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**The Influence of Career Choice Intentions on New Venture Creation in Algeria,  
Sierra Leone, and South Africa**

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**Abstract**

This paper analyses the influence that career choice intentions, including entrepreneurial intentions, have on new venture creation among African university students. In addition to that, we explore how social context may affect new venture creation, considering the inner circle of entrepreneurs, the organizational environment and the broader environment. To test our hypotheses, we used data from the 2018 Global University Entrepreneurial Spirit Students' Survey (GUESSS), focusing on university students from Algeria, Sierra Leone and South Africa. Our findings provide evidence that, in these countries, career choice intentions to become an entrepreneur —either immediately after graduation or five years after graduation— are a good predictor of current new venture creation by university students. We also found an important role of the effectiveness of entrepreneurship education courses for determining new venture creation. Our investigation contributes to filling the gap in the link between career choice intentions and entrepreneurial behavior in Africa.

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## 1. Introduction

Nowadays, having a college degree is no longer a guarantee for future employment, especially in resource-constrained environments where people often have to make decisions with incomplete information and based on previous experience and social networks (Guiso et al., 2006; Namatovu et al., 2018). In recent years, however, entrepreneurship has gained increased attention due to its impact on the economy through helping to create employment and contributing to social development and economic growth.

More than half of the workers in low-income countries and more than a third in lower-middle-income countries are entrepreneurs engaged in self-employment activities, mainly in agriculture (Fields, 2019). According to Fields, as well as being high in South Asia, self-employment is particularly high in sub-Saharan Africa, showing that in developing countries many people, perhaps the majority even, engage in some kind of entrepreneurial activity. For instance, the self-employment rate is 82% in Ghana, 64% in Kenya and 64% in Mali (Dakung et al., 2017). Furthermore, self-employment in those contexts, as an initiative undertaken by individuals to earn a living, has been reinforced by learning institutions (Trevelyan, 2009).

Extant literature suggests that factors such as the integration of entrepreneurial education, action-oriented activities like internships and bootcamps, and universities, all influence graduates' entrepreneurial careers, with previous studies having demonstrated that entrepreneurship is influenced by intentions and contextual factors (Alexander and Honig, 2016; Krueger et al., 2000).

It is known that the incidence of entrepreneurship among university students tends to be low (e.g. Aderibigbe et al., 2019; Astebro et al., 2012; Bergmann et al., 2016). However, given the unemployment rate and the fast-growing pace of its

population (Atiase et al., 2018; Mehari & Belay, 2017; Ojeaga, 2015), Africa cannot afford for its most qualified resources to be less involved in entrepreneurial activities. This and the general inefficiency of this continent's markets (McDade & Spring, 2005; Mol et al., 2017; Ratten & Jones, 2018), figures among other constraining factors, despite the high level of entrepreneurial activity reported consecutively by the Global Entrepreneurship Monitor, which is much higher than in the western developed countries (e.g. Dana et al., 2018; Herrington & Coduras, 2019; Pereira & Maia, 2018). Thus, policymakers in developing countries need to be educated about the role of social context in the transformation of entrepreneurial intentions to entrepreneurial behavior, and furnished with research informed by local and context-specific data (e.g. Armanios et al., 2017).

Other earlier studies investigated the impact that contextual factors like role models (Laviolette et al., 2012), subjective norms (Kolvereid and Isaksen, 2006), personality traits (Rauch and Frese, 2007; Zhao and Seibert, 2006) and entrepreneurial education (Premand et al., 2016) play regarding students' entrepreneurial initiatives. In addition, and in order to understand the antecedents and consequences of entrepreneurial behavior, most of these studies focused on planned behavior (Lee and Wong, 2004).

Within that scope, entrepreneurial intention is considered as the first step of an entrepreneurial process, with the last step being to transform the idea into a business. However, despite the numerous studies that have been conducted on the antecedents of entrepreneurial intentions, there is still a gap in the literature regarding the link between entrepreneurial intentions or career choice intentions and behavior (Gieure et al., 2020). Thus, there is growing interest in understanding the relationship between intentions and

new business creation, especially in low and middle-income contexts, which is precisely where this paper contributes to the discussion in the literature.

