

**Why *Some* Third Age Individuals Develop Entrepreneurial Intentions:  
Exploring the Psychological Effects of Posterity**

**Abstract**

This study attempts to enhance our understanding of why *some* third age individuals develop intentions towards entrepreneurship. Based on the Theory of Planned Behaviour and its three antecedents of entrepreneurial intentions, this study contributes to the literature on psychological drivers of entrepreneurship among the elderly. Our results among 204 French individuals between 45 and 65 years old show that posterity positively moderates the relationship between entrepreneurial attitudes and entrepreneurial intentions, and negatively moderates the relationship between social norms related to the creation of new firms and entrepreneurial intentions. Our study offers interesting insights concerning entrepreneurship among third age individuals.

**Keywords:** Entrepreneurial Intention; Third age individuals; Posterity; Older age entrepreneurship.

*“I am what survives me” (Erikson, 1968)*

## **1. Introduction**

Over the past several decades, a large number of empirical studies have investigated the behaviour of more mature individuals in our society (Por and White, 1991; Austad, 1997; Cole & Gaeth, 1990; Cole & Houston, 1987; Greco & Swayne, 1992; Streb et Al, 2008; Hantman & Gimmon, 2014; Baruch et Al, 2014; Duarte Alonso, 2016). This interest stems from the increased demographic, economic, and entrepreneurial potential of third age individuals. Indeed, encouraging entrepreneurship among mature individuals represents a potential policy opportunity to enhance innovative capacity within the economy by employing the human and social capital of mature individuals in creating new economic activities through new business creation (Botham & Graves, 2010).

Prior research on third age individuals suggests that although they are generally more capable of starting and running a business than younger people (Singh & DeNoble, 2003; Weber & Schaper, 2004), they are significantly less likely to engage in entrepreneurial activities (Curran & Blackburn, 2001; Hart, et al., 2004). Indeed, the period between 25 and 34 years of age has been shown to be the most entrepreneurially active age, and the rate of entrepreneurial activity declines as age increases (Reynolds, et al., 2003). Levesque and Minniti (2006) argue that third age individuals may have a negative perception of entrepreneurship as it not leads to instant returns. In this perspective, it seems particularly relevant to better understand the entrepreneurial process among older individuals by exploring its potential antecedents.

However, little research exists in entrepreneurship in order to better understand the potential psychological effects of aging on the entrepreneurial intentions of third age individuals (see Kautonen, et al. 2009; 2011 for exceptions). This specific topic seems particularly interesting. As people age, time horizon is shrinking and third age individuals may adopt some specific defence mechanisms in order to face aging-related difficulties (Arndt & Solomon,

2003; Becker, 1973; Maxfield, et al., 2007). Among these mechanisms, the Psychological Development Theory (Erikson, 1963) highlights the self-extension mechanism, which is likely to develop between 40 and 60 (McAdams, de St. Aubin & Logan, 1993). This mechanism, defined as posterity by McAdams and her colleagues (1993) stands as a motivation toward asserting, expanding and developing the self beyond one's own finitude, through different forms, in order to achieve a kind of symbolic immortality. To these ends, entrepreneurship may offer the possibility to create and develop something that endures over time and beyond the founder's physical death. Hence, in this paper, we focus on posterity and its potential role as an antecedent of entrepreneurial intention among third age individuals defined as people between 45 and 65 years old (Curran & Blackburn, 2001; Singh & DeNoble, 2003; Kautonen, Tornikoski, and Kibler, 2011). More specifically, our central claim is that third age individuals with a higher level of posterity tend to develop stronger entrepreneurial intentions.

In order to increase our understanding of the psychological foundations of third age entrepreneurship, in this study we integrate simultaneously two theories that are often studied in different fields, namely the Psychological Development Theory (Erikson, 1963) and the Theory of Planned Behaviour, TPB (Ajzen & Fishbein, 1975). Moreover, our study contributes to the existing literature that focuses on the perceptual variables that affect entrepreneurial intentions (Arenius & Minniti, 2005) or other recent study that deals with intrinsic drivers of entrepreneurship among the elderly (Stirzaker, Galloway & Potter, 2019). Although there appears to be a general consensus that the perception of one's opportunities, risk tolerance, and self-confidence are related to entrepreneurial intentions (Arenius & Minniti, 2005), our study is the first to investigate how one self-extension mechanism (i.e. posterity) affects the propensity of third age individuals to engage in entrepreneurial activities. Moreover, our study contributes to the intention literature by investigating the role of posterity as a contingency between more traditional antecedents of intentions and intention formation. Indeed, in the TPB,

attitudes, perceived behavioural control, and subjective norms should be sufficient to predict the formation of intentions, but only one or two may be necessary in any given application (Ajzen & Fishbein, 2004). While our objective is not to challenge the TPB, we investigate the role of posterity in explaining the relative importance of the three antecedents of entrepreneurial intention among third age individuals. To this end, a quantitative survey has been conducted among French people aged between 45 and 65 years old.

