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# Religiosity, Values, and Self-Employment

Erasmus University Rotterdam - Erasmus School of Economics (ESE)
Master Thesis in Business and Economics: Industrial Dynamics and Strategy
JUAN MANUEL MACIAS ROJAS
Supervisor C.A. Rietveld
Second reader K. de Groot

#### **ABSTRATC**

This cross-country study aims to explain the role of religiosity and human values in the decision of becoming self-employed. In order to explain the three-fold relationship, Principal Component Analysis is performed to measure religiosity within individuals, whereas Schwartz' values structure is used to represent different human values. An empirical analysis of data from 32 European countries derived from the European Social Survey and covering the period 2002–2014 through 7 biennial waves suggests that eight human values have a negative indirect effect in the relation between religiosity and self-employment. Just two of Schwartz's values, Universalism and Hedonism, report an insignificant effect and a positive mediating effect, respectively. The current investigation provides overall insights about how religiosity reinforces a specific set of human values, and subsequently how these human values have a relevant effect on economic behaviour.

**Keywords:** Identity; Religiosity; Schwartz values; Self-employment



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## 1. Introduction

Entrepreneurial activity has been described as a multi-faceted and multileveled phenomenon that plays an important role within societies, and assists in the resolution of economic issues by providing meaningful insight and innovative perspectives (Breschi, Malerba, & Orsenigo, 2000; Klapper, Laeven, & Rajan, 2006; Koelllinger & Thurik, 2012). Since societies are not entirely based on economic relations, previous studies have concluded that venture creation is not necessarily associated exclusively with economic factors (e.g. Hayton, George, & Zahra, 2002; Licht, 2010). Thus, modern studies in the field have begun expanding their investigations towards exploring and defining the role of different non-economic factors functioning within the world of economics.

One such a non-economic factor is religiosity. Because religiosity is a recognized and practiced identity (Peek, Becoming muslim: the development of a religious identity, 2005) which influences human decision making and economic behaviour (Benjamin, Choi, & & Fisher, 2016), it can be considered an essential non-economic factor to better understand entrepreneurial entry in societies. Although some studies investigated the link between religiosity and self-employment (e.g. Balog, Baker, & Walker, 2014; Weber, 1920), no research has empirically analysed through which channel religiosity, human values, and self-employment are connected. In line with the proposal of Hoogendoorn, Rietveld, and van Stel (2016), this thesis explores whether values mediate the relationship between religiosity and self-employment. Due to the lack of knowledge about the three-fold relationship, the main goal of the current study consists in analysing the indirect effect of human values in the relation between religiosity and self-employment.

Values play an important role in shaping human behaviour, individually or in social groups (Schwartz, 1992). Understanding the mechanism that connects these religiosity and self-employment will provide insights about how religiosity influences behaviour, specifically how religiosity affects one's decision to become a business owner or not (economic outcome). Moreover, identifying how personal phenomena, like religiosity and values, influences entrepreneurial activity amongst citizens is useful for central agencies when designing and implementing public policies aiming to promote entrepreneurship in more efficient directions, because it may provide them ways to take increase the socio-economic benefits of entrepreneurship.



Consequently, and in order to build and understand how values indirectly affect the effect of religiosity on self-employment, a mediating effect between these three concepts must be established. For example, main religious denominations enhance specific types of values that normally support self-transcendence and conservation (Schwartz & Roccas, Church-state relations and the association of religiosity with values: a study of catholics in six countries, 1997), whereas entrepreneurs are characterized as favouring different values such as to self-enhancement and openness to change (Noseleit, 2010). Since previous evidence has exposed a value conflict between religiosity and self-employment, the present study expects that religiosity is negatively associated to entrepreneurship through values, meaning that religious people are less likely to be self-employed compared to non-religious people because of value incongruences.

To investigate the association between religiosity, human values, and self-employment, data collected by the European Social Survey (ESS) from 2002 to 2014 are analysed in the present research. To fully understand the three-fold relationship, a pooled logit model is estimated with self-employment as the dependent variable, religiosity as explanatory variable, values as mediators, and several control variables.

The present study is organized as follows. The second section reviews some theories and definitions of religiosity, human values, and entrepreneurship, and connects the three concepts according to the researcher's interests. The third section describes methodology, data, and model specifications, whilst the fourth section analyses the results of the various models. Finally, the fifth and sixth sections are devoted to the discussion, limitation, and conclusion of this study.



#### 2. Theoretical framework

The study of entrepreneurship radiates from a need to design and foster entrepreneurial policies that meet specific purposes (e.g. entrepreneurial entry) which will improve society as a whole. The results of studies in the field are seen through the creation and modification of efficient government programs to attempt to shorten the gap between economic disparities and inconsistencies (O'Connor, 2013). Examples of research undertaken in an attempt to promote positive changes within previously created and/or new economic or governmental infrastructures include investigations into the benefits of entrepreneurship in economic development (Schumpeter, 1934), economic growth (Baumol, 2002; Carree & Thurik, 2003), innovation (Breschi et al., 2000), competitiveness (Acs & Amorós, 2008), business cycle and unemployment (Koelllinger & Thurik, 2012), institutions and market barriers (Klapper, Laeven, & Rajan, 2006), income per capita (Grilo & Thurik, 2008), amongst others.

However, the field of entrepreneurship has also already seen much work done to try to understand the links between this ever-present facet of society and other societal, non-economic factors, in an attempt to find connections and draw conclusions through logical observation and testing of hypotheses. Examples include entrepreneurship studies which have focused their attention on culture and demographics (Hayton, George, & Zahra, 2002; Licht, 2010), religiosity and spirituality (Balog et al., 2014; Weber, 1920), human values (Licht, 2010; Lipset, 2000; Noseleit, 2010; Morris & Schindehutte, 2005), autonomy (Benz, 2008; Hamilton, 2000), self-achievement and internal locus of control (Korunka, Frank, Lueger, & Mugler, 2003) and individual traits (Kinjerski & Skrypnek, 2004; Obschonka, Schmitt-Rodermund, Silbereisen, Gosling, & Potter, 2013), amongst others.

Seeing that venture creation can be analysed in multiple ways (macro and micro level), this research focusses its attention on individuals, especially on identifying how social factors like identity and values, exert influence on people's choices and economic behaviour (i.e. being self-employed vs. wage worker). It aims, additionally, to investigate the specific links between religiosity, human values, and self-employment.

The concept of religiosity as part of identity, and its relation with human values, is relevant for understanding, to some extent, decision making and entrepreneurial behaviour at individual level. A plethora of literature in social sciences has linked these three intrinsic factors (identity, religiosity, and human values) to personal and group behaviour, and personal economic outcome. According to Turner (1987, p. 53), individual choices are motivated mainly by what



he calls an "optimal subjective rational spectrum" which consists of individuals' rationality and social motivations. Consequently, the decision of being self-employed or traditional worker will be motivated by both intrinsic (values and identity) and extrinsic factors (social identity). An illustration of the previous idea can be seen in children with entrepreneurial parents who are more prone to being self-employed in adulthood (Lindquist, Sol, & van Praag, 2012). The scholars discovered that role modelling (social motivations) has greater effect on economic outcome rather than intergenerational transmission (genetics). These findings provide insights of how important surroundings influence individual economic behaviour.

Consequently, and in order to answer the main question of this research, the present section aims to analyse two relevant aspects of self-identity from a theoretical point of view. Firstly, the concepts of identity, religiosity, and personal values will be defined, to then illustrate how these three factors are interconnected. Secondly, this section will analyse how religiosity and human values indirectly relate and affect entrepreneurial practices. Once the interconnection between religiosity, human values, and entrepreneurship has been established, some hypotheses about the three-fold relationship will be drawn to further embed the present study within the existing literature.

## **2.1 Personal Identity**

To be recognized as a person, a human being must possess certain physical characteristics and experience different conscious states belonging exclusively to human kind, such as the capacity to reason. However, individuals also have particular features that distinguish them from one another, and make each person completely unique (Turner, 1987). Moreover, each person's individual set of inner features and preferences produces a combination of attributes that is supposedly exclusive, instinctively personal, and inherently different from the many combinations that other persons may have (Penelhum, 1971). Penelhum refers to these unique features as Second-Order Volitions (SOVs¹) when approaching personal identity, and points them out as a necessary condition for self-recognition (pp. 668-669). The author goes on to say that having SOVs equips a person with the necessary determination to perform actions influenced by personal desires, interests, or motivations, rather than behave in a way

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<sup>&</sup>lt;sup>1</sup> According to Penelhum (1971, pp. 668-669), Second-Order Volitions (SOV) can be interconnected with values in the way that SOV represent inner beliefs that influence a person's behaviour in a specific way or within a particular situation, whilst Rokeach (1973) and Kluckhohn (1951) refer to values, to some extent, as enduring beliefs or conceptions that affect the mode of conduct.



conditioned by an external source. In this sense, self-identity has been built upon the recognition of one's self and the capacity to perform consequent choices in an integrated and coherent way<sup>2</sup>. Similarly, others scholars like Sherwood (1965, p. 67) analyses a human's personality from two different perspectives: self-identity and self-evaluation. Self-identity refers to one's perception of self-attributes at a given moment of time, whilst self-evaluation is dependent on one's actions and how these actions are perceived and communicated to and/or by peers or a group. While Penelhum (1971) restricts his identity theory to the individual process, Sherwood differs by connecting social categorization as a complementary part of self-recognition.