The theory of planned behavior [TPB] (Ajzen, 1991) has been widely applied to support the main conceptual frameworks used to research the antecedents and consequences of entrepreneurial intentions. Several studies have tested the validity of the TPB that focused on intentions (Fayolle and Liñán, 2014; Gieure et al., 2019, 2020; Lortie and Castogiovanni, 2015). However, other studies show that intentions only explain between 20% and 30% of the variance in behavior (Ajzen, 1991; Armitage and Conner, 2001; Sheeran, 2002). Entrepreneurial intention is a necessary criterion to start a business, but it is not sufficient by itself (Meoli et al., 2020). Intention well predicts behavior related to single actions that are under strict control, and that simply happen soon after the action (Ajzen, 1991; Sheeran, 2002). However, entrepreneurship does not meet these characteristics because it is a complex phenomenon that comprises many actions, is not under strict control, involves uncertainty, and the outcomes are not immediate.

As an alternative, we based our framework on social cognitive career theory [SCCT] (Lent and Brown, 2013). With regard to entrepreneurial careers, this theory has attracted the attention of many researchers (Liguori et al., 2018; Liñán and Fayolle, 2015). It considers the central components of the entrepreneurial intention models, such as self-efficacy, and a wider range of entrepreneurial antecedents and outcomes like the social context, which influences an individual's decision to embark upon a career of entrepreneurship (Ajzen, 1991; Lanero et al., 2016; Liguori et al., 2018).

Thus, the objective of this paper is to determine the influence that career choice intentions, in particular entrepreneurial intention, have on new venture creation in the African context. To do this, we use a theoretical framework based on SCCT, which

considers the influence of social context and the influence that university graduates' career choice intentions have on their decision to start a new venture. We further differentiate the social context according to three levels. The first level represents the influence of family background. The second level comprises the organizational influences and is associated with the universities the graduates attended and which provided an environment supportive of entrepreneurial activities. Finally, the third level, which is the most distant context, represents social influences, including power distance and subjective norms.

The proposed framework is tested using data from the 2018 Global University Entrepreneurial Spirit Students' Survey (GUESSS). We focus on nascent entrepreneurs and university students' career choice intentions immediately after completing their studies, and then five years later. The subjects in our study are from Algeria, Sierra Leone, and South Africa, these being the only African countries available in the 2018 GUESSS database. Together, the three countries represent a sample of 4,826 university students.

This study makes several contributions to the literature on entrepreneurship. First, although previous works have explored the link between entrepreneurial intentions and entrepreneurial behaviour and the role of the social context (Kolvereid and Isaksen, 2006; Shirokova et al., 2016), our study expands the focus on how intentions influence the creation of a new business with regard to career choice, and takes into consideration all the contextual factors. On this point, our study differentiates from the others by using SCCT, which allows us to look at the decision of creating a new business as one among various available options, or as a first step along a career path. Second, the fact that this study contemplates university students in Africa is relevant because this is an understudied area of African entrepreneurship that is not

covered by the main international survey-based recurrent studies, such as the Global Entrepreneurship Monitor, or the development indicators of the World Bank Group despite its being critical to the near future of the continent, especially after Covid-19.

The rest of the paper is organized as follows: sections 2 and 3 describe the proposed theoretical framework and the research design; section 4 presents the main results; and finally, section 5 presents the conclusions.

## **2. Theoretical Framework**

Our theoretical framework, based on the SCCT (Bandura, 1986; Lent and Brown, 2013), is designed to address how career choice intentions and social context influence new venture creation among African university students. SCCT has its origin in social cognitive theory (Bandura, 1986) and seeks to identify the web of relationships between people and their careers, focusing on cognitive and contextual factors. It explains motivational processes across different contexts (Brown et al., 2006), and has been used in various research to study entrepreneurship careers (Hechavarria et al., 2012; Liguori et al., 2018; Liñán and Fayolle, 2015). Its widespread application is associated with the integration of multiple theories and constructs under a unifying framework (Hackett and Lent, 1992; Lent and Savickas, 1994).