Our article is structured as follows. Section 2 provides a theoretical background and hypotheses of this study. Section 3 describes the methodological design of our empirical study. Section 4 presents the empirical findings and the results and their implications are discussed in Section 5.

## **2. Theoretical Background and Hypotheses**

### *2.1 The Theory of Psychological Development and Posterity*

Third age individuals present distinct motivations and behaviours compared to individuals of other ages. One reason for that may be related to the perception of a limited time horizon and the perspective of one's own death (Fung, Carstensen and Lang, 2001). Indeed, third age individuals have to face numerous reminders about mortality in their daily life (such as the advanced age, the loss of some relatives, the retirement, some illness and difficulties related to aging etc.). Even if more mature individuals show very different ways to cope with the idea of death, the Psychosocial Development Theory (Erikson, 1963) suggests that the advanced age is mainly associated with a kind of acceptance and serenity facing the idea of death. According to Erikson (1963), this step in one's life is generally reached during the fifties.

In particular, in his/her fifties, an individual is able to consider the future generations through the concept of generativity. This concept was introduced more than 50 years ago by Erikson (1950) in the context of the Psychosocial Development Theory (McAdams & de St.

Aubin, 1992). Erikson (1963) suggested that generativity refers to “a concern for establishing and guiding future generations”. Kotre (1984) subsequently defined generativity as “a desire to live in such way that what one does, will last beyond their own life”. Urien and Kilbourne (2011) precise that it is a multidimensional construct: (1) transmission, which is the desire to pass on knowledge, experience to future generations; (2) communion, which is the interest in investing oneself in one’s community; (3) posterity, which refers to the will to leave a mark to future generations.

These definitions suggest that individuals want to gain a kind of symbolic immortality and not be forgotten by others (Urien & Guiot, 2007). According to Stirzaker, Galloway & Potter (2019), older individuals are motivated by intrinsic drivers, such as achievement and fulfilment to become an entrepreneur which stands for a kind of continuity. This intrinsic desire for accomplishment and self-extension (Krebs, et al., 2015) can specifically refer to posterity, which reflects the will to expand and develop the self beyond one’s physical death and leave a mark to the future generations in order to gain symbolic immortality (McAdams, de St. Aubin & Logan, 1993; Urien, 2003). For this reason, we focus here on posterity as a potential determinant of entrepreneurship among older individuals.

## *2.2 Entrepreneurial intention and Theory of Planned Behaviour*

Based on the theory of reasoned action developed by Fishbein and Ajzen (1975), Ajzen’s (1988, 1991) Theory of Planned Behaviour (TPB) has become one of the most commonly used psychological theories to explain and predict human behaviour through intention development. The TPB contends that intention is the immediate antecedent of behaviour. In line with the TPB, entrepreneurship scholars generally argue that entrepreneurial behaviour is intentional and thus best predicted by an intention to engage in this behaviour (e.g., Bird, 1988; Krueger & Carsrud, 1993). Moreover, the predictive relevance of the TPB has recently been validated in the entrepreneurial context (Kautonen, et al., 2013).

The TPB posits that intentions have three conceptually independent determinants (i.e., antecedents), namely, attitude toward the behaviour, the subjective norm, and perceived behavioural control (Ajzen, 1991). These three antecedents have direct effects on the formation of entrepreneurial intentions. Demographic characteristics (for example, age) and other characteristics related to the individual's background and environment are not directly included in the TPB. Instead, the TPB postulates that the effects of such characteristics on intentions are indirect and mediated by attitude, subjective norms, and perceived behavioural control (Kolvereid, 1996; Krueger & Carsrud, 1993).

The intention to perform behaviour has been described as the single best predictor of actual behaviour (Fishbein & Ajzen, 1975; Krueger & Carsrud, 1993), and intention formation has attracted the attention of scholars for some time (Bird 1988; Brazeal, 1994; Davidsson, 1995; Krueger & Carsrud, 1993; Thompson, 2009; Boukamcha, 2015). Although most studies of entrepreneurial intentions focus on the intentions of students, a number of studies have examined other groups of individuals and contexts (Autio, et al., 1997; Boissin, et al., 2009; Down & Kautonen, 2014; Fayolle & Gailly, 2009; Fayolle & Gailly, 2015; van Gelderen, et al., 2008; Griffiths, et al., 2009; Kolvereid, 1996; Krueger, et al., 2000; Swail, et al., 2013; Zahra, et al., 2013), and interest has recently shifted towards more mature individuals (Kautonen, et al., 2010; Kautonen, et al., 2011; Maâlaoui, et al., 2013; Tornikoski & Kautonen, 2009; Tornikoski, et al., 2012; Zacher & Gielnik, 2014).