According to Sherwood (1965), social categorization emerges from the need of human beings to interact with one another and the ability to identify one's self with different social groups. The author suggests that self-categorization is created through a cognitive process in which people simultaneously identify themselves as part of a group and, within this situation, are able to recognize their own personal attributes. Nevertheless, it is important to state that a person could change their preferences, behaviours, or group affiliations over time, which affirms the concept of identity as a dynamic process, or likewise as subject to intertemporal change instead of taking self-concept for granted and being a fixed and given status.

Another researcher, Lori Peek (2005), discusses contributing factors and processes that heighten the importance of identities and places them on a hierarchy through identity salience. According to Peek, people have multiple types of sub-identities that are ordered through ranking structures (preferences), and contribute to the forming of a whole self. The more committed a person is to a given role, the more influence that role will have on the salient identity; the more important the salient identity is for a person, the more influence that sub-identity has on behaviour.

In summary, self-identity is defined as a cognition process that is built upon two different ways: First, self-evaluation or recognition of self attributes, interests, motivations, and the consequent aligning of one's conduct to these inner features; and second, the recognition of self as determined through social categorization, and the adaptation of behaviour to those external factors the person therefore judges they identify with (Sherwood, 1965). Hence, when defining self-identity, subjective factors (such as values, beliefs, or motivations) are not enough; a social

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<sup>&</sup>lt;sup>2</sup> The integration and alignment between desires and actions is achieved when choices are performed under the spectrum of self's desires and motivations, rather than by external forces that control one's conduct (Penelhum, 1971).

perspective must be included since humans are social beings by nature. The following section explains how social interaction and categories reaffirm self-identity.

## 2.2 Social Identity

As mentioned before, social identification can be characterized as necessary and complementary to one's process of self-conceptualization. According to Tajfel (1978), social identity is defined as "that part of an individual's self-concept which derives from his knowledge of his membership of a group (or groups) together with the value and emotional significance attached to the membership (p. 255)". Individuals tend to instinctively categorize the world into groupings of us and them, stemming from perceptual biases and preferences for in-group members compared to out-group members (Greene, 1999). Moreover, Sherwood (1965) states that personal behaviour is influenced in part by to what extent the person feels involved with the reference group: the more involved the person is with the group, the stronger influence the opinions of others will have on the individual's self-perception and decision making.

Similarly, Gleitman (1996, p. 343) describes social identity as a process of seeing one-self from the eyes of others, whereas Hogg and Reid (2006) assume that people identify themselves within specific social groups (categories), and behave according to group norms. Moreover, people are able to cognitively represent social categories and recognize similarities/differences between individuals, within a group, or between different groups (Akerlof & Kranton, 2000; Tajfel, 1959). Thus, human beings are able to adapt their behaviour to group preferences. In the same way, Turner (1987) assumes that individuals behave as influenced by "a group's mind," as if the group itself creates a certain unity or system able to persuade members' behaviour. In such manner, we can expect that social categories such as religions denominations will exert influence on devotees' behaviour through an "indoctrination" process.

On the other hand, and as previously mentioned, social identity and self-identity are dynamic concepts, both which are subject to preferential changing and group involvement over time and which are based on personal experiences. However, changes in preference can be conscious or unconscious (Talaifar & Swann, 2018) and are commonly related to the wanting and liking processes. According to Plassmann, Zoëga Ramsøy, & Milosavljevic (2012, p. 27) wanting and liking refer to motivational and experienced value respectively, and are connected to the



neurological reward system and consequently a person's behaviour. Hence, we can postulate that when a person belongs to a religion or church, the person would logically be motivated by inner factors (values, self-identity, beliefs) and/or social interests (social groups, social expectations), and thus choices result in a degree of personal/internal motivations and satisfaction (reward).

To sum up, decision making is guided by self-identity where motivations and values and a person's belonging to social groups affect individuals' behaviour in particular situations (Akerlof & Kranton, 2000). In this sense, self-identity is a complex and dynamic process that affects people's actions, where one's surroundings and self-evaluation play an important role in the formation of self-concept. Since people's (economic) behaviour is influence by social identity and the values belonging to this identity (Turner, 1987), the following subsection is concerned with values and their interconnection with the self-identity process.

#### 2.3 Values

When conceptualizing values, definitional assortment is common among theories, and thus it is unsurprising that a plethora of value theorists and conceptualizations on the subject, both in psychology and sociology, have emerged in the last decades (e.g., Feather, 1995; Hofstede, 1984; Kluckhohn, 1951; Rokeach, 1973: Schwartz, 1992; Turner 1987, etc). As matter of fact, the attempt to universalize human values has created a trend in social sciences wherein each researcher attempts to define the value concept itself and its relation to human behaviour. According to (Tuulik, Ounapuu, Kuimet, & Titov, 2016), value approaches and definitions are based on researchers' personal interests and needs, making value definitions versatile and in some cases subjective. For example, a range of studies on this field focus their understanding on: values and their influence on human perceptions (Postman, Bruner, & McGinnies, 1948), instrumental values and terminal values (Rockeach, 1973), individual motivations, evaluations, and actions (Feather, 1995; Rokeach, 1973; Schwartz, 1992), understanding social behaviour (Kluckhohn, 1951, Rokeach, 1973: Williams, 1968), values, cultures, institutions, and organizations (Hofstede, 1984; 2001). Despite the above, theorists have agreed that values play an important role on desirable or undesirable forms of human behaviour, both individually and in social groups. As a result, an overview of some human value definitions is presented in Table 1.



Table 1. Human Value Definitions

Theorist	Definition
Kluckhohn (1951, p.395)	A value is a conception, explicit or implicit, distinctive of an individual or characteristic of a group, of the desirable that influences the selection from available modes, means, and ends of actions.
Heider (1958, p.223)	We shall use the term value as meaning the property of an entity (x has values) or as meaning a class of entities (x is a value) with the connotation of being objectively positive in some way
Rokeach (1973, p. 5)	A value is an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence.
Hofstede (1984, p.18)	A broad tendency to prefer certain states of affairs over others
Feather (1996, p. 222)	I regard values as beliefs about desirable or undesirable ways of behaving or about the desirability or otherwise of general goals.
Schwartz (1994, p. 21)	I define values as desirable transsituational goals, varying in importance, that serve as guiding principles in the life of a person or other social entity.

As can be seen in Table 1, value concepts are strictly linked to modes of behaviour. Milton Rokeach is known as one of the most influential psychologist in human value theories. Rokeach (1973) categorized human values into two main groups: terminal values and instrumental values. Both groups are interconnected and affect humans' decision making. The former group of values refer to goals that a person would like to achieve throughout his or her lifetime, and varies among situations, social groups, and cultures. The latter group refers to the preferable and stable modes of behaviour on a daily basis. Terminal values could thus be related to economic outcomes (goals in life) such as choosing to be self-employed or not, and instrumental values meanwhile correspond to self-evaluation (mode of specific behaviour) such as adhering to social norms. Moreover, but not less important, another influential scholar in value theories, Shalom Schwartz, who is well known for his "Universal Value System Structure Theory", which studies values and their role on human behaviour, both individually and in social groups (1992). Moreover, Schwartz et al. (2001, p. 519) link human values to attitudinal behaviour, as well as the functioning of organizations, institutions, and societies.

Another important characteristic of how values affect behaviour is through structural organizations, or the capacity of individuals to express their value preferences through a hierarchy (Feather, 1995) or according to own priorities (Rohan, 2000). As previously discussed, other researchers such as Peek (2005) reaffirm this idea of value preferences and



hierarchy through the idea of salience identity. Therefore, people, consciously or unconsciously, tend to map specific values as priorities according to personal motivations, with the first value within the hierarchy being the most influential on behavioural decisions (McDonald, 2004), or the most geared towards the accomplishment of specific outcomes (Allport, 1961), for example; venture creation.

For the abovementioned descriptions, we can infer three main ideas. First of all, that values determine specific life outcomes or achievements in life (e.g., becoming self-employed or a wage worker) due to the fact that values serve as guiding principles and affect transitional and goal oriented decisions (Rockeach, 1973). Secondly, that values affect group functioning, and thus are an essential part of socialization and the natural processes of social identity and self-concept (belonging to a social category; e.g. a religious group). Moreover, past actions have repercussions on present behaviour due to the reinforcement of feelings, emotions, and motivations ("self-evaluation", Penelhum, 1971; "experienced value", Plassman et al., 2012). Thirdly, people tend to map value preferences, and decision making is influenced more by those values which are most important to a person. As a consequence of the previous three value interpretations, a link between values, identity, and economic behaviour can be established.

For the present research, the author focuses on the "Universal Value System Structure Theory" (Schwartz, 1992) at the individual level. Schwartz's theory is catalogued within the field as stable and includes different basic human values representing a universal structure of motivational behaviour and attitudes. Roccas (2005, p. 748) cites the Schwartz Value Structure as reliable for expressing individuals' conceptions about how people select actions, evaluate other people and situations, and internalize what they believe to be good or bad in life. Schwartz's value structure addresses three general requirements that human beings generally face during their lifespan: i) individual biological needs; ii) coordination of social interaction; iii) and group functioning. The need for some social sciences (psychology, sociology, anthropology, etc.) to characterize and trace changes within cultural groups, societies, and individuals make the value structure a relevant tool (Schwartz, 2012). Moreover, but not less important, Schwartz's theory defines 10 basic motivational values that are present among human beings, and studies the dynamic relations (conflict, compatibility, and congruence) among these values. The following subsection will explain the main features of Schwartz's value structure.



