- L'opinió que els meus amics tenen sobre aquesta professió reforça la meva Identitat Professional		1	2	3	4	5	

Recorda:

1- Totalment en desacord; 2- En desacord; 3- Indiferent; 4- D'acord; 5- Totalment d'acord

Mitjans comunicació	1- La imatge que els mitjans de comunicació mostren sobre aquesta professió ha sigut important en el moment d'escollir aquesta carrera	1	2	3	4	5
	2- La imatge projectada en els mitjans de comunicació sobre aquesta professió no s'ajusta a la realitat de la mateixa	1	2	3	4	5
	3- Aquesta professió és poc tractada en els mitjans de comunicació	1	2	3	4	5
	4- La imatge d'aquesta professió, mostrada en televisió, fa que vulgui exercir-la	1	2	3	4	5
	5- Estic estudiant per exercir aquesta professió perquè volia semblar-me a un personatge televisiu al que admiro	1	2	3	4	5
	6- No em va influir la imatge mostrada en els mitjans de comunicació en la meva decisió d'estudiar aquesta carrera	1	2	3	4	5
	7- Cap personatge de televisió m'ha influït en voler estudiar aquesta carrera	1	2	3	4	5
Altres influències socials	1- He decidit estudiar aquesta carrera per la influència exercida per alguns dels meus professors	1	2	3	4	5
	2- Algun/a professor en la meva escola/institut van ser un model per mi, en el sentit que van inspirar la elecció d'aquesta carrera	1	2	3	4	5
	3- He optat per escollir aquesta carrera tot i l'opinió contrària dels meus professors	1	2	3	4	5
	4- Vaig optar per estudiar aquesta carrera donats els resultats obtinguts en un test d'orientació professional	1	2	3	4	5
	5- Vaig conèixer a algú que desenvolupava aquesta professió i em va motivar a estudiar-la	1	2	3	4	5
	6- L'orientador/a professional de l'escola/institut en el que estudiava em va aconsellar estudiar aquesta carrera	1	2	3	4	5
	7- En la meva escola/institut no ens van passar cap test d'orientació professional	1	2	3	4	5

Recorda:

1- Totalment en desacord; 2- En desacord; 3- Indiferent; 4- D'acord; 5- Totalment d'acord

	Esdeveniments influents	1- Vaig assistir a una conferència/ exposició que em va influir en la selecció d'aquesta carrera	1	2	3	4	5
		2- L'ajuda proporcionada a un familiar o amic em va influir en la decisió d'estudiar aquesta carrera	1	2	3	4	5
		3- La possibilitat d'entendre millor el que em passa o trobar una solució al meu problema em va influir en la meua decisió d'estudiar aquesta carrera	1	2	3	4	5
		4- Vaig participar en una activitat extracurricular que va influir en la meua decisió d'estudiar aquesta carrera	1	2	3	4	5
		5- Un lloc específic va influir en la meua decisió d'estudiar aquesta carrera (p.e. Hospital)	1	2	3	4	5
		6- Cap esdeveniment ha influït sobre la meua decisió d'estudiar aquesta carrera	1	2	3	4	5
		7- Em van fer un regal que va influir sobre la decisió d'escollir aquesta carrera	1	2	3	4	5
II- Experiència educativa	Contingut educatiu previ	1- He decidit estudiar aquesta carrera per determinats continguts estudiat duran l'educació primària/secundària	1	2	3	4	5
		2- Les assignatures que se me donaven bé han influït en la meua decisió d'escollir aquesta carrera	1	2	3	4	5
		3- He decidit escollir aquesta carrera per les habilitats i competències que vaig adquirir durant el meu període en l'escola/institut	1	2	3	4	5
		4- La meua educació preuniversitària (primària/secundària) no va ser important en la selecció d'aquesta carrera	1	2	3	4	5
		5- L'opinió dels meus professors sobre les meves capacitats, durant l'educació preuniversitària (primària/secundària), m'ha fet escollir aquesta carrera	1	2	3	4	5
		6- L'opinió dels meus professors sobre les meves capacitats o habilitats no va influir en la meua decisió d'estudiar aquesta carrera	1	2	3	4	5
		7- No vaig tenir cap assignatura relacionada amb la professió per la que m'estic preparant durant la primària i secundària	1	2	3	4	5