In the next section, we suggest specific hypotheses related to how posterity can participate in the formation of entrepreneurial intentions among third age individuals. We provide theoretical arguments on behalf of the direct and the moderating role of posterity between the antecedents of the TPB and intentions.

### *2.3 The effects of posterity on entrepreneurial intentions among third age individuals*

In this study, we integrate the notion of *posterity* as a potential factor affecting the entrepreneurial intentions of third age individuals. A business is one type of innovative asset that a more mature individual may leave to the next generation. Creating a new business can enable him/her to extend themselves to future generations and to create something lasting beyond one's own death. Indeed, entrepreneurship has been identified as a means to leave a legacy for one's family and children (Alstete, 2002). The entrepreneurial activity stands for a production of goods and services and a deep will to create and invest oneself in something that will probably last, even after one's own physical death. Entrepreneurship is associated with a set of intangible elements (such as ideas, beliefs, concepts) in which the entrepreneur believes, that are significant for him and that could be passed down in the future. Hence, the entrepreneurial activity may stand for a will to focus on oneself in a self-extension perspective. It can illustrate a kind of self-promotion, oriented toward the expression of the self and self-affirmation (Bakan, 1966). In a narcissist way, what is created is the reflection of the self and its preservation, its development and growth help to insure continuity in time (Browning, 1975; Erikson, 1982).

### *2.3.1 The direct effect of posterity on entrepreneurial intentions*

Posterity –a desire for self-extension –reflects the will to leave a mark by which future generations will remember one. According to Kotre (1999), posterity demonstrates an individual's will to invest a part of himself/herself in works that will remain after his/her death. McAdams and her colleagues (1993) also suggest that posterity can reflect a desire to not be forgotten by the next generations and involves creating an extension of oneself in one's own image that will remain after death. In a study related to volunteer activities among the elderly conducted by Gourmelen et al. (2014), the results showed that one of the five volunteer profiles defined as “concerned by posterity” has a very individualistic (i.e., selfish) motivation in that giving is a means for them to leave their mark after death and to not be forgotten by others.

Creating a business is one form of self-extension that third age individuals may leave to future generations. Indeed, a new business has been identified as a means to leave a part of oneself for one's family and children (Alstete, 2002). Taking a broader view, Erikson (1950) associates posterity with behaviours that contribute to the perpetuation of the self and one's culture. Thus, an individual who receives significant contributions from previous generations will reproduce and improve these legacies with his or her own significant contributions. One's contributions stand for a kind of self-fulfilment and achievement that have been shown to be both intrinsic drivers of entrepreneurship among the elderly (Stirzaker, Galloway & Potter, 2019). Through these successive actions oriented toward the perpetuation of the self through the generations, posterity allows a third age individual to create and initiate a new cycle. Given that creativity is said to reach its highest level at an advanced age (Cohen, 2000), the act of entrepreneurship could be a part of this process. Hence, we first hypothesize a direct influence from posterity on entrepreneurial intention among third age individuals:

*H1: Posterity has a positive effect on entrepreneurial intention among third age individuals.*

### *2.3.2 The moderating effect of posterity*

An *attitude* toward behaviour refers to the degree to which a person has formed a favourable or unfavourable opinion or appraisal of this behaviour. According to the TPB, an individual's *behavioural beliefs* contribute directly to the development of attitudes toward a specific behaviour (Ajzen, 1991). Individuals form beliefs regarding behaviour and link it to a certain outcome. If behaviour is related to a positive outcome, we "automatically and simultaneously" (Ajzen, 1991: 191) acquire a positive attitude towards the behaviour in question. The stronger our behavioural beliefs are, the stronger our attitudes towards that particular behaviour.