#### 2.3.1 Schwartz's Value Structure

The importance of Schwartz's theory, and what makes it cross-culturally stable, is the fact that Schwartz's values aim to be universal through including six main features that are implicit in many value theories already cited (Schwartz, 2003, pp. 3-4). (i) They represent beliefs and are linked to affects<sup>3</sup> or feelings, especially when the value is threatened or can be enjoyed. For example, a person for whom benevolence is important will feel challenged (an arousal of emotions) if there is a situation where someone or something harms the welfare of people that he or she cares about. (ii) Values refer to desirable goals motivating actions in order to achieve said goals. This means that a person favouring security will motivate their actions towards the assurance of safety and harmony of a society or group of people. (iii) Values may be linked to patterns of conduct on daily transcendent situations where norms and attitudes better explain particular actions. For example, people showing preference for honesty will guide their pattern of behaviour in a coherent manner when interacting with others in daily situations such as at a workplace, school, church, etc. (iv) Values serve as a guide of criteria for judging situations, people, and experiences as good or bad. (v) Values can be ordered by their degree of relative importance, and this makes the prioritization and hierarchy of values individually specific. (vi) Actions have implications on more than one value at the same time, thus creating a trade-off among relevant and competing values (Schwartz, 1996). Schwartz (2012) deepens these dynamic relationships among the 10 values, and explains that having a preference for one or more values always generates conflict with other values. For example, being religious enhances values like tradition and benevolence at the expense of the values achievement and hedonism. Table 2 indicates the list of the 10 values according to Schwartz, and what goals/motivations each value represents.

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<sup>&</sup>lt;sup>3</sup> Panksepp (2000) describes the concept of affect as the conscientious experience of an emotion.



Table 2. Conceptual definition of Schwartz's values. Motivational goals that they represent in parentheses.

Theorist	Definition
Kluckhohn (1951, p.395)	A value is a conception, explicit or implicit, distinctive of an individual or characteristic of a group, of the desirable that influences the selection from available modes, means, and ends of actions.
Heider (1958, p.223)	We shall use the term value as meaning the property of an entity (x has values) or as meaning a class of entities (x is a value) with the connotation of being objectively positive in some way
Rokeach (1973, p. 5)	A value is an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence.
Hofstede (1984, p.18)	A broad tendency to prefer certain states of affairs over others
Feather (1996, p. 222)	I regard values as beliefs about desirable or undesirable ways of behaving or about the desirability or otherwise of general goals.
Schwartz (1994, p. 21)	I define values as desirable transsituational goals, varying in importance, that serve as guiding principles in the life of a person or other social entity.

Source: Schwartz (2003).

In addition, Schwartz (1992; 2012) illustrates value correlations through a circular structure divided into nine different wedges which are each subject to the desirable goals that each value represents. The circle has two bipolar dimensions that embody the contrasts between competing and congruent values. The first dimension contrasts values related to Openness to Change vs. Conservation, and the second confronts Self-Enhancement with Self-Transcendence as illustrated in Figure 1. The closer any two values appear throughout the circular structure, the more similar their underlying motivations are; the more distant, the more contradictory (competing) the values are (Schwartz, 2012).



Self-transcendence

Self-transcendence

Self-transcendence

Stimulation

Benevolence

Conformity

Tradition

Self-transcendence

Self-transcendence

Benevolence

Conformity

Tradition

Figure 1. Relations among the 10 Schwartz values.

Source: Schwartz (2012, p. 9).

Following the circular structure, Schwartz (2012) states that pursuing the attainment of one specific value has consequences for other values (conflict and/or congruence). For example, the dimension Openness to Change covers the values Stimulation and Self-Direction. These values represent flexibility of thought, and propagate independent actions, a capacity to face challenges in life, and autonomy. These values clearly contrast with values covered by the dimension of Conservation (Security, Tradition, and Conformity) that represent safety, social stability, restraint of action, and following norms, or accepting traditions and ideas that cultures, organizations or religions profess. Tradition and Conformity share the same wedge, because people favouring these values pursue similar goals. However, Tradition is located in the periphery since its degree of conflict with Stimulation is stronger than its similarity with Conformity. It is important to mention that for practical, psychological, and social matters, when incongruence and dissonance within personal behaviour is detected by other individuals,

social sanctions may appear (Schwartz, 1999). Consequently, a person may have a preference for two compatible values (e.g. Power and Achievement), as it is possible to pursue them at the same time because of complementarity. However, the pursuit of two competing values (e.g. Achievement and Benevolence) at the same time is not feasible (Schwartz, 2012, p. 8).

### 2.4 Religiosity and Values

When explaining identity, it is also important to understand religiosity as complementary part of the self-recognition process. To begin with, social sciences refers to spirituality and religiosity with interchangeable definitions (Batson & Ventis, 1982; Benner, 1991), whereas other studies have pointed out differences between the two (Elkins, Hedstrom, Hughes, Leaf, & Saunders, 1988; Mattis, 1997). Delving into the roots of spirituality, for example, provides more clarity. The word derives from Latin *spiritus*, which means the "breath of life" (Berdyaev, 1939; MacQuarrie, 1972); spirituality refers more to the belief of existence of a nonmaterial, transcendent, and external dimension of life, and the way humans can develop a relationship with (a) this metaphysical source (Berdyaev, 1939), (b) with themselves (a journey towards self-connaissance and finding purpose in life), and (c) with others (feeling connected to others and to the rest of the world). Religiosity, by contrast, is more related to social obligations (attending worship services) and belonging to religious denominations, in which specific values are engaging, and certain patterns of behaviour are propagated in order to promote social relations (Mattis, 1997).

Another main feature of religiosity is its capacity of reinforce particular values, moral codes, beliefs, or emotions that have been theorized to matter for economic behaviour (Benjamin et al., 2016). However, when studying the association between religiosity and values, evidence shows an indirect effect between the two (Saroglou, Delpierre, & Dernelle, 2004). In addition, other literature suggests that individual value preferences predispose religiosity within a person (Beit-Hallahmi & Argyle, 1997), but more interestingly, values can explain salient identities (religiosity) to an important degree (Bilsky & Schwartz, 1994; Roccas, Sagiv, Schwartz, & Knafo, 2002). Peek (2005) has analysed the concept of religiosity as a salient identity that complements the self-recognition process as previously discussed. Other studies have categorized religiosity as an influencer of economic behaviour (Benjamin et al., 2016). All these findings and factors combine lead to infer the interconnection between religiosity, values,



and economic outcome, but suggesting, at the same time, a not clear path of the causal direction between religiosity and values, adducing to a possible reverse causality between these two concepts.

Saroglou et al. (2004) studied the relationship between religiosity and values using Schwartz's theory (1992). The authors demonstrated that religious people are more prone to identifying themselves with values that belong to Conservation and Self-Transcendence dimensions (e.g. Tradition, Conformity, Benevolence, and Security, due to the fact that main religions favour beliefs that promote social order, conservatism, and limited Self-Transcendence), whereas they do not favour Hedonism, or values that promote Openness to Change and Self-Enhancement. Similarly, Schwartz and Huismans (1995) provided insights that religiosity encourages the prioritization for values within the axis of Self-Transcendence and Conservation; being humble, obedient, and following rules are some of the main motivations for members of religious denominations. Interestingly, the scholars also found that value priorities were similar and stable across different countries and religions.

## 2.5 Self-employment and Values

We start this subsection by defining the concept self-employment, and explain what it covers and what sets entrepreneurs apart from people in other vocations in terms of their personal features and their relevance in the economy. On the one hand, Licht (2010) mentions different approaches that the literature has made on the definition of entrepreneurship and links self-employment with entrepreneurial activity as well as with ownership of small business. Similarly, Parker (2009) refers to self-employment as the activity where individuals with no salary generate their own income through the operation of their own business assuming their own risk. Moreover, self-employment refers to the ownership of a business or assets that generates a stream of income, and could be related to a profession or occupational choice (Lewin-Epstein & Yuchtman-Yaar, 1991).

On the other hand, Van Praag (1999) consolidated different views on entrepreneurship based on the research of the following recognized economic theorists: Richard Cantillon (1680–1734), Jean-Baptiste Say (1767-1832), Alfred Marshall (1842-1924), Joseph Schumpeter (1883-1950), Frank Knight (1885-1972), and Israel Kirzner (1930). To begin with, Cantillon proposed that the economic system is composed of three agents: landowners (capitalists),



entrepreneurs (arbitrageurs), and hirelings (wage-workers). Because of this assumption, Cantillon attributes to entrepreneurs the essential role of being the responsible for the exchange and circulation of products in the economy. Jean Baptiste Say linked entrepreneurship to individuals with extraordinary creative qualities, that, when combined with the application and execution of economic principles, yields innovation (new products) in the market. Say also included entrepreneurs as an essential part of his economic system due to their central coordinating roles in production and distribution alike. In the Marshallian economic model, the entrepreneur is the one who supplies products and carries out innovation and progress within societies, as well as within firms because of their knowledge of trade and their capacity to coordinate production, obtain capital, create jobs, and undertake business risks by the exploitation of new market opportunities (innovations). Similar to Marshall, Schumpeter (1934) believed that development and innovation within the economies are carried out by the introduction of new goods or services (innovations). These new combinations for production is well-known in economics as 'creative destruction'; Schumpeter's metaphor alludes to the importance of entrepreneurs within societies and their undeniable innovative nature. Fifth, Knight proposed an interesting perspective from the point of view of social well-being. Knight believed that the entrepreneurs were owners of the capital and were responsible for ensuring that factors of production were paid for. This role of entrepreneurs amongst markets lets societies experience positive externalities in terms of social costs since business owners are the ones who bear the uncertainty in the markets. Last but not least, Kirzner believed that entrepreneurs are the ones who exploit profitable opportunities within markets, and equilibrate forces in the economy (dynamics between supply and demand lead to the recognition of new opportunities), becoming suppliers if it's necessary.