SCCT is a motivational theory driven by outcome expectations and intentions, where the context plays a central role in the decision making (Kassean et al., 2015), and represents those issues whose fundamental elements influence individuals' personal agency (Lent et al., 2002). Under this theory, context influences the relationship between intention and career behavior since the process by which individuals decide their career choices is influenced not only by intentions but also by environmental conditions. Generally, people pursue their interests and goals and act upon them if they



perceive a supportive environment. If, on the other hand, an individual perceives an environment hostile to career choices, the tendency is to give up or switch interests (Lent et al., 2000; Meoli et al., 2020).

Thus, the effect of contextual influences depends on the assessment of individuals and their response to an opportunity as a consequence of their interpretation (Lent, 2000). For instance, previous studies show that a father's support might influence the educational plans and career expectations of their student child (McWhirter et al., 1998), and faculty support can enhance the academic performance of its students (Hackett et al., 1992). By extension, individuals will be less interested in pursuing a particular career if they perceive that contextual factors are impeding their efforts.

Intentional theories, namely the TPB, have been widely applied in the entrepreneurship field to study entrepreneurial intentions (Fragoso et al., 2020). These theories place intentions at center stage but, as demonstrated in previous studies (Shirokova et al., 2016; Van Gelderen et al., 2015), intentions are only the starting point of new venture creation and, although necessary, are not sufficient on their own since there are other factors that influence the process. Like intention theories, SCCT recognizes the direct path between career choice intentions and career choice behavior, and the influence of the environmental context on how individuals' interests turn into career choices. Under SCCT, therefore, individuals' choices are influenced by the environmental context, and the relationship between intentions and career choices is positively affected by the number of proximal contextual influences. Lent et al. (1994) and Meoli et al. (2020) contend that the environmental context of individuals can be represented as a series of concentric circles to show the immediate social contacts (family, friends and other) and the social context (organizational and socio-economic).

Figure 1 represents the simplified scheme of our theoretical framework, and in the following paragraphs, a set of hypotheses are formulated on how career choice intentions and different contextual influences can enhance new venture creation.

**[Place Figure 1 about here]**

## **2.1. Career choice intentions**

Starting a new business is a process whereby individuals develop and are guided by intentions (Wurthmann, 2014). According to Gieure et al. (2020), this business venture may involve being self-employed, or being a partner in a business. Within that scope, entrepreneurial behavior is characterized by someone who starts his or her own business, as opposed to being an employee in an organization, or becoming a successor in an existing business.

Entrepreneurial intentions are a necessary criterion to embark upon a new venture creation process (Lee et al., 2011). Reasonable correlations between intentions and subsequent behavior can be found in the literature on intention (Gieure et al., 2020). SCCT argues that individuals' behaviour is driven by intentions in line with their objectives and hence career choice intentions can be used to study entrepreneurial behavior (Biraglia and Kadile, 2016). In the scope of this theory, intentions are considered a strong factor influencing career choice, namely to be an entrepreneur (Otache, 2019). Thus, building on SCCT, an individual's career choice is well predicted by career choice intentions (Bandura, 1986).

The intention to be an entrepreneur refers to the goal of developing a venture for income creation, and this may act as a positive predictor of entrepreneurial behavior (Ajzen and Sheikh, 2013). In this sense, career choice intentions can be seen as the impetus that directs the action toward a certain behavior, which means that a student's intention involves a predetermined and conscious process.

Thus, given the link between intentions and new venture creation, the following hypothesis is formulated based on career choice intentions:

**H1** – Compared to students with the intention of being an employee in an organization, those with the intention to become a founder are more likely to create a new venture.

## **2.2. Family background**

Family background belongs to the inner circle of the young entrepreneur's social context. Several studies have shown a significant positive influence of family background on entrepreneurial intentions and activities. Jena (2020) found that family has a significant positive influence on the relationship between entrepreneurial attitude and intention. Family business exposure is positively related to entrepreneurial intentions (Pfeifer et al., 2016).