Along this logic, the more positive an individual's perception of the outcome of entrepreneurship is (see for example Krueger, et al., 2000; Shapero & Sokol, 1982), the more favourable his or her attitude toward entrepreneurship should be and, consequently, the stronger his or her intention to start a business. Because posterity reflects individualistic values and indicates a preoccupation with leaving a mark for future generations (Urie & Kilbourne, 2011) and if a third age individual believes that entrepreneurship is a good way to bequeath something lasting to future generations, then posterity should increase the positive impact of attitudes on entrepreneurial intentions. That is, when a third age individual has the desire to leave a part of him/her to future generations and not be forgotten (i.e., posterity), it is likely to strengthen his/her behavioural beliefs about entrepreneurship as a positive means to achieve this desire. In essence, posterity could enhance the effects from the behavioural beliefs of third age individuals towards entrepreneurship. As such, we hypothesize:

*H2a: Posterity enhances the effects of attitudes on entrepreneurial intention among third age individuals.*

Furthermore, *subjective norms* (SN) refer to the perceived social pressure to perform or not a particular behaviour. The underlying determinants of subjective norms are *normative beliefs*, which “are concerned with the likelihood that important referent individuals or groups approve or disapprove of performing a given behaviour” (Ajzen, 1991: 195). An important aspect of subjective norms is compliance, i.e., the motivation to act according to the rules of society (Meek, et al., 2010). As such, the TPB emphasizes our perceptions about social expectations and pressures.

Along this logic, the more supportive of entrepreneurial behaviour the individual perceives their significant others to be, the stronger should be their intention, *ceteris paribus*, to engage in entrepreneurial behaviour (e.g. Kautonen, et al., 2013). When a third age individual wants to leave a part of him-/herself to the future generations (i.e., high level of posterity),

he/she has an inner desire for symbolic immortality and an inner desire to never be forgotten by others (McAdams & de St. Aubin, 1992). Moreover, Browning (1975) emphasizes on the narcissistic tendency among generative individuals which is oriented toward self-reflection and self-preservation. Therefore, mature individuals tend to be more self-centred (Erikson, 1982). In this perspective, we suggest that a high level of posterity could explain why a third age individual would pay *less* attention to the opinions of important others and develop weaker intentions towards entrepreneurship. That is, when a third age individual has a high desire to leave a part of himself and never be forgotten (i.e., high level of posterity), (s)he perceives him-/herself as being a more valuable member of his social group and gives less importance to others' opinions compared to his/her own opinion (Browning, 1975). Hence, it is likely to decrease his/her normative beliefs about entrepreneurship as a positive means to satisfy social expectations. On the contrary, when posterity is low, a third age individual would place more importance on others' approval and social norms. In essence, posterity could decrease the effects of the normative beliefs of third age individuals regarding entrepreneurship. As such, we hypothesize:

*H2b. Posterity decreases the effects of subjective norms on entrepreneurial intention among third age individuals.*

Finally, *perceived behavioural control* (PBC) refers to an individual's perception of the ease or difficulty of performing a particular behaviour (Ajzen, 1991: 183). Behind PBC are *control beliefs*, which are related to the presence or absence of resources and opportunities. When required resources and opportunities are present, it increases our control beliefs about the behaviour: "*The more resources and opportunities individuals believe they possess, the greater should be their perceived behavioral control over the behavior*" (Ajzen, 1991: 196). As such, PBC involves the degree of knowledge and mastery that an individual has about his ability, as well as the resources needed to achieve the desired behaviour.

Along this logic, the more capable an individual feels of performing entrepreneurial activities, the stronger should be their intention, *ceteris paribus*, to engage in entrepreneurial behaviour (e.g. Kautonen, et al. (2013). Wakefield (1998) explains the role of posterity in “self-centred” behaviours by conceiving the notion of the “hero-making of oneself”. In a sense, the concept of posterity involves investing a kind of personal energy and aliveness (Carlsen & Dutton, 2011) into activities oriented towards future generations, which would suggest confidence in oneself, in one’s own resources and, more specifically, in one’s resources as linked to an undertaking. Moreover, a high level of posterity reflects a high perception of the self and its value (McAdams & de St. Aubin, 1992), which may empower the individual to act in his environment. Posterity also connects individuals with their environment and helps them to gain a better understanding of their surroundings (Dutton & Carlsen, 2011), which could elevate their perception of being able to access needed resources.

Therefore, because a high level of posterity among third age individuals appears to contribute to greater confidence in their capacity to understand and act in the environment, posterity is likely to accentuate the effects of control beliefs on entrepreneurial intention. That is, control beliefs about starting a new business would have an effect on the formation of entrepreneurial intentions especially when a third age individual also perceives to be a more aliveness and possessing personal energy, which both empower the person in generic sense. In essence, posterity could enhance the effects of the control beliefs of third age individuals on entrepreneurship. As such, we hypothesize the following:

*H2c. Posterity enhances the effects of perceived behavioural control on entrepreneurial intention among third age individuals.*

In summary, we claim that posterity influences the formation of entrepreneurial intentions among third age individuals. More specifically, posterity impacts the formation of entrepreneurial intentions by positively accentuating the effects of attitudes and perceived

behavioural control on the formation of entrepreneurial intentions and negatively accentuating the effects of subjective norms on intentions. Figure 1 presents our theoretical model.