Additionally, and since Weber (1930) linked predisposition of entrepreneurial behaviour to values and beliefs, identifying value preferences amongst entrepreneurs and the type of hierarchy that exists within them, which is also essential when explaining the association between religiosity and self-employment. Licht (2010) and Noseleit (2010) did in fact study Schwartz's Value Structure through the lens of entrepreneurship, and these studies provide theoretical arguments for why entrepreneurs have different value prioritizations compared to non-entrepreneurs. Even though Licht (2010) thoroughly connects the fields of psychology and economics, and provides sufficient literature review justifying why entrepreneurs are different at the individual-value level, the study remains at a conceptual stage. Conversely, Noseleit (2010) provides empirical evidence based on data from nine Western European countries,



showing relevant differences in values between self-employed and non-self-employed individuals. The results of Noseleit's research are in line with the theoretical conceptualizations of Licht (2010).

According to Noseleit (2010), self-employees tend to rank values of Openness to Change and Self-Enhancement (e.g. Stimulation, Achievement, Power, and Self-Direction) higher in contrast to traditional workers, whereas Noseleit's findings also showed that paid workers report preference for those values belonging to Conservation and Self-Trascendence (Conformity, Security, Benevolence, Universalism, and Tradition), and Hedonism. In addition, Lipset (2000) links features like individualism, goal driven, and independence to entrepreneurial behaviour, and Hebert and Link (1998) connect competitiveness, material gain (Power), and strong work ethic to business owners. Furthermore, some other studies show that Benevolence, Stimulation, and Self-Direction are positively related to self-employment and negatively related to Conformity, Tradition, and Security (Morris & Schindehutte, 2005). Interestingly, these value preferences amongst entrepreneurs connect similar elements of van Praag's research (1999) discussed above.

What's more, Schwartz and Roccas (1997) found that religiosity negatively rates Stimulation, Universalism, Self-Direction, Power, and Achievement. Interestingly, these are values in the category of Self-Enhancement and Openness to Change, which are related to entrepreneurial activity. Moreover, and according to Leeuwen (1984) individuals that do not believe in supernatural powers are more predisposed to pursuing selfish, worldly motivations when looking for pleasure (Hedonism), and disregard social welfare (Benevolence) values. Interestingly, Universalism does not seem to be linked with any specific religious affiliation. To summarize, religiosity normally favours values related to Conservation and Self-Transcendence, whereas business owners show value preference for Openness to Change and Self-Enhancement dimensions. The following subsection deepens on these associations and presents the main hypotheses of the present research.

## 2.6 Development of Hypotheses

Despite the already cited literature review that allows for an inference as to the possible associations between religiosity and human values, and thereafter between human values and self-employment, additional characteristics of the 10 Schwartz values will be discussed in order to better approach the hypotheses.



First of all, Conformity is normally related to the self-restraint of inclinations that could affect group functioning or social norms (Schwartz, 2012). Therefore, Conformity is more related to people who are obedient, self-disciplined, and polite; all characteristics that could be linked in higher extent to religious people. However, entrepreneurs show different characteristics that are in conflict with Conformity, but normally connected with Openness to Change (Schumpeter, 1934). Hence, individuals favouring Conformity fit less with self-employment. Thus:

Hypothesis 1a: The indirect relation between religiosity and self-employment through Conformity is negative.

Second, traditional people can be described as individuals who respect and accept beliefs that are normally enhanced by cultures and religions (Schwartz & Huisman, 1995). These are people who are typically seen as more conservative and less risk-taking, subordinating themselves to meet social expectations. These main features of Tradition are common between religious people but not necessarily amongst entrepreneurs as aforementioned in section 2.5, leading to:

Hypothesis 1b: The indirect relation between religiosity and self-employment through Tradition is negative.

Third, benevolent people are concerned about the welfare of others, promoting cooperation, and social relationships (Schwartz, 2012). Religious individuals favour Benevolence more than non-religious individuals (Schwartz & Roccas, 1997), whilst entrepreneurs show more interest for Achievement (Hebert & Link, 1998), a value directly in conflict with Benevolence. Therefore:

Hypothesis 1c: The indirect relation between religiosity and self-employment through Benevolence is negative.

Fourth, Universalism is typically transmitted and reinforced by religious denominations through the development of selflessness, forgiveness, and by enhancing tolerance and protection for the welfare of all people (Schwartz, 2003). The economic behaviour of self-employment is normally related to the search for self-success, achievement and in general less altruistic actions that are related to self-enhancement values, creating conflict with Universalism (Licht, 2010). Thus:



Hypothesis 1d: The indirect relation between religiosity and self-employment through Universalism is negative.

Fifth, Security is normally strengthened by religions as it promotes safety, harmony, the stability of society, relationships, and a sense of self (Schwartz, 2012), whereas entrepreneurial activity is normally associated with uncertainty and risky/stressful scenarios as part of the natural process of venture creation (Baron R., 2008). Since a person can not achieve or promote two or more competing values at the same time (Schwartz, 2012), the following mediating hypotheses have been deduced from the literature review presented in this section:

Hypothesis 1e: The indirect relation between religiosity and self-employment through Security is negative.

Sixth, values comprising in the dimensions of Self-Enhancement and Openness to Change are normally negatively associated to religiosity. In case of the value of Self-direction, it is negatively linked to religiosity and positively related to self-employment. Schumpeter (1934) exposed some ideas of what make entrepreneurs different people, and concluded that entrepreneurs are normally people who are driven by ambition, independence of thought and action, and creativity (characteristics linked to Self-Direction), whereas religiosity is in favour of preservation of traditional beliefs and practices (King, 1954). Hence, the following statement can be deduced:

Hypothesis 1f. The indirect relation between religiosity and self-employment through Self-direction is negative.

Seventh, people who identify with Stimulation tend to show interest for exciting and challenging life, an internal need for positive and optimal level of activation, Stimulation is also related to the need of experiencing new situations in life. Knight (1971) believes that entrepreneurs are risk bearer by nature since outcome of business decisions are not totally predictable (varied and exciting life), linking entrepreneurs with Stimulation in contrast to religions that promotes Tradition and it in conflict with Stimulation (Schwartz & Huisman, 1995), hence:

Hypothesis 1g. The indirect relation between religiosity and self-employment through Stimulation is negative.

Eighth, people who connect better with Achievement are more likely to be individualists and pursue, in general, own success and enjoy being socially recognized, some of characteristics



exposed by Knight (1971, p. 269) when describing entrepreneurs, whereas contemporary religions are in favour of helping other people and caring about others well-being (King, 1954). Thus, it follows that:

Hypothesis 1h. The indirect relation between religiosity and self-employment through Achievement is negative.

Ninth, in the case of Power, this value is favoured by people who like having control over others and material resources, but also by individuals who define themselves through prestige and social status. Knight (1971) describe entrepreneurs in a similar way adducing that they are recognized for their self-confidence, autonomy, and prestige (social recognition) that lead to power of control over other men (p. 269). In contrasts, religions promote transcendence of material concerns and that people are threatened equally (Heschel, 1954). Thus:

Hypothesis 1i. The indirect relation between religiosity and self-employment through Power is negative.

Finally, in terms of Hedonism, Schumpeter (1934, p.92-94) associates entrepreneurial behaviour with self-utility and gratification for oneself, whereas Davidson and Wiklund (1997) claims that individualistic environments (self-gain) motivate people to go into business. Contrarily, Pepper, Jackson, & Uzzel (2010) suggest that main religions domains normally don't encourage this value among their devotees; hedonists normally are influenced by the need of pleasure, gratification for oneself, and self-indulgence, creating conflict with main religion doctrines. The following statement is intuited:

Hypothesis 1j. The indirect relation between religiosity and self-employment through Hedonism is negative.

In consequence, and in concordance with the findings of previous authors, religious people seem to have different value preferences that are in conflict with those of entrepreneurs. One can state that typical business owners show preference towards the dimensional values of Openness to Change and Self-Enhancement, whereas religious people tend to favour Conservation and Self-Transcendence values. In summary, and since the main goal of the present research is to analyse the relationship between religiosity and self-employment, and to what extent this association can be explained through human values (indirect effect), the present section tackled two main goals. First, to explain religiosity as complementary element of the identity process, and how religiosity is connected to Schwartz's values. Second, to



analyse values and their connection with self-employment, which consequently will illustrate how value preferences can affect economic behaviour. Data, methodology, and results will be discussed in the following sections in order to test the different hypotheses.



#### 3. Data and Methods

## 3.1 Sample

To investigate the relationship between religiosity, human values, and self-employment, a dataset collected by the European Social Survey (ESS) is analysed. ESS is a longitudinal, household based survey that consists of seven biennial waves of data collection (2002-2014) from 32 different European countries. The ESS data set consists originally of 331.781 observations, from which 149.119 are available for analysis after restrictions and the exclusion of observations with missing data (see below). The ESS survey aims to reflect social conditions among European citizens in different societies, including values, attitudes, motivations, patterns of behaviour, and socio-economic perceptions of the respondents in general. The samples are collected through face to face interviews, and each country follows specific methodology (national questionnaires) in order to make samples comparable between countries.

#### 3.2 Measures

### 3.2.1 Dependent Variables

Self-employment is studied as a dependent variable within the model. Self-employment is generated as a binary variable that takes the value of 1 if the respondents state they are self-employed or running their own businesses, and 0 if respondents state they are working for someone else. The dataset is cleaned for missing values and set up for an economically active population (18 to 65 years of age). People who work at a family business were excluded from the category of self-employment because they are considered outliers due to the lack of certainty surrounding the status of their wage labour contract and there is a probability that they were not the owners of the business at the time the interview was performed.