Other studies have shown that having entrepreneurial parents is a strong determinant factor for an individual to become an entrepreneur (Greenberg, 2014; Sørensen, 2007). Eesley and Wang (2017) obtained significant results which revealed that a student from a family with an entrepreneurial background is more likely to create their own venture, or to be a partner in a new venture. Students from families with an entrepreneurial background have not only had contact with business norms and gained knowledge about how to run a business, but often have access to useful business networks. Since family background influences career preferences and contributes to the development of skills and business behaviors in career related tasks (Pérez López et al., 2019), these relationships lead us to formulate the following hypothesis:

**H2** – Having an entrepreneurial family background increases the likelihood of an individual creating a new venture.

### **2.3. Organizational influences**

In our proposed conceptual model, organizational influences, in particular those of the university environment, form the second circle that surrounds the social context of an individual. These influences are relevant to the development of the career choice process since universities are the specific organizational environments where students are embedded in curricular and non-curricular activities (Meoli et al., 2020).

Universities play a central role in promoting an entrepreneurial culture among students by providing several opportunities for them to develop their skills (Astebro et al., 2012; Eesley et al., 2016). Worldwide, universities have entrepreneurship programs and access to infrastructures that support entrepreneurial career choices (Eberhart et al., 2017; Merida and Rocha, 2021). This has been significant with regard to heightening students' perceptions of their environmental climate and thus influencing them to create their own ventures after graduation (Bergmann et al., 2018; Schaumburg-Müller et al., 2010). Among these activities, we highlight the opportunities provided to experience entrepreneurship and develop networks that could be important for new venture creation (Armanios et al., 2017; Shirokova et al., 2016).

Universities, therefore, have become a source of entrepreneurs among both academics and students alike. In addition, research also shows that the influence school and university peers have on career choices, including an entrepreneurial career, is long lasting (Brenoe and Zölitz, 2020; Kacperczyk, 2013). In the African context, universities also play a crucial role in promoting entrepreneurial activities such as self-employment and hence contribute to developing regional and national economies (Binks et al., 2006; Co and Mitchell, 2006; Dakung et al., 2017). Thus, we hypothesize that:

**H3a** – An entrepreneurial university environment increases the likelihood of an individual creating a new venture.

**H3b** – Effective program learning increases the likelihood of an individual creating a new venture.

#### **2.4. Social influences**

According to Campbell (1992), becoming an entrepreneur is one of the most complex, risky and unstructured decisions that an individual can take. Several studies argue that career choices, such as opting to become an entrepreneur, are influenced not only by an individual's proximal circles but also by the environment and his or her more remote social context (Lent et al., 2000; Meoli et al., 2020).

Among the contextual variables, subjective norms —the perceived social pressure regarding a given behavior— are positively and significantly related to the core variables of SCCT (Kassean et al., 2015). When deciding whether or not to become an entrepreneur, an individual considers the opinion of the important people or groups in their circle (Ajzen, 1991; Lindquist et al., 2015; Vladasel et al., 2021). Social norms are associated with social pressure from peers, family and others, who have relevant knowledge or entrepreneurial experience (Ajzen, 2011; Bosma et al., 2012; Rocha and Van Praag, 2020). Thus, as stronger positive subjective norms regarding entrepreneurship mean stronger intentions and behavior more inclined towards entrepreneurship, we formulate the following hypothesis:

**H4a** – Stronger positive subjective norms increase the likelihood of an individual creating a new venture.

Power distance is another relevant dimension associated with remote social context, which is related to cultural values. According to Hofstede (1980) and Stephan

and Pathak (2016), cultural values are shared ideals and long-term goals that develop certain personality traits and motivations. Power distance describes how individuals belonging to a given culture view power relationships (superior/subordinate). Individuals demonstrating a high power distance are respectful of authority and accept an unequal distribution of power, while individuals with a low power distance question authority and want to participate in decisions that affect them. Thus, power distance shows how a society accepts power differences and privileges (House et al., 2004).

Within the entrepreneurship literature, power distance is shown to have mixed influences on entrepreneurship. Scholars using Hofstede's model argued that power distance is one of the cultural dimensions that creates higher entrepreneurial orientations (McGrath et al., 1992). Rauch et al. (2013) found a positive effect of power distance on Total Entrepreneurial Activity (TEA) and female entrepreneurship. House et al. (2004) argue that power distance can increase individuals' job dissatisfaction and lead them to create their own ventures. Shneor et al. (2013) also state that high power distance, when associated with low individualism, high uncertainty avoidance, and low masculinity, is more conducive to entrepreneurial intentions and behavior. Other studies, however, find a negative association between power distance and entrepreneurship (Kreiser et al., 2010; Vinogradov and Kolvereid, 2007). Similar results were also achieved in the study of Calza et al. (2020), where power distance is one of the cultural dimensions that is considered to be a "reason against" entrepreneurship. However, the GLOBE study indicates that African countries have the highest preferences for power distance, while American countries have low to medium preferences (Thomas, 2015). Thus, we hypothesize:

**H4b** – Higher power distance increases the likelihood of an individual creating a new venture.

### **3. Research Design**

#### **3.1. Context**

Like in many other African countries, entrepreneurship in Algeria is the answer to unemployment, especially among young graduates because “they are the ones who hold knowledge and specific skills to create projects and are able to innovate” (Izzrech et al., 2013, p. 325). Entrepreneurship is commonly part of the higher education curricula and different organizations help higher education institutions to thrive. Despite these efforts, different cultural issues and socialist historic legacy make Algeria a 23% creator of new businesses per 100,000 inhabitants when compared to countries with a similar development level (Izzrech et al., 2013).

In Sierra Leone, higher education institutions are not seen as the key players in developing entrepreneurship skills and appetite among young people. Instead, given the extremely disadvantageous context (Kamara et al., 2022; Skran, 2020; Wai, 2021), the key players are the civil society organizations where entrepreneurship is at the lower level of technical and vocational education and training (Van der Veen and Datzberger, 2022).

South Africa is probably the African country where entrepreneurship originating at university has the highest rate and where more information is available about this phenomenon (Amadi-Echendu et al., 2016; Jatta and Uctu, 2013). This being so, education is acknowledged as one of the key ingredients to augment entrepreneurship in the country (Benedict and Venter, 2009).

### **3.2. Data and sample**

To test the hypotheses proposed in our conceptual model, we used data from the Global University Entrepreneurial Spirit Students' Survey (GUESSS) project. It is an international project, which was launched in 2003 by the Swiss Research Institute of Small Business and Entrepreneurship at the University of St. Gallen to collect data on entrepreneurship from among university students all over the world. Each participating country has one coordinator who invites the potential interested universities and is responsible for data collection in the country. The universities that accept the invitation complete their registration form and indicate the potential number of students that may participate. The survey is biannual and is conducted online.

The GUESSS project aims to systematically observe the entrepreneurial intentions and behaviors of university students, identify antecedents and any constraint conditions of the context, and observe and evaluate the entrepreneurial offers in the universities.

The data of GUESSS have been widely used in research on entrepreneurship by young adults. Zellweger et al. (2011) used GUESSS data to study career choice intentions and family business background. Laspita et al. (2012) used GUESSS data to explore the intergenerational transmission of entrepreneurial intentions. Edelman et al. (2016) is another study that used data from GUESSS to assess the impact of family support on the startup activities of young entrepreneurs.

In this study, we used a sample from the 2018 edition of the GUESSS project, which was applied to 208 thousand university students in 54 countries and 3000 universities all over the world. As our objective is related to entrepreneurship among African students, the sample comprised students from the participating African countries: Algeria, Sierra Leone, and South Africa. Only the observations with no



missing data across all variables were selected. However, incomplete data involves certain assumptions for the missing values. Usually, likelihood inference requires the “missing at random” (MAR) assumption. In general, since the MAR assumption is impossible to test, we tested the “missing completely at random” (MCAR) assumption as an alternative, using the Little’s test (Li, 2013; Little, 1988). The results of this test did not lead to a rejection of the null hypothesis, allowing us to conclude that the missing values are MCAR. Therefore, the missing values are independent of both the observed and unobserved data.

We have selected the intentional founders, i.e., respondents who intend to be an entrepreneur, and respondents who aim to be an employee in private businesses or public organizations. Thus, afterwards, we deleted all observations associated with the intentions to be a successor in an existing business and other intentions, or do not yet know. The adoption of these procedures resulted in a sample of 3068 students.