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### **3. Methodology**

This section describes the sample selection procedure and provides detailed definitions of the dependent, independent and control variables used in our analysis.

#### *3.1 Sample*

This interest on older age entrepreneurship in France is motivated by two main reasons. First, France faces an increase of the longevity of its population: in 2018, France has 13.1 million of older individuals and they will stand for 29% of the whole population in 2070 (INSEE, 2018). Second, the employment rate of middle-aged individuals between 25 and 49 years old is 80.1%, whereas the employment rate for individuals between 55 and 64 years old is 51.3% (compared to Sweden 76.4%, Germany 70.1%). (Source: INSEE (2019). Because of this low rate, French older individuals can find in entrepreneurship an opportunity to overcome this professional insecurity (Pole-emploi, 2018). For example, in France, each year around 90 000 of French seniors become entrepreneurs (AFE<sup>1</sup>, 2017).

As pointed out in the opening section, we define third age entrepreneurs as people between 45 and 65 years old to follow the lead of Kautonen and his colleagues (2011). The age cohort between 45 and 65 years old allows us to consider more mature individuals that are able to project themselves in the future and have time to invest in different projects (Atchley, 1989).

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<sup>1</sup> Agence France Entrepreneur

As the objective of this study is to examine the relationship between posterity and entrepreneurial intention among third age individuals, we surveyed people between 45 and 65 years old in France. We collected data using a questionnaire that we distributed to older individuals who come from associations and third age universities in Paris that propose several courses for older individuals. This mode of data collection enabled us to get a variety of individual profiles in terms of age, gender, and occupational status. In total, 251 questionnaires were answered; of these, 27 incomplete questionnaires were excluded. The structure of all variables and scales were analysed to detect potential missing values and input errors. Then, descriptive analyses were conducted (mean and frequency analysis), which helped us to narrow the final sample down to 202 individuals with an age range from 45 to 65 years.

### 3.2 Variables

The Table 1 presents the key independent and dependent variables of our study, and the related statistics for construct validity.

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#### 3.2.1 Dependent variable

*Entrepreneurial intention* was measured using three items. Following Fitzsimmons and Douglas (2011) and Kautonen and his colleagues (2015), we used a 7-point Likert scale from very unlikely (1) to very likely (7) for three items, asking whether the individual (i) plans to start a business in the next 18 months, (ii) intends to start a business in the next 18 months, or (iii) will try to take steps to start a business in the next 18 months. Using these three items, we calculated a mean score for the entrepreneurial intention variable.

To assess the psychometric qualities of the intention measure, we performed a factor analysis (principal component analysis, varimax rotation). The Kaiser-Meyer-Olkin (KMO)

measure of sampling adequacy (0.73) and the Bartlett test (significant at the 5% level) provide assurance that the scale is homogenous and adequate. This is also confirmed by Kaiser's criteria (unidimensional measurement scale) and the explained total variance (89%). The reliability of the scale is acceptable based on Cronbach's alpha (0.94), Jöreskog's rho (0.94) and the rho of convergent validity (0.85).

### 3.2.2 Independent variables

*Entrepreneurial attitude* was originally measured using seven items using Kautonen et al. (2015), in which items are all related to the idea of taking steps to start a business in the next 18 months. For each of the seven items, we used a seven-point Likert scale from '1' (unpleasant, useless, foolish, negative, insignificant, tiresome) to '7' (attractive, useful, wise, positive, important, inspiring). We used a principle component analysis with varimax rotation and a factor component analysis. Based on the statistical results, we excluded two items (i.e. unpleasant–attractive and tiresome–inspiring) because of low communalities inferior to 0.5 (Bryman and Cramer, 2010). To obtain a score for the Attitude variable, we calculated a mean for the remaining five items. The reliability of the scale is good based on Cronbach's alpha (0.87), Jöreskog's rho (0.87) and the rho of convergent validity (0.58).

To measure *Subjective norms* (SN), we adopt Kolvereid's (1996) approach by using two sets of questions. The first set of questions addresses the opinions of the respondents' (i) family, (ii) friends, and (iii) important others regarding the respondent becoming an entrepreneur. The second set of questions addresses the respondents' motivation to comply with these opinions of these three different groups of people (Kautonen, et al., 2015). We obtain a three-item final scale for subjective norms by multiplying the items from each of these two sets. The final score for SN was calculated as the mean of the three items. The reliability of the scale is good based on Cronbach's alpha (0.76), Jöreskog's rho (0.78) and the rho of convergent validity (0.56).