## 3.2.2 Independent Variables

#### 3.2.2.1 Religiosity

The variable Religiosity is created from three items, two objective measures (a, b) and one subjective (c), using Principal Component Analysis (PCA) methodology to account for a potential reporting bias in religiosity perception among individuals in the sample. The three



items included in the PCA analysis were taken from ESS and are: (a) "How often do you attend religious services apart from special occasions," (b) "How often do you pray apart from religious services," and (c) "How religious are you". For items (a) and (b), possible answers include: (1) "Never" (reversed code); (2) "Less often" (reversed code); (3) "Only on special holy days" (reversed code); (4) "At least one a month" (reversed code); (5) "Once a week" (reversed code); (6) "More than once a week" (reversed code); and (7) "Everyday" (reversed code). For item (c), outcomes range from values between zero (0) and ten (10), with zero (0) being "Not at all religious" and ten (10) being "Very religious". Cronbach's alpha for these three items is 0.847, indicating high internal reliability.

#### **3.2.2.2 Values**

The ESS survey measures individual basic value orientation using the Portrait Value Questionnaire (PVQ) (Schwartz, 2003). As mentioned before, Schwartz (1994) defines values as "desirable trans-situational goals that vary in importance, and serve as guiding principles in the life of a person or other social entity" (p. 21). Furthermore, PVQ is catalogued as stable survey that is built upon cross-cultural methodology that contains 10 basic human values and approximates itself to a universal structure (Schwartz, 2003). An important feature of Schwartz's Value Structure (SVS) is that it addresses three general requirements that human beings generally face during their lifetime: individual biological needs, coordination of social interaction, and group functioning. When researchers apply SVS, they often combine responses to specific items in order to achieve all of the six features on which basic values are built upon (see section 2.3.1). Therefore, to build and score the 10 Schwartz values, PVQ uses 21 different items that satisfy all six value features discussed in section 2.3.1. The 21 items consist of explicit questions with different statements (see Table 3).

Table 3. Schwartz Value Items used in PVQ

Item No.	Statement	Value
1	Important to think new ideas and being creative.	Self-Direction
2	Important to be rich, have money and expensive things.	Power
3	Important that people are treated equally and have equal	Universalism
3	opportunities.	Olliversalishi



4	Important to show abilities and be admired.	Achievement
5	Important to live in secure and safe surroundings.	Security
6	Important to try new and different things in life.	Stimulation
7	Important to do what is told and follow rules.	Conformity
8	Important to understand different people.	Universalism
9	Important to be humble and modest, not draw attention.	Tradition
10	Important to have a good time.	Hedonism
11	Important to make own decisions and be free.	Self-Direction
12	Important to help people and care for others well-being.	Benevolence
13	Important to be successful and that people recognize achievements.	Achievement
14	Important that government is strong and ensures safety.	Security
15	Important to seek adventures and have an exciting life.	Stimulation
16	Important to behave properly.	Conformity
17	Important to get respect from others.	Power
18	Important to be loyal to friends and devote to people close.	Benevolence
19	Important to care for nature and environment.	Universalism
20	Important to follow traditions and customs.	Tradition
21	Important to seek fun and things that give pleasure.	Hedonism

Source: (Schwartz, 2003)

What's more, PQV allows the establishment of individual value preference. Respondents are asked to answer questions, choosing from six scaled possibilities, in order to indicate their general value preference. PVQ answers entail the following statements: (1) "Very much like me"; (2) "Like me"; (3) "Somewhat like me"; (4) "A little like me"; (5) "Not like me"; and (6) "Not like me at all". To score all 10 of Schwartz's basic values, firstly, a row mean for the items that index each specific value must be calculated (e.g. Self-direction contains items 1 and 11). Secondly, a general mean of the overall 21 value items "MRAT" must be scored, and thirdly, centered scores of each value must be computed by taking the mean of the items that index the value (Step 1) and subtracting the general mean scores of "MRAT" (Step 2). For further details of how value orientation is measured, see Schwartz (2003). For instance, and to illustrate previous reasoning, when scoring e.g. "Self-Direction," Items 1 and 11 have to be combined.

Self-Direction = (Item "1" + Item "11") / 2 - Mean (Item 1-21)



All other values are calculated accordingly, and items combined for building Schwartz's values are presented in Table 3.

#### 3.2.3 Control Variables

The current study controls for an array of socio-demographic variables that may be correlated with the independent and dependent variables. The set of control variables have been chosen based on their inclusion in previous studies. First, gender was selected due to the fact that previous literature describes female entrepreneurs as underperforming when compared to male entrepreneurs (Marlow & McAdam, 2013). In addition, Wallace (1997) studied religious institutions and their biases in regard to gender affiliation, showing that females are more prone to be religious compared to males. Secondly, age and age squared are include because of the inverted U-shaped relationship with entrepreneurship (Levesque & Minniti, 2006), whereas Argue, Johnson, and White (1999) found a non-linear positive relationship between religiosity and age.

Thirdly, education (years of full time completed education) is included, because past evidence shows that a higher level of education is related to better firm performance and a higher likelihood of survival among entrepreneurs (Matlay, 2008; Harmon, Oosterbeek, & Walker, 2003), whereas other studies found that higher levels of education increase the opportunity cost of becoming a business owner in terms of wage especially within higher income economies (Iyigun & Owen, 1998). In terms of religion, Glaeser and Sacerdote (2008) found decreasing effects from the level of education on religiosity. Education was incorporated as a continuous variable.

Additionally, marital status (1 = living with a partner; 0 = otherwise) was included, because evidence indicates that having a spouse increases the likelihood of becoming an entrepreneur (Lin, Picot, & Compton, 2000). Moreover, marital status was included due to its association with religiosity, Perry's study (2015) provides evidence that religions have a positive influence on the marriage decision and religious-homogamous marriages tend to show higher levels of stability and quality.

A control variable, being whether or not the person was born in the country they currently inhabit (1=yes; 0=otherwise) was also added. Past evidence shows a positive association between migration factors and self-employment (Yuengert, 1995). Additionally, religion



organizations are associated for having positive influence on inmigrant's process adaptation (Cadge & Ecklund, 2007).

Additionally, in case of subjective health, some studies suggest that bad health conditions influence an entrepreneurial exit (Rietveld et al., 2015; Wennberg & DeTienne, 2014;), whereas lower conditions on physical health lead to higher levels of religiosity (Musick, 1996). For Subjective General Health, possible answers include: (1) "Very bad" (reversed code); (2) "Bad" (reversed code); (3) "Fair" (reversed code); (4) "Good" (reversed code); (5) "Very Good" (reversed code).

Level of household income in deciles was also included. Hamilton (2000) studied the relationship between the differences of level of income between self-employees and paid workers, and found substantial differences in wages in the long term. Other studies suggest that differences in wages between business owners and paid workers could be explained by the level of human capital (Iyigun & Owen, 1998), and also by the economic sector where the firm operates (Braguinsky & Oyama, 2007). In terms of religiosity, some evidence links religion participation negatively to income per capita due to the substitute effect between potential earnings (hours worked) and the attendance to religious activities (Lipford & Tollison, 2003).

Furthermore, a dummy variable that represents parental entrepreneurship was generated as follows: if the respondent states that at least one of their parents was self-employed at age 14, the variable takes a value of 1, and is otherwise 0. Some evidence shows that parental entrepreneurship increases the probability that a child will become an entrepreneur (Lindquist, Sol, & van Praag, 2012). On the other hand, Hoge, Petrillo, and Smith (1982) found a strong correlation of parental influence on value and religiosity transmission. Again, and as mentioned before, values are strongly correlated to economic behaviour (Weber, 1930), thus a linkage between parental influence, values, religiosity, and children's economic behaviour could be expected.

Finally, wave and country (32 countries) dummies were included as well to account for time and country trends.

### 3.3 Methodology



To begin with and in order to study the effect of religiosity on entrepreneurship, a pooled logit model (basic model) is estimated with self-employment as a binary dependent variable and religiosity as a continuous explanatory variable. The set of socio-demographic control variables (gender, age, born in country, years of education, living together with a partner, level of income, self-reported health, and parental entrepreneurship) was included in the logistic regression. Wave dummies and dummies for European countries also formed part of the regression. A negative and significant coefficient of the explanatory variable will indicate that higher levels of religiosity decrease the probability of being self-employed, ceteris paribus.

Besides the basic model, mediating analysis (KHB-logistic regressions) will be performed, aiming to identify the indirect effect of values in the relation between religiosity and entrepreneurship. These models are termed full models. As mentioned before, the direct effect of religiosity on self-employment (the basic model) will be estimated through simple logistic regression to then compare coefficients of the basic model with the ones obtained through the full models using KHB-logistic regressions. The KHB methodology (Breen, Karlson, & Holm, 2013) is necessary since it will provide insights about the changes in coefficients when adding mediators to the basic model. KHB methodology decomposes the total effect of religiosity on self-employment into direct and indirect effects using Schwartz's values as mediators and religiosity as explanatory variable. Because there are many possible mechanisms that constitute the total effect of religiosity on self-employment (for example, through social capital (Hoogendoorn et al., 2016)), this investigation focuses only on human values. Thus, full models (including mediators) will indicate the indirect effect of each of Schwartz's value on the effect of religiosity on self-employment through a difference in coefficient approach.

To understand the mediating effects of Schwartz values in the basic model, three conditions that were proposed by Baron and Kenny (1986) will be analysed: (i) religiosity has a significant effect on Schwartz values (mediators); (ii) Schwartz values are significant related to self-employment; and (iii) the coefficient of religiosity changes after adding mediators to the basic model. Note that Baron and Kenny (1986) also propose that there should be a significant relation between religiosity and self-employment in a model without mediators. However, more recent work has dropped this condition for mediation (see for example the review by (Aguinis, Edwards, & Bradley, 2016)).