The Harman’s (1967) single factor test was performed for all variables considered in the regression to check the existence of common method variance. The results of the single factor test showed that one factor explains only 21.6% of the variance. This result is less than 50% of the explained variance, which is a good indicator that our data should not have problems of common method variance. Then a partial confirmatory factor analysis (Gignac, 2009) was conducted where seven factors with Eigen values greater than one were retained. These factors explain 54.2% of the variance and the first one explains 22.2%. The results of close-fit indexes, such as Root Mean Square Error of Approximation (RMSEA=0.037), Normed Fit Index (NFI=0.980), Turker-Lewis Index (TLI=0.963) and Comparative Fit Index (CIF=0.984) confirm the results of the Harman’s single factor test and allow us to believe that our data do not have problems of common method variance and are ready for analysis.

Table 1 presents the sample profile, where we can observe that the mean age of students is 27.5 years old with a standard deviation of 8.84 years. Most of the sample individuals are female (54.2%), are not full-time students (59.9%), are from South Africa (79.7%), and their religious preference is for Christianity (57.3%). The majority of students study Natural Sciences and Medicine (39.1%) or Social Sciences, Law and Arts (29.5%). Business and Economics is the main field of study for 19% of students.

**[Place Table 1 about here]**

### **3.3. Variables**

#### **3.3.1. Dependent variables**

To capture the nascent entrepreneurs in the GUESSS dataset, the students were asked the following question: “Are you currently trying to start your own business / to become self-employed?”. For the students that are trying to start a new business, the variable is coded as 1 and otherwise it is coded as 0. Since starting a new business is always a complex task, involving costs, bureaucracy, decision capacity and assumption of risks, in this study it is considered as a proxy for an entrepreneurial career.

#### **3.3.2. Independent variables**

In our theoretical model, the independent variables are the career choice intentions and the variables of social context. In the GUESSS dataset, career choice intentions are addressed by the following two questions: “Which career path do you intend to pursue immediately upon completion of your studies”, and “Which career path do you intend to pursue five years later?”. As response choices to these questions, GUESSS presents ten items. We started by aggregating these ten items into four items, including the following career intentions: “an employee in an organization”; “an entrepreneur in an own

business”; “a successor in an existing business”; and “other / do not know yet”. As the percentages of responses in the items “a successor in an existing business”; and “other / do not know yet” were relatively low, we deleted the corresponding cases from our database. Therefore, the variable of career choice intention includes two categories, which were coded as: 0 - “an employee in an organization”; and 1 - “an entrepreneur in an own business”.

In order to characterize the social context, we considered three layers: family background, organizational influences and social influences. To represent these contextual layers, five constructs were built by using composite variables obtained through the mean of corresponding items in the GUESSS project. Table 2 presents the items used to measure these constructs and the respective values of the Cronbach’s alpha coefficients.

**[Place Table 2 about here]**

The first layer is represented by the family background construct, which encompasses two items that capture whether the student’s parents are self-employed and whether they are majority owners of a business. The answers to both questions were codified as 0 - "no", 1 - "yes, father", 2 - "yes, mother" and 3 - "yes, both". This variable was operationalized using only one factor with an eigenvalue of 1.784, which retains 89.2% of the total variance.

The second layer, organizational influences, is associated with the constructs of university environment (Franke and Lüthje, 2004) and program learning (Souitaris et al., 2007). The construct of university environment measures the entrepreneurial climate in the university, namely whether it is favorable to entrepreneurship by encouraging students to engage in entrepreneurial activities and inspiring them to develop ideas for a new business. The construct of program learning measures the effectiveness of the

courses students attend with regard to promoting an entrepreneurial spirit, developing the skills to start and manage a business and the ability to develop networks and identify an opportunity. Both constructs are measured through a Likert scale of 7 items, where 1 is “not at all” and 7 is “very much”.

The layer of social influences is associated with the constructs of subjective norms (Liñán and Chen, 2009) and power distance (House et al., 2004). The construct of subjective norms assesses how a student’s close family, friends and fellow students would react if they were to pursue a career as an entrepreneur, and it is measured on a Likert scale of 7 items, where 1 is “very negatively” and 7 is “very positively”.

In the GUESSS questionnaire, the construct of power distance includes three items representing two opposing positions associated with contributions to society: the right to own opinions, and shared power *versus* authority positions, single thought and power concentrated at the top. The statements are assessed on a 7-point scale.