Recorda:

1- Totalment en desacord; 2- En desacord; 3- Indiferent; 4- D'acord; 5- Totalment d'acord

Accessibilitat a la carrera	1- Volia dedicar-me a aquesta professió, per tant, vaig treballar durament per aconseguir la nota de tall requerida	1	2	3	4	5
	2- Vaig escollir estudiar aquesta carrera perquè la nota de tall requerida era baixa	1	2	3	4	5
	3- Treure la nota de tall requerida per accedir a aquesta carrera va ser un repte per mi	1	2	3	4	5
	4- No vaig considerar la nota de tall en el moment d'escollir carrera	1	2	3	4	5
	5- El cost econòmic de la carrera que volia estudiar va suposar un problema per mi, així que vaig haver d'escollir una altra carrera	1	2	3	4	5
	6- Els costos econòmics no van influir en la meva decisió d'escollir aquesta carrera	1	2	3	4	5
	7- Volia estudiar una altra carrera però havia de marxar a una altra ciutat, diferent a la meua ciutat natal	1	2	3	4	5
	8- Vaig obtenir una ajuda econòmica, així que els costos econòmics no van ser rellevants al escollir carrera	1	2	3	4	5
	9- La localització geogràfica de la universitat no va ser important en la selecció de la carrera	1	2	3	4	5

Recorda:

1- Totalment en desacord; 2- En desacord; 3- Indiferent; 4- D'acord; 5- Totalment d'acord

Indica amb una creu el cost aproximat de la teva matricula i la nota de tall de la carrera que estàs estudiant:

0 a 1000 €	5 a 6
1001 a 2000 €	6,01 a 7
2001 a 3000 €	7,01 a 8
3001 a 4000 €	8,01 a 9
4001 a 5000 €	9,01 a 10
+ 5001 €	10,01 a 11
	11,01 a 12
	12,01 a 13
	13,01 a 14

0 a 1000 €	
1001 a 2000 €	
2001 a 3000 €	
3001 a 4000 €	
4001 a 5000 €	
+ 5001 €	

Contingut de la carrera	1- He descartat altres carreres degut a la dificultat de les mateixes	1	2	3	4	5
	2- He decidit estudiar aquesta carrera perquè els continguts coincideixen amb els meus interessos	1	2	3	4	5
	3- Abans de començar la carrera coneixia el seu programa d'estudis	1	2	3	4	5
	4- Em sento identificat amb aquesta carrera perquè m'agraden els seus continguts en general	1	2	3	4	5
	5- Al escollir aquesta carrera, no vaig tenir en compte les seves sortides professionals	1	2	3	4	5
	6- Tot i que no m'agraden alguns dels continguts de la carrera, necessito superar-los per dedicar-me al que professionalment vull ser	1	2	3	4	5
	7- El contingut d'aquesta carrera no té relació amb els meus interessos professionals	1	2	3	4	5

Recorda:

1- Totalment en desacord; 2- En desacord; 3- Indiferent; 4- D'acord; 5- Totalment d'acord