Based on the literature review (section 2), the author expects the following. First, religiosity is positively associated with Tradition, Conformity, Security, Benevolence, and Universalism,



whereas it is negatively associated with Power, Hedonism, Self-Direction, Achievement, and Stimulation. Second, Universalism, Benevolence, Security, Conformity, and Tradition are negatively associated with self-employment, whereas Self-direction, Stimulation, Achievement, Hedonism, and Power are positively associated with self-employment. Moreover, and because the models are built upon logistic regressions, signs but not amplitudes of the coefficients are interpretable. A five per cent level is adopted to assess significance. The following section will depict descriptive statistics of the variables taken into account, and the results for the basic and full models; and the decomposition analysis of mediating effects. The comparison between the full and basic models will provide the evidence necessary to test all hypotheses.



#### 4. Results

## **4.1 Descriptive Statistics**

Table 4 provides descriptive statistics of the sample in order to give an overview of the variables, and to compare wage workers and entrepreneurs. To start with brief information about the dependent variable, a considerable majority of the respondents stated they were wage workers who ultimately represent 89.44% (133.360 observations) of the total sample (149.119), whereas the complementing 10.56% (15.759 observations) assured that they were self-employees. The means of each set of variables and the standard deviations (in parentheses) are also depicted Table 4.

Table 4. Descriptive statistics of the sample.

	Wage workers	Self-employed	Total
Religiosity	0.151	0.058	0.000
	(0.946)	(0.970)	(1)
Demographic & Control Variables			
Gender (0: female, 1: male)	0.464	0.643	0.483
	(0.498)	(0.479)	(0.499)
Age (years)	42.823	45.938	43.152
	(12.838)	(11.249)	(12.716)
Years of education	13.284	13.251	13.281
	(3.641)	(4.092)	(3.691)
Living together (0; No, 1; Yes)	0.658	0.739	0.667
	(0.474)	(0.439)	(0.471)
Born in country (0; No, 1; Yes)	0.907	0.912	0.908
•	(0.289)	(0.282)	(0.288)
Level of income (deciles, 0-10)	6.057	6.345	6.087
	(2.702)	(2.800)	(2.714)
Subjective health (0-6)	3.907	3.974	3.914
	(0.858)	(0.834)	(0.856)
Self-employed parents (0; No, 1; Yes)	0.215	0.401	0.234
	(0.411)	(0.490)	(0.423)
Number of countries	32	32	32
Number of waves	7	7	7
Observations	133.360	15.759	149.119

Note: Mean values are reported and standart deviations are given in parentheses (SD).



Regarding the overall statistics illustrated in Table 4, the following observations can be made: in terms of gender, 48.3% of the total respondents stated being male compared to female (51.7%). The average age of the whole sample is 43 years. Results show that individuals have on average 13.2 years of full time education, and 66.7% of the respondents affirmed living with a partner at the time of the survey. When analysing the immigration factor, 90.8% of the respondents were born in their current living country. Moreover, 23.4% of the individuals affirmed they had a self-employed parent by the age of 14. Interestingly, important differences can be recognized amongst the subsamples (self-employed vs. wage worker). The self-employed reported higher rates of being male (64.3%) and older (45 years) in contrast to wage workers, who averaged 46.4% and 42 years respectively. Additionally, a larger portion of entrepreneurs affirmed they lived with their partners (73.9%) compared to wage workers (65.8%). Moreover, entrepreneurs, on average, reported higher levels of subjective health (3.97) vs. traditional workers (3.90). Finally, the self-employed were demonstrated as having more often entrepreneurial parents (40.1%) compared to wage-workers (21.5%).

## **4.2 Regression Results**

In this section, the results of logistic regressions models are examined, aiming to explain the indirect effect of Schwartz's values on the relationship between religiosity and self-employment. Full models using all 10 of Schwartz's values as mediators will be analysed and compared. A simple logistic regression (basic model) testing the direct effect of religiosity on self-employment is also included and summarized in Table 5. To test hypotheses 1a to 1j, differences in the coefficient for Religiosity after adding the mediating Schwartz's values are calculated through the KHB Method as justified in section 3. The number of observations is restricted to individuals who provided full information on every variable.

*Table 5. Logit regression results with Self-employment as dependent variable.* 

	Basic Model
Independent Variable	
Religiosity	-0.023* (0.009)
Mediating Variables	No
Demographic & Control Variables	
Gender (0: female, 1: male)	0.735*** (0.018)
Age (18-65)	0.152*** (0.005)
Age-squared	-0.001*** (0.000)

Years of Education (0-30)	0.010*** (0.002)
Living Together (0; No, 1; Yes)	0.115*** (0.021)
Born in Country (0; No, 1; Yes)	0.068* (0.031)
Level of Income (deciles, 0-10)	0.027*** (0.003)
Subjective Health (1-5)	0.088*** (0.011)
Self-Employed Parents (0; No , 1; Yes)	0.782*** (0.019)
Country dummies	Yes
Wave dummies	Yes
Observations	149,119
Pseudo R2	0.071

<sup>\*\*\*</sup> p-value < 0.001, \*\* p-value < 0.01, \* p-value < 0.05. Logistic regression coefficients are displayed with standard errors between parenthesis. Coefficients for wave and country dummies are not included but available upon request.

Table 5 displays relevant results for the basic model which consists of the simple logistic regression with self-employment as the dependent variable and religiosity as the explanatory variable. Relevant control and socio-demographic variables, as well as country and wave dummies, were included according to literature review justified in previous sections. The coefficients provide insights about the association between predictor and control variables, and self-employment. The negative coefficient for the main explanatory variable, means that a person who scored higher levels of religiosity is less likely to be self-employed, ceteris paribus. This result is statistically significant (p-value  $\leq 0.05$ ). Regarding gender, men are more likely to be self-employed than women, ceteris paribus, and results for gender are highly significant (pvalue≤0.001). In terms of age, the positive coefficient indicates that a higher age increases one's probability of being self-employed, ceteris paribus. However, the effect of age-squared is negative and highly significant (p-value  $\leq 0.001$ ), indicating a non-linear effect of age on selfemployment. Moreover, living with a partner, being born in-country, and having self-employed parents increase the probability of being self-employed, ceteris paribus. These last results are significant  $(p\text{-value} \le 0.01)$  except for being born in country  $(p\text{-value} \le 0.05)$ . For the above, sufficient evidence was found to establish that there exists a significant and negative effect of the predictor variable on the independent variable. The first condition of the mediation analysis can be established.

Table 6 provides additional insights into the first and second conditions of mediation models discussed in section 3.3. On the one hand, results regarding the direct effect of religiosity on Schwartz's values are displayed in the first column of the respective table. The signs meet the expectations discussed previously in sections 2 and 3. We can establish that religiosity has



positive effects on Conformity, Tradition, Benevolence, and Security values, meaning that religious people show higher preference for values of Conservation and Self-Transcendence compared to non-religious people. At the same time, religiosity has negative and significant effects on the values Hedonism, Self-direction, Stimulation, Achievement, and Power. These results for the nine mentioned values are highly significant (p-value $\leq 0.001$ ). However, the association between religiosity and Universalism is positive and insignificant (p-value $\geq 0.05$ ). Hence there is not sufficient evidence that confirms the effect of religiosity on this value. On the other hand, Self-Direction, Achievement, Power, and Stimulation have positive effect on self-employment, whereas Conformity, Tradition, Security, Benevolence, Universalism, and Hedonism reports negative effect on self-employment. Results for the effects of Schwartz values on Self-employment are highly significant (p-value $\leq 0.001$ ), except for Hedonism (p-value $\leq 0.001$ ). Again, and because of logit regressions, signs but no amplitudes of the coefficients are interpretable. Aforementioned results account evidence for the second and third necessary conditions of mediating analysis discussed in section 3.3.

Table 6. Necessary Conditions for Mediation

	Effect of Religiosity on Schwartz Values	Direct Effect of Schwartz Values on Self-employment	Difference between full and reduced model
Mediating Variables			
Conformity	0.098*** (0.002)	-0.203*** (0.009)	-0.019*** (0.001)
Tradition	0.251*** (0.002)	-0.171*** (0.010)	-0.042*** (0.002)
Benevolence	0.021*** (0.001)	-0.113*** (0.014)	-0.002*** (0.000)
Universalism	0.001 (0.001)	-0.088 *** (0.014)	-0.000 (0.000)
Security	0.016 *** (0.002)	-0.228*** (0.011)	-0.003*** (0.000)
Hedonism	-0.121*** (0.002)	-0.027** (0.010)	0.003* (0.001)
Self-direction	-0.078*** (0.002)	0.509*** (0.012)	-0.039*** (0.001)
Stimulation	-0.09*** (0.002)	0.168*** (0.009)	-0.015 *** (0.001)
Achievement	-0.052*** (0.003)	0.136*** (0.010)	-0.007*** (0.000)
Power	-0.047*** (0.002)	0.046*** (0.010)	-0.002*** (0.001)
Control Variables	Yes	Yes	Yes
Country dummies	Yes	Yes	Yes
Wave dummies	Yes	Yes	Yes
Observations	149,119	149,119	149,119

<sup>\*\*\*</sup> p-value < 0.001, \*\* p-value < 0.01, \* p-value < 0.05. Logistic regression coefficients are displayed with standard errors between parenthesis. Coefficients for wave and country dummies are not included but available upon request.