The Cronbach’s alpha coefficient is the most common measure of reliability, and is used to assess the level of internal consistency (Cronbach, 1951). For all five constructs of the social context, the Cronbach’s alpha coefficients are greater than 0.7, with the highest value (0.914) being obtained for the construct of program learning, and the lowest value was 0.713 for the construct of power distance. These results allow us to consider that the five constructs modeling the social context have a good degree of internal consistency in the scope of the sample used.

### **3.3.3. Control variables**

As in other previous studies, we controlled for age (Lévesque and Minniti, 2006) and gender (Schlaegel and Koenig, 2014) since both influence the behavior of a new business launch. The latter was considered a dummy, coded as 1 for females and as 0

for males. The field of study can affect the entrepreneurial behavior (Edelman et al., 2016), and for this variable, we considered the following four categories: 0 – “Business and Economics”; 1 – “Natural Sciences and Medicine” (Computer Sciences, Engineering and Architecture, Human Medicine and Health Sciences, Mathematics and Natural Sciences); 2 – “Social Sciences, Law and Arts/Humanities”; and 3 – “Others”. *Marital status* and *whether the student is enrolled in a full time program* were also controlled for. Both variables were introduced in the model as dummies. Marital status was coded as 1 for “married or in a registered partnership” and as 0 for “single or divorced”. There are also two categories of student status, which were coded as 1 for “full-time student” and as 0 for “student that has a regular job in addition to studies”.

#### **4. Results**

As our dependent variable is dichotomous, a logit regression model was specified to analyze the likelihood of a university student creating a new venture in Africa. The descriptive statistics and the logit regression were performed using the SPSS software, version 24. Before specifying the logit model, the multicollinearity was tested by analyzing the correlations between the variables of the conceptual model, and by using the variance inflation factor (VIF). Table 3 presents the descriptive statistics, and Table 4 the pairwise correlations between the variables considered in our conceptual model.

**[Place Table 3 about here]**

Among the 3068 students that comprise our sample, 53.1% are currently trying to start their own business or become self-employed. However, career choice intentions right after studies show that most students intend to become an employee in an organization, and only 16.9% want to be a founder in an own business. More aligned with the result of our dependent variable are the career choice intentions five years after

completing studies. In this case, 52.7% of students intend to be a founder in an own business and 47.3% aspire to be an employee in an organization. This is an interesting result, that shows students initially want to get some experience working in an organization before creating a new venture, but the lack of employment opportunities in African countries led them to create a business earlier.

The contextual variables, with the exception of family background present a normal distribution since their skewness values are within the range of -1 and 1. The variable of family background presents a low mean value (0.42), which represents only 14% of its maximum value (3.00) and 52% of the standard deviation (0.81). This result indicates that only a small percentage of students' parents are self-employed and are majority owners of a business. The values of the variables associated with organizational influences show that students have a positive perception of universities and program learning since the scores of both constructs are above 4 on a seven-point scale. Finally, the variables associated with social influences present a mean score of 4.64 for power distance and 5.48 for subjective norms. These results mean that on average, this sample of students shows a high power distance, and peers, family and friends react well to their (potential) decision to become an entrepreneur.

The pairwise correlations of Table 4 show that the independent variables are weakly correlated between them. The strongest correlations occur between the variables of age and full-time student (-0.592), age and marital status (0.564), and between the variables of university environment and program learning, where the correlation index is 0.634. However, all values of the VIF indicator are well below the cut-off value equal to 5 proposed by Studenmund (1992), guaranteeing that multicollinearity is not a problem.

**[Place Table 4 about here]**

Tables 5 and 6 present the results obtained for the estimations of our logit model. Table 5 is related to the inclusion of the independent variable of career choice intentions immediately upon completion of studies (models 1-3), and Table 6 includes career choice intentions five years after completion of studies (models 4-6). The coefficients reported in these tables are the exponentiated coefficients, that is, the odds ratio (OR) and the respective confidence intervals at a 95% confidence level. In addition, some quality indicators are also presented, such as -2 Log-likelihood, Chi and the MacFadden's pseudo R<sup>2</sup>. Models 1 and 4 include only the control variables and career choice intentions, while models 2 and 5 also include the variables of the social context. Finally, models 3 and 6 are simplified models including only the significant variables that were obtained by using the Forward Likelihood Ratio Method, and can be used to estimate the probability of an individual creating a new venture.