III. Idoneïtat percebuda amb la professió (capacitat intel·lectual, personalitat, valors)	1- Sento que els meus valors són congruents amb els d'aquesta professió	1	2	3	4	5
	2- Crec que aquesta professió em permetrà ser jo mateix/a	1	2	3	4	5
	3- Crec que la meua personalitat és idònia per aquesta professió	1	2	3	4	5
	4- Crec tenir les característiques apropiades per a desenvolupar aquesta professió	1	2	3	4	5
	5- He decidit estudiar aquesta carrera per la meua capacitat intel·lectual	1	2	3	4	5
	6- En aquesta professió sóc un "raret", és a dir, no sóc el tipus habitual de persona que es dedica a ella	1	2	3	4	5
	7- Crec no tenir les característiques necessàries per exercir aquesta professió	1	2	3	4	5
IV. Imatge social de la professió	1- He escollit aquesta carrera per el prestigi social de la professió	1	2	3	4	5
	2- Considero que la societat desconeix aquesta professió	1	2	3	4	5
	3- He escollit aquesta carrera per la seva alta demanda en el mercat laboral	1	2	3	4	5
	4- El fet de que hi hagi un nom per referir-se al professional que exerceix aquesta professió, ha facilitat la meua identificació amb la mateixa	1	2	3	4	5
	5- M'identifico amb la imatge que la societat té de la professió per la que m'estic preparant	1	2	3	4	5
	6- He escollit aquesta carrera per les expectatives salarials	1	2	3	4	5
	7- Considero que aquesta professió està infravalorada socialment	1	2	3	4	5

Recorda:

1- Totalment en desacord; 2- En desacord; 3- Indiferent; 4- D'acord; 5- Totalment d'acord

V. Experiència laboral

He tingut experiències laborals abans de començar la carrera: Sí ☐ No ☐

(Si la teva resposta és negativa no és necessari que emplenis aquesta apartat d'experiència laboral)

He treballat abans en el mateix camp professional o relacionat: Sí ☐ No ☐

V. Experiència laboral	1- Les experiències laborals prèvies van fer que volgués dedicar-me a aquesta professió i, per tant, que escollís aquesta carrera	1	2	3	4	5
	2-Les meves experiències laborals prèvies m'han permès veure la realitat d'aquesta i d'altres professions	1	2	3	4	5
	3-Les meves experiències laborals prèvies no han sigut importants en la decisió d'escollir aquesta carrera	1	2	3	4	5
	4-Els coneixements que vaig adquirir durant les meves experiències laborals prèvies m'han fet voler exercir aquesta professió	1	2	3	4	5
	5-Algun superior m'ha motivat a seguir aquest camí professional i, per tant, a voler escollir aquesta carrera	1	2	3	4	5
	6-Durant les meves experiències laborals prèvies em vaig donar compte de que el meu perfil era l'ídoni per a exercir aquesta professió	1	2	3	4	5
	7-Les meves experiències laborals prèvies em van fer desestimar altres professions (carreres)	1	2	3	4	5

I

Recorda:

1- Totalment en desacord; 2- En desacord; 3- Indiferent; 4- D'acord; 5- Totalment d'acord

Qüestionari d'Identitat Professional (QIP)

identifica quins altres factors/motius van influir en la teva Identitat Professional, és a dir, en voler preparar-te per la professió a la que aspire:

p. ex. Volia ajudar als meus pares

p. ex. Volia entendre que em passava

□

Recorda:
1- Totalment en desacord; 2- En desacord; 3- Indiferent; 4- D'acord; 5- Totalment d'acord

SECOND EXPLORATORY STUDY QUESTIONNAIRE

PISTIS

(Barbarà, A., Cascón, R. and Lorenzo, U., 2013)

El qüestionari d'identitat professional PISTIS (Professional Identity Strength influences scale) s'ha dissenyat amb la finalitat d'estudiar la influència que determinats **factors** poden haver exercit en el procés de construcció de la teva **Identitat Professional**, entenent aquesta com la descripció que una persona fa d'ella mateixa en termes professionals (p. ex. Jo sóc metge)

No hi ha límit de temps per contestar el qüestionari, probablement necessitaràs uns 10 minuts. Tot i que demanem les teves dades personals, aquestes seran totalment confidencials.

Per respondre utilitza la següent escala:

Completament en desacord	<input type="checkbox"/>	Bastant en desacord	<input type="checkbox"/>	Ni d'acord ni en desacord	<input type="checkbox"/>	Bastant d'acord	<input type="checkbox"/>	Completament d'acord	<input type="checkbox"/>
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Si has comprés aquestes instruccions, pots començar el qüestionari.