Difference in coefficient regressions are necessary to understand and test the hypotheses. The results for full models are depicted in the second column of Table 7. Coefficients for Schwartz's values (mediators) and self-employment are reported in the right column of the respective table. Results indicate that values belonging to dimensions of Conservation and Self-transcendence are negatively correlated with self-employment. These results are highly significant (p-value≤0.001). Secondly, values of Self-Transcendence and Openness to Change are positively correlated to self-employment, except for Hedonism. Again, these results are highly significant (p-value≤0.001). For Hedonism, the coefficient for this value is negative and significant (p-value≤0.05), meaning that people with high preference for Hedonism are less likely to be self-employed, ceteris paribus. Again, signs but no amplitudes are interpretable.

*Table 7. Logit regression results with Self-employment as dependent variable.* 

	Basic Model	Basic Model + 10 Mediating Models
Independent Variable		
Religiosity	-0.023* (0.009)	
Mediating Variables	No	
Conformity		-0.208*** (0.10)
Tradition		-0.190***(0.010)
Benevolence		-0.114*** (0.014)
Universalism		-0.088 *** (0.014)
Security		-0.229*** (0.011)
Hedonism		-0.025* (0.010)
Self-direction		0.517*** (0.012)
Stimulation		0.171*** (0.009)
Achievement		0.138*** (0.010)
Power		0.047*** (0.010)
Demographic & Control Variables		
Gender (0: female, 1: male)	0.735*** (0.018)	
Age (18-65)	0.152*** (0.005)	
Age-squared	-0.001*** (0.000)	
Years of Education (0-30)	0.010*** (0.002)	
Living Together (0; No, 1; Yes)	0.115*** (0.021)	
Born in Country (0; No, 1; Yes)	0.068* (0.031)	
Level of Income (deciles, 0-10)	0.027*** (0.003)	
Subjective Health (1-5)	0.088*** (0.011)	
Self-Employed Parents (0; No , 1; Yes)	0.782*** (0.019)	
Country dummies	Yes	Yes
Wave dummies	Yes	Yes
Observations	149.119	149,119
Pseudo R2	0.071	0.075



\*\*\* p-value < 0.001, \*\* p-value < 0.01, \* p-value < 0.05. KHB Logistic regression coefficients are displayed with standard errors between parenthesis. Coefficients for wave and country dummies are not included but available upon request.

Finally, Hypotheses 1a to 1j aim to investigate the mediating effect of each Schwartz value on the effect of religiosity on self-employment. For estimating these mediating effects, differences in coefficient regressions are calculated separately. The results for differences in coefficient regressions are depicted in the third column of Table 6, and provide insight about the potential significant differences between the full models and the basic model. Since logistic regressions in the full models are built upon KHB methodology (Breen et al., 2013), 10 KHB regressions are calculated separately to measure the changes in coefficients that result from adding mediators (values) in the basic model; one regression per each Schwartz values is performed in order to avoid multicollinearity due to value conflicts and correlations amongst them (Schwartz, 2003). Complete results for the 10 full models are available in Appendix 1.

Consequently, and due to the negative difference in coefficients between the full and basic models (Table 6), it is possible to state that eight of ten Schwartz values (Conformity, Tradition, Benevolence, Security, Self-direction, Achievement, Stimulation, and Power) values have a negative mediating effect on the relationship between religiosity and self-employment. These results are significant (p-value $\leq 0.001$ ). In contrast, Hedonism has a significant but positive mediating effect (p-value $\leq 0.005$ ) on the relationship between religiosity and self-employment. Again, Universalism is not significant at all (p-value $\geq 0.005$ ). Previous findings lead to establish the following statement.

The hypothesis of H1a, H1b, H1c, H1e, H1f, H1g, H1h, H1i can be accepted at 0.1% level of significance; The hypothesis of H1j can not be accepted at 5% level of significance.

Finally, there is not sufficient evidence to support H1d: the indirect relation between religiosity and self-employment is negative through Universalism.

To sum up, this section attempted to analyse the empirical mechanisms that connect values and religiosity, and how these two individual and personal phenomena predispose venture creation among people. To do this, two different, but complementary steps were taken, using logistic



regressions with self-employment as a binary and dependent variable, and religiosity as an independent variable. The initial and primary step, which serves as a basis for the entire investigation and for any subsequent procedures thereafter, was to test the relation between the two main aforementioned variables. An analysis of the basic model revealed a total negative effect of religiosity on entrepreneurship, meaning that as Religiosity increase, the person is less likely to be self-employed. After this basis was established, a subsequent step of undertaking a mediating analysis was possible. The originally found effect can be decomposed into the direct and indirect effects in this threefold relationship: the direct effect of religiosity on self-employment; and the indirect effect of human values on the previously mentioned relationship. This decomposition process demonstrates the root of the linkage between the three components, and thus reveals the importance that human values have on the effect of religiosity and self-employment.

These tests used in this investigation were created using KHB logistic regressions with selfemployment as the dependent variable, religiosity as independent variables, and human values as mediators in each hypothesis-specific model. When performing the mediating models, results provided empirical proof that the indirect effect of human values (mediators) on the effect of religiosity on self-employment is negative in almost all human values. More specifically, results for eight mediating models remain aligned with literature, showing that values priorities related to Conformity, Tradition, Security, and Benevolence are encouraged by religions and are negatively associated with entrepreneurship. For mediating models related to Self-Direction, Stimulation, Power, and Achievement, evidence in the present study suggests that these values are positively associated with self-employment but produce an indirect and negative effect on the association of religiosity and self-employment. Hedonism is the only value that exerts a positive mediating effect on the previous association, being significant at 5%. We can conclude that Hedonism seems to have a mediating effect on religiosity, which means that when including Hedonism in the main regression, the effect of religiosity on entrepreneurship changes. No evidence was found to establish the indirect effect of Universalism on religiosity and self-employment, as the effects were insignificant.



## 5. Discussion

Based on previous literature, the expected results were that religiosity would encourage, within the communities of devotees, a high importance for values belonging to the dimensions of Conservation and Self-Transcendence, whilst discouraging and lessening the importance of values related to Self-Enhancement and Openness to Change (Schwartz & Huisman, 1995). The majority of the results of the current investigation aligns with previous evidence and furthermore provides important insights about the threefold relationship between religiosity, human values, and self-employment. Between the ten raised hypotheses aimed to being proved within this investigation, results contributed sufficient evidence to support eight of the hypotheses. The results for Universalism and Hedonism were insignificant and contrary to the expectations, respectively.

The results of Hedonism allow the inference of several other factors, and are in concordance with past evidence. Hedonistic individuals are normally motivated by the need to attain pleasure, gratification for oneself, and self-indulgence, creating conflict with main religion doctrines. Research done by Pepper, Jackson, & Uzzel (2010) concurs with this idea. Additionally, other evidence suggests that this value is normally not affiliated with religious groups due to the fact that it generally propagates a negative perception towards sexuality (Hood et al., 1996; Lewis and Maltby, 2000). However, based on the findings of this study, entrepreneurship doesn't seem to encourage Hedonism, even though previous literature connects these 2 factors in a positive way (Davidsson & Wiklund, 1997; Schumpeter, 1934). The negative correlation between self-employment and Hedonism could be explained by different inherent factors that self-employed people normally face when running a business. Those factors, such as longer working hours compared to wage workers, higher stressful environments and limited resources (Baron, 2008), could represent negative aspects that interfere with the search of pleasure and self-gratification. Other possible explanations for the findings about positive indirect effects of Hedonism on the effect of religiosity on selfemployment could be related to the fact that developed countries show less discomfort about this value (Saroglou et al., 2004). The previous reason could be connected to the present research because the sample of this study is built upon European countries.

Regarding Universalism, no evidence that support significant indirect effects of this value on the relationship between religiosity and self-employment was found. Universalism normally



represents the search for protection and appreciation for social welfare (all people) and for nature (Schwartz, 2003). However, the inconsistent and insignificant results in this investigation could be explained by the fact that some religions domains reinforce selflessness and tolerance for in-group members but not necessarily for out-group members due to their dogma radiating in authoritative truth (King, 1954); this outbound doctrine could lead to discrimination against alien religion denominations and out-group members (Greene, 1999). Another reason behind the results in Universalism could be related to the protection of environment and nature as a whole which is one of the bases of this value, yet parallel evidence also suggests that some traditional church religions don't strongly encourage this belief within their devotees (Schwartz & Huismans, 1995).

In the theoretical background, we explained that belonging to the social group of religious makes an individual to adopt certain values, which subsequently influence the choice for selfemployment. However, based on the current results, the possibility of the existence of reverse causality between the two variables should be considered. Some literature has mentioned already the possible existence of reverse causality between religiosity and human values (Saroglou et al., 2004), being the first causal direction explained by the emphasis of religious in some specific beliefs, ideas, through socialization and indoctrination, which could illustrate a stronger influence of religiosity on value preferences within individuals (Batson et al., 1993, Schwartz and Huismann, 1995). Another main feature of religiosity is the capacity of reinforce particular values, moral codes, beliefs, emotions, and create integrated communities as part of identity process, but more important, the relation between values and religiosity seems to be indirect (Saroglou et al, 2004, p. 722). If the second casual direction path goes from values to religiosity, then individual preferences (values hierarchy) predispose religiosity within a person (Beit-Hallahmi & Argyle, 1997) but more interesting, values explain salience identities (religiosity) into an important degree (Bilsky and Schwartz, 1994; Roccas et al., 2002), this could be explained by the fact that cultural influences have strong effect on values, and since religiosity is considered as salience identity (Peek, 2005), then intuitively one's can establish that in this case the causal direction goes from values to religiosity.