*Perceived behavioural control* (PBC) was measured using four items. In the spirit of Ajzen (2002) and van Gelderen and his colleagues (2013), two of the items were related to the perceived ease of starting a business in the next 18 months and two to the individual's degree of control over such behaviour. Responses by the elderly are provided using a seven-point Likert scale ranging from '1' (very unlikely) to '7' (very likely). One of these items ("If I wanted to take steps to start a business in the next 18 months, no external factor, independent of myself, would hinder me from taking such action") was discarded based on the principle component analysis with varimax rotation. The reliability of the scale is also acceptable based on Cronbach's alpha (0.73), Jöreskog's rho (0.74), and the rho of convergent validity (0.49).

To measure *posterity*, we used the short scale version adapted by Urien and Kilbourne (2011) to a French context, which is based on the Loyola Generativity Scale of McAdams and St Aubin (1992). This Likert scale ranges from '1' (very unlikely) to '7' (very likely) and has the following three questionnaire items (Urien & Kilbourne, 2011; page 89): (1) "*I think that I will be remembered for a long time after I die*"; (2) "*Others would say that I have made unique contributions to society*", and (3) "*I feel as though my contributions will exist after I die*". The reliability of the scale is acceptable based on Cronbach's alpha (0.71), Jöreskog's rho (0.72) and the rho of convergent validity (0.46).

### 3.2.3 Control variables

In our analysis, we consider a set of control variables that could potentially influence a third age individual's adaptation to aging (Atchley, 1989), particularly through entrepreneurial intentions (e.g., Kim & Feldman, 2000; Fitzsimmons & Douglas, 2011). Since research has shown that gender affects the desire to start new businesses (Crant, 1996; Kelley & al., 2010; Kourilsky & Walstad, 1998; Linan & Chen, 2009; Yordanova & Tarrazon, 2010) and age is one an important determinants of entrepreneurship (Parker, 2009; Rotefoss & Kolvereid, 2005), we included (i) Gender –a dummy variable that equals one if the individual is a female, and

zero otherwise – and (ii) Age, which equals the individual's age, as control variables. Moreover, as suggested by Kim and Feldman (2000) and Atchley (1989), some individual variables may have an impact on the way third age individuals invest in professional activities. Thus, we included some of them in our model as control variables, such as: (iii) Marital status, obtained by asking the sample elderly about their marital status (single, married); (iv) Residence, defined as the number of years the individual has been living in his/her actual residence; (v) Number Children, which equals the respondent's number of children, (vi) Dependent Children, defined as the number of children the respondent is still financially supporting (e.g., Daniels & Daniels, 1991); (vii) Income, which is the individual's monthly income (that is, pension and/or salary); (viii) Economic Status, which indicates whether the individual is a student, a full-time (or part-time) employee, retired, or jobless; and (ix) Experience, indicating whether the respondent is (or was before retirement) a farm operator, an artisan, a trader, etc. For example, according to the Kim and Feldman (2000), a third age individual is more likely to start a new business if he is widower, with dependent children, with a low income and a high level of skills. The Appendix 3 presents the frequencies of the control variables.

#### *3.2.4 Survey instrument*

To construct the dependent and independent variables described above, we used questionnaires originally written in English. To translate them into French, we employed a double translation protocol (Brislin, et al., 1973). First, a professional translator and a Professor in entrepreneurship translated them into French. Second, the questionnaires were back translated to English by another professional translator and another Professor in entrepreneurship. This procedure allowed us to confirm language compatibility. To further ensure that the translated questionnaires were clearly intelligible, the clarity of wording was discussed between two groups of more mature people (a group of 8 individuals and a group of 20 individuals).

### 3.2.5 Testing for common method variance

To address the possibility of common method variance (CMV), we adopt Williams et al.'s (1989) approach that consists of the following steps (see for example, Podsakoff, et al., 2003; Tang, et al., 2012): First, we estimate a full measurement model, where all the items load on their theoretical latent variables. Second, we re-estimate this model after adding a latent common methods variance factor and allowing all the items to load on it. Third, we compare different fit statistics (RMSEA,  $\chi^2/df$ , CFI, TLI and SRMR) for the full measurement model and the model with the uncorrelated method factor. If the fit statistics indicate an improvement of the model fit after adding the method factor then CMV may be a concern. The results are provided in the Appendix. The two models show adequate fits and the different fit statistics did not improve after adding an uncorrelated method factor (Williams, et al., 1989). These results suggest that CMV is not a serious issue in our study.