Assegura't de respondre a totes les frases.

Gràcies per la teva col·laboració.

Appendix C

Si us plau, completa les següents dades:

Nom i cognoms: _____

Número telèfon mòbil: _____; Número telèfon fix: _____

Edat: _____

Sexe: Femení ☐ Masculí ☐

Grau que estàs estudiant: _____

Ocupació dels pares:

Mare: _____

Pare: _____

És la primera carrera que estudies? Si ☐ No ☐

Si no ho és, què vas estudiar primer? _____

Vas acabar ? Si ☐ No ☐

És aquesta carrera la teva primera opció? Si ☐ No ☐

Si no ho és, quina carrera vas escollir en primera opció?

Per què estàs estudiant aquesta carrera?

Completa el següent enunciat:

Al acabar aquests estudis m'agradaria ser _____
(Professionalment)

	Completament endesacord	Bastant endesacord	Ni d'acord ni desacord	Bastant d'acord	Completament d'acord
1. Vaig participar en una activitat extracurricular que va influir en la meva decisió d'estudiar aquesta carrera	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. La meva família em va aconsellar sobre les diferents carreres possibles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Algun/a professor/a en la meva escola/institut va ser un model per a mi, en el sentit que va inspirar l'elecció d'aquesta carrera	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Sento que els meus valors són congruents amb els d'aquesta professió	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Les assignatures que se'm donaven bé han influït en la meva decisió d'escollir aquesta carrera	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Crec no tenir les característiques necessàries per exercir aquesta professió	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Crec que la meva personalitat és idònia per aquesta professió	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. L'opinió que els meus amics tenen sobre aquesta professió ha fet que escollís aquesta carrera	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Abans de començar la carrera coneixia el seu programa d'estudis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Em sento identificat amb aquesta carrera perquè m'agraden els seus continguts en general	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. He decidit estudiar aquesta carrera per la influència exercida per alguns dels meus professors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. La meva família volia que estudiés per exercir aquesta professió	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. L'opinió que els meus amics tenen sobre aquesta professió reforça la meva identitat professional	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. No vaig tenir cap assignatura relacionada amb la professió per a la què m'estic preparant durant la primària i secundària	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. He decidit escollir aquesta carrera per les habilitats i competències que vaig adquirir durant el meu període a l'escola/institut	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. He escollit aquesta carrera per les expectatives salarials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix C

	Completament en desacord	Bastant en desacord	Ni d'acord ni desacord	Bastant d'acord	Completament d'acord
17. He decidit estudiar aquesta carrera per influència de la meua família	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. He decidit estudiar aquesta carrera perquè els continguts coincideixen amb els meus interessos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. La imatge d'aquesta professió, mostrada en televisió, fa que vulgui exercir-la	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. La meua educació preuniversitària (primària/secundària) no va ser important en la selecció d'aquesta carrera	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. La imatge que els mitjans de comunicació mostren sobre aquesta professió ha sigut important en el moment d'escollir aquesta carrera.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. Els meus pares van fer que m'interessés per aquesta professió	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. L'opinió dels meus amics sobre aquesta professió és important per a mi	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. L'orientador/a professional de l'escola/institut en el que estudiava em va aconsellar estudiar aquesta carrera.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. L'opinió de la meua família sobre aquesta professió reforça la meua identitat professional	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. He escollit aquesta carrera pel prestigi social de la professió	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. He decidit estudiar aquesta carrera per influència dels meus amics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. En aquesta professió sóc un "raret", és a dir, no sóc el tipus habitual de persona que es dedica a ella	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. He escollit aquesta carrera per la seva alta demanda en el mercat laboral	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30. Crec que aquesta professió em permetrà ser jo mateix	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31. La professió dels meus pares ha fet que escollís aquesta carrera	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32. La possibilitat d'entendre millor el que em passa o trobar una solució al meu problema em va influir en la meua decisió d'estudiar aquesta carrera	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