In terms of human values and self-employment, causal direction paths between the two concepts remain uncertain since correlation doesn't necessarily imply causation. Some evidence suggests that cultural matters influence the entrepreneurial spirit (Hayton et al., 2002) yet in some cases culture constraint venture creation (Eroğlu & Piçak, 2011). On the other way,



culture and social interaction reinforce human values (Morris & Schindehutte, 2005) showing that culture and social external factors could show effects on both: economic behaviour and human values, but the path direction in causality from human values to self-employment can not be clearly established. However, independent of this issue, the revealed *associations* between religiosity, values, and self-employment stand as they are. Nevertheless, results of investigation on this research lack sufficient evidence to conclude the aforementioned reverse causality, making this assumption a limitation and field for future investigations.



## 6. Conclusions and recommendations.

The current investigation suggested a negative effect of religiosity on self-employment. Even though the negative correlation between these two concepts remains consistent when adding mediators (full models), findings in mediating models suggest the negative indirect effects of eight human values on the effect of religiosity on self-employment. Just two of Schwartz's values, Universalism and Hedonism, report an insignificant effect and a positive mediating effect, respectively. As previously mentioned, Hedonism was a value that did not demonstrate being strictly reinforced by religions or being preferred by entrepreneurs, thus findings for this value should be subject for future research. Furthermore, and since the sample analysed in the current investigation reflects socio-economic conditions including beliefs and motivations of European citizens in general, the respondents based their answers on self-perceptions rather than macroeconomic perspectives, what allows to infer that different types of entrepreneurship such as 'necessity entrepreneurship or nascent entrepreneurship' cannot be distinguished within the sample, opening the doors for future research in this field.

Although, past evidence adduced the strong effects of religious denominations on specific human values (Schwartz and Huismann, 1995; Schwartz and Roccas, 1997; Schwartz and Sagie, 2000) and in countries different level of income (Caree et al., 2002; Iyigun & Owen, 1998; Mattingly, 2015; Mayer & Baumgartner, 2014), this investigation lacks of evidence of how the three-fold relationship varies amongst countries outside the European region, and amongst countries with different levels of development, creating a new opportunity for future researchers interested on this topic. Additionally, the evidence exposed in the present research accounts for the overall effect of religiosity on entrepreneurial activity, as well as the effect of Schwartz values on religiosity and subsequently on the decision of being self-employed, however, Religiosity, in this regard, accounts for three different dimensions (attendance to religion activities, belonging to a religious denomination, and self-level of religiosity) which provides a broader view of the role of religiosity on entrepreneurial entry but not necessarily imply the role of religion groups on the same outcome, which could be also matter for future investigations that lead to better understanding about the alliances between these groups and governments when promoting entrepreneurship.

In short, the current study is a major contribution on the field of religiosity, human values, and self-employment, demonstrating that religious people tend to give high importance to values



in the dimensions of Conservation and Self-Transcendence, and low importance to values related in the dimensions of Self-Enhancement and Openness to Change whereas entrepreneurs reports opposite preferences. The latter two dimensions of values are normally preferred by entrepreneurs and results in the current investigation supports past evidence on this matter. This study adds overall insights about how religiosity reinforces specific sets of human values, and subsequently how these human values have a relevant effect on economic behaviour. To sum up, future research on these matters will provide accurate directions of how the reinforcement of specific human values through religious indoctrination could become relevant when policy makers aims to attain higher business owners' rates within societies, through the developing of mechanisms that promote entrepreneurial spirit and new alliances with different social organizations.



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## Appendix 1

*Table A1.1. Logistic regressions with Self-Employment as dependent variable.* 

	Conformity	Tradition	Benevolence
Independent Variable	•		
Religiosity	-0.045*** (0.010)	-0.72*** (0.010)	-0.026** (0.010)
Mediator	-0.208*** (0.10)	-0.190***(0.010)	-0.114*** (0.014)
Demographic & Control Variables			
Gender (0: female, 1: male)	0.748*** (0.018)	0.734*** (0.182)	0.713*** (0.018)
Age (18-65)	0.155*** (0.005)	0.156*** (0.005)	0.153*** (0.005)
Age-squared	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000
Years of Education (0-30)	0.005* (0.002)	0.005* (0.002)	0.010*** (0.002)
Living Together (0; No, 1; Yes)	0.143*** (0.021)	0.137*** (0.021)	0.118*** (0.021)
Born in Country (0; No, 1; Yes)	0.062* (0.031)	0.079** (0.031)	0.075* (0.031)
Level of Income (deciles, 0-10)	0.025*** (0.003)	0.023*** (0.003)	0.027*** (0.003)
Subjective Health (1-5)	0.087*** (0.011)	0.081*** (0.011)	0.087*** (0.011)
Self-Employed Parents (0; No , 1; Yes)	0.783*** (0.018)	0.785*** (0.019)	0.780*** (0.019)
Country dummies	Yes	Yes	Yes
Wave dummies	Yes	Yes	Yes
Observations	149,119	149,119	149,119
Pseudo R2	0.076	0.074	0.072

Note. \*\*\* p-value≤0.001, \*\* p-value≤0.01, \* p-value≤0.05. (KHB) Logistic regression coefficients are displayed with standard errors between parentheses. Coefficients for wave and country dummies are not included but available upon request.

*Table A1.2. Logistic regressions with Self-Employment as dependent variable.* 

	Universalism	Security	Hedonism
Independent Variable			
Religiosity	-0.023* (0.010)	-0.028** (0.010)	-0.020* (0.010)
Mediator	-0.088 *** (0.014)	-0.229*** (0.011)	-0.025* (0.010)
Demographic & Control Variables			
Gender (0: female, 1: male)	0.722*** (0.018)	0.701*** (0.018)	0.736*** (0.018)
Age (18-65)	0.154*** (0.005)	0.156*** (0.005)	0.151*** (0.005)
Age-squared	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)
Years of Education (0-30)	0.012*** (0.002)	0.003 (0.002)	0.010*** (0.002)
Living Together (0; No, 1; Yes)	0.114*** (0.021)	0.140*** (0.021)	0.112*** (0.021)
Born in Country (0; No, 1; Yes)	0.070* (0.031)	0.051 (0.031)	0.071* (0.031)
Level of Income (deciles, 0-10)	0.027*** (0.003)	0.024*** (0.003)	0.028*** (0.003)
Subjective Health (1-5)	0.087*** (0.011)	0.075*** (0.011)	0.090*** (0.011)
Self-Employed Parents (0; No , 1; Yes)	0.780*** (0.019)	0.773*** (0.019)	0.782*** (0.019)
Country dummies	Yes	Yes	Yes
Wave dummies	Yes	Yes	Yes
Observations	149,119	149,119	149,119
Pseudo R2	0.072	0.076	0.071

Note. \*\*\* p-value≤0.001, \*\* p-value≤0.01, \* p-value≤0.05. (KHB) Logistic regression coefficients are displayed with standard errors between parentheses. Coefficients for wave and country dummies are not included but available upon request.



Table A1.3. Logistic regressions with Self-Employment as dependent variable.

	Self-direction	Stimulation
Independent Variable		
Religiosity	-0.065*** (0.010	-0.039*** (0.010)
Mediator	0.517*** (0.012)	0.171*** (0.009)
Demographic & Control Variables		
Gender (0: female, 1: male)	0.736*** (0.018)	0.714*** (0.018)
Age (18-65)	0.149*** (0.005)	0.157*** (0.005)
Age-squared	-0.001*** (0.000)	-0.001*** (0.000)
Years of Education (0-30)	-0.004 (0.002)	0.008** (0.002)
Living Together (0; No, 1; Yes)	0.181*** (0.021)	0.143*** (0.021)
Born in Country (0; No, 1; Yes)	0.014 (0.031)	0.072* (0.031)
Level of Income (deciles, 0-10)	0.025*** (0.003)	0.026*** (0.003)
Subjective Health (1-5)	0.084*** (0.011)	0.077*** (0.011)
Self-Employed Parents (0; No, 1; Yes)	0.772*** (0.019)	0.779*** (0.019)
Country dummies	Yes	Yes
Wave dummies	Yes	Yes
Observations	149,119	149,119
Pseudo R2	0.088	0.075

Note. \*\*\* p-value≤0.001, \*\* p-value≤0.01, \* p-value≤0.05. (KHB) Logistic regression coefficients are displayed with standard errors between parentheses. Coefficients for wave and country dummies are not included but available upon request.

*Table A1.4. Logistic regressions with Self-Employment as dependent variable.* 

	Achievement	Power
Independent Variable		
Religiosity	-0.030** (0.010)	-0.025* (0.010)
Mediator	0.138*** (0.010)	0.047*** (0.010)
Demographic & Control Variables		
Gender (0: female, 1: male)	0.718*** (0.018)	0.726*** (0.018)
Age (18-65)	0.156*** (0.005)	0.152*** (0.005)
Age-squared	-0.001*** (0.000)	-0.001*** (0.000)
Years of Education (0-30)	0.008** (0.002)	0.010*** (0.002)
Living Together (0; No, 1; Yes)	0.112*** (0.021)	0.114*** (0.021)
Born in Country (0; No, 1; Yes)	0.084** (0.031)	0.071* (0.031)
Level of Income (deciles, 0-10)	0.026*** (0.003)	0.026*** (0.003)
Subjective Health (1-5)	0.087*** (0.011)	0.089*** (0.011)
Self-Employed Parents (0; No , 1; Yes)	0.780*** (0.019)	0.780*** (0.019)
Country dummies	Yes	Yes
Wave dummies	Yes	Yes
Observations	149,119	149,119
Pseudo R2	0.073	0.072

Note. \*\*\* p-value≤0.001, \*\* p-value≤0.01, \* p-value≤0.05. (KHB) Logistic regression coefficients are displayed with standard errors between parentheses. Coefficients for wave and country dummies are not included but available upon request.