### 3.2.6 Analytical method

To uncover the effect of posterity on entrepreneurial intention, we used a hierarchical regression analysis in four steps. In the first stage, we regressed the dependent variable Entrepreneurial Intention against the control variables (model 1). Then we regressed the dependent variable against the control variables and Posterity to investigate the first hypothesis, i.e., the potential direct effects of posterity on intentions (model 2). In the third stage, we introduced the main antecedents of intentions in the TPB, namely Attitude, SN, and PBC (model 3). Finally, we introduced the interaction terms to study hypotheses H2a, H2b, and H2c. (model 4).

## 4. Results

Descriptive statistics of the variables used in our analysis are provided in Table 2. As can be seen, approximately half (52%) of the respondents are females.

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Moreover, the respondents have, on average, more than two children. They financially support at least one of their children (Dependent Children). Additionally, they are, on average, more than 52 years old.

Table 3 reports Pearson correlation coefficients between the independent and control variables used in our analysis.

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As can be seen from Table 3, these coefficients do not exceed 0.68, indicating that multicollinearity should not be a serious issue. Additionally, we computed the variance inflation factors for each of our regressions, and we find that they do not exceed 2.2, providing further assurance that multicollinearity is not a problem (unreported).<sup>2</sup>

Table 4 displays the ordinary least squares results of the hierarchical regression analysis. The model #1 presents the control model, the model #2 introduces Posterity to the control model, and the model #3 bring in the traditional antecedents of the TPB model (i.e. Attitudes, Perceived Behavioural Control, and Subjective Norm). Finally, the model #4 introduces the different hypothesized interaction effects.

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<sup>2</sup> As a rule of thumb, a variance inflation factor below 10 suggests a weak risk of multicollinearity (Neter et al., 1989).

With regards to the control variables, model 1 in Table 3 demonstrates that Residence and Economic status are the only ones that have a statistically significant ( $p < 0.1$ ) relationship with entrepreneurial intention. These observations suggest that the longer a third age individual has lived in the same residence and the lower his or her economic status, the weaker entrepreneurial intention she/he has. Moreover, as model 3 of Table 3 shows, the coefficients for the variables Attitude, SN, and PBC are positive and strongly significant and explain approximately half of the variance in the dependent variable, which supports the robustness of the Theory of Planned Behaviour (Ajzen, 1991) in explaining the formation of entrepreneurial intentions among third age individuals.

With regards to the direct effect hypothesis (H1), Posterity falls short of being statistically significant (see model 2). This result implies that posterity is not an important *direct* antecedent of entrepreneurial intention among third age individuals, which in turn, further contributes to the robustness of the TPB model. As such, we failed to find empirical support for hypothesis H1.

With regards to the moderator hypotheses, Posterity does not appear to moderate the relationship between Perceived behavioural control and Intention (see model 4). On the contrary, Posterity appears to significantly moderate, as hypothesized, the relationship between Attitudes and Intention ( $p < 0.05$ ) and to some extent the relationship between subjective norms and Intention ( $p < 0.1$ ). As such, posterity appears to positively accentuate the relationship between Attitudes and Intentions: the higher posterity is, the better attitudes explain the formation of entrepreneurial intentions among third age individuals. On the contrary, and as hypothesized, the higher posterity is, the less subjective norms appear to explain the formation of entrepreneurial intentions among third age individuals. As such, we found empirical support for hypothesis H2a, tentative support for H2b, and no support for H2c.

To further investigate the three interaction effects, we plotted the marginal effects of each interaction. Figures 2-4 present the interaction plots.

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As can be seen from Figure 2, when posterity is high, the effects of Attitude on Intention are higher than when posterity is low. Figure 3 demonstrates that under low Posterity, the impact of Subjective norms on Intention is higher than under high Posterity. Finally, under high posterity, the effects of perceived behavioural control on entrepreneurial intention is always higher than under low posterity.

## **5. Discussion and Conclusion**

In this study, we attempted to enhance our understanding of why some third age individuals develop entrepreneurial intentions although the literature states that this is unlikely (e.g., Curran & Blackburn, 2001; Hart, et al., 2004). This research objective is important because of increased demographic, economic, and entrepreneurial potential of more mature people: Employing the human and social capital of third age individuals in creating new economic activities through new business creation represents a potential policy opportunity to enhance innovative capacity within an economy (Botham & Graves, 2010). While relatively little is known about the triggers that increase third age individuals' entrepreneurial intensity, this might be because many scholars tend to assume that these triggers are similar across ages. Our study contributes to the literature on this subject by investigating the psychological effects of posterity on the formation of entrepreneurial intentions among people aged between 45-65 years old. In addition to finding empirical support for the applicability of the TPB in the empirical context of third age individuals, we also identify the interesting interaction effects that posterity has with some of the classical antecedents of intentions.

Posterity—an individualistic interest in leaving a mark for future generations —appears to contribute to both *behavioural* and *normative* beliefs among third age individuals. First, behavioural beliefs produce either a favourable or an unfavourable attitude toward the target behaviour. When posterity is high, it appears that third age individuals are more likely to invest in activities or projects that will persist after their death as a means of leaving something behind. Hence, it appears that among third age individuals, who are driven by the individualistic interest of leaving a mark for future generations, behavioural beliefs about the benefits of entrepreneurship drive the formation of their entrepreneurial intentions. In other words, posterity accentuates the relationship between entrepreneurial attitudes and intentions to start a business among third age individuals, who are anxious about the ending of their lives and adopt posterity as a coping mechanism.

Second, normative beliefs give rise to subjective norms. In this regard, posterity appears to negatively accentuate the relationship between perceived social pressure to create new firms and intentions to do so among third age individuals. Based on our results, it appears that posterity explains why some third age individuals would pay less attention to the opinions of important others and develop weaker intentions towards entrepreneurship. It is only when posterity is low, i.e., among less individualistic third age individuals that the effects of subjective norms on intention formation are accentuated.

Our empirical results demonstrate that posterity plays an important role in the formation of entrepreneurial intentions by accentuating some of the effects that the classical antecedents of intentions have on intentions to create new businesses. We assume that this link exists because third age individuals undertake entrepreneurial activities to remain involved in society (c.f. Havighurst & Albrecht, 1953), which in turn decreases their anxiety. We hope that future scholarly works will continue building on our exploratory findings about the relationships between posterity and entrepreneurship among third age individuals.

Posterity appears not, on the contrary, to contribute directly to the formation of entrepreneurial intentions. In a sense, this observation contributes to the robustness of the TPB model by highlighting the central effects of the three direct antecedents on entrepreneurial intentions. Neither does posterity seem to moderate the relationship between Perceived behavioural control and Entrepreneurial intentions. As such, this empirical observation seems to suggest that an individual's control beliefs and their role in explaining the formation of entrepreneurial intentions are somewhat immune to the effects of posterity. In addition, two control variables turned out to be significant in our statistical analyses. Indeed, the significance of Residence and Economic status seems to suggest that the longer a third age individual has lived in the same residence and the lower his or her economic status, the weaker entrepreneurial intention she/he has. These observations seem to support previous research. For example, Taylor (1996) discovered that individuals from a higher social and economic class were generally more likely to be self-employed.

## **6. Limitations and future research**

Although we believe that the results presented herein add to our understanding of the role played by aging in the formation of entrepreneurial intention, we acknowledge that the present research is not entirely beyond reproach. First, while a random sampling procedure could have helped to generalize our findings easier, our sample is a convenience sample. We hope that future studies could build upon our study by trying to validate and expand our results using more random samples. Second, we focused on only one aging-related construct, namely posterity, whereas there are also other meaningful age constructs that could be used in entrepreneurship context. Third, since entrepreneurship rates among third age individuals vary between different European countries –for example in Ireland 13.1%, Greece 14.8%, Luxembourg 3.8%, Italy 3.9%, Croatia 4.3%, and in France 4.3% (OECD, 2015) –any generalization beyond the French context should be made with caution. Finally, while our focus

was limited to third age individuals, we acknowledge that they are not the only individuals who are aware of life's end because younger individuals can also develop existential anxieties.

As potential avenues for future research, while third age individuals are a very specific subsection of the public and have a particular perception of age and health, it could be interesting to investigate the impact of perceived age and health on the formation of entrepreneurial intentions. Works in gerontology could contribute to the explanation of such a phenomenon. For those interested in continuing our work, it might be interesting to investigate the notion of culture in the context of intentions. According to Urie (2003), culture may be used to protect oneself against the consciousness and fear of death by providing belief systems and by attaching meaning to death (Schumaker, et al., 1991). As such, it might be worthwhile to test the moderating effect of culture on the relationship between death anxiety and entrepreneurial intention. Finally, although our focus was limited third age individuals, they are not the only individuals who are aware of life's end. To further consolidate our key findings – that existential anxiety has an impact on entrepreneurial intention –it would be necessary to include younger people in the sample and measure their level of posterity. If proof is found that existential anxiety affects the formation of entrepreneurial intentions not only among third age individuals but also among the general population, we will be able to state that existential anxiety is a strong factor to be taken into account when we want to understand the formation of entrepreneurial intention.

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