**[Place Table 5 about here]**

**[Place Table 6 about here]**

In model 1, the significant variables are gender, field of study and career choice intentions. With regard to gender, females are less likely to become entrepreneurs than males (OR: 0.555 and  $p < 0.01$ ). Regarding the field of study, the students of Social Sciences, Law and Arts have a 20.4% lower chance (OR: 0.796 and  $p < 0.05$ ) of becoming an entrepreneur than students of Business and Economics. Finally, a student who has as career choice intention to be a founder and work in one's own business right after studies has an almost five times higher chance (OR: 4.944 and  $p < 0.01$ ) to be a nascent entrepreneur (i.e., to currently try to start one's own business) than a student that intends to be an employee in an organization right after studies.

Model 2 is a complete model that comprises all variables explaining new venture creation. In this model, the only control variable that is statistically significant is gender (OR: 0.575 and  $p < 0.01$ ), showing again that males are more likely to start a new venture than females. As in model 1, career choice intention is a statistically significant variable (OR: 4.981) at less than 1% significance level. This result shows support for hypothesis H1, which states that compared to students with the intention of being an employee in an organization, those with the intention to become a founder are more likely to create a new venture.

The next step of the analysis tested the influences social context has on new venture creation. Contrary to our expectations, the results of model 2 show that the influence of family background on new venture creation is not statistically significant. This leads us to reject hypothesis H2, which states that family background increases the likelihood of an individual creating a new venture.

As previously stated, organizational influences were modelled considering the constructs of the university environment and program learning. The variable university environment in model 2 is not statistically significant, which does not lend support for H3a. Based on this result, we therefore reject H3a, which states that an entrepreneurial university environment increases the likelihood of an individual creating a new venture. However, the results for the variable of program learning are statistically significant at a level of at least 1% significance, which shows support for H3b. According to this hypothesis, the students that attended effective program learning related to business creation and management have a higher propensity (OR: 1.141) to start a new venture than those that did not.

In our model, societal influences are captured by the weight that the variables of subjective norms and power distance have on the likelihood of creating a new venture.



Subjective norms is not a statistically significant variable; this leads us to reject hypothesis H4a, which argues that stronger subjective norms increase the likelihood of an individual creating a new venture. Conversely, power distance is statistically significant and has a positive influence (OR 1.086) on new venture creation at a 1% significance level. This result supports hypothesis H4b, which states that higher power distance increases the likelihood of an individual creating a new venture. Thus, in the African context where society is more authoritarian, leaders are obeyed without question and the power is concentrated at the top, there is a higher probability that a university student will become a founder of their own business.

The results of model 3, which only comprises the statistically significant variables of model 2, confirm the results of previous models concerning the most influential variables on the likelihood of creating a new venture.

As mentioned previously, models 4-6 assess the influence of career choice intentions five years after studies on current new venture creation. In these models, the influences of control variables are similar to those observed in the three previous models for career choice intentions right after studies have been completed. Similar to models 1-3 in Table 5, the results also support hypothesis H1 and H3b, and lead to the rejection of hypotheses H2 and H3a. However, in model 5, at the level of societal influences, the variables of subjective norms and power distance are statistically significant at 5% and 1% significance levels, respectively. However, it should be noted that the odds ratio of subjective norms is 0.938, meaning that stronger subjective norms do not increase the likelihood of an individual creating a new venture, which leads to rejecting hypothesis H4a.

## **5. Discussion and Conclusions**

The process of becoming an entrepreneur is complex because it involves many factors, such as intentions and environmental conditions. Adopting a framework based on the social cognitive career theory, this study analyzes the influence that career choice intentions and social context have on new venture creation. For the social context, several circles were considered. These involved family background, organizational influences and societal influences. Organizational influences take into account the university environment (supportiveness to entrepreneurial activity) and program learning (effectiveness of entrepreneurship education courses). Societal influences comprise subjective norms and power distance.

This study addressed the African context by using data from the 2018 Global University Entrepreneurial Spirit Students' Survey (GUESSS). The hypotheses were tested through a logit regression model where current new venture creation specified as a dichotomous variable was considered the dependent variable.

The results allowed us to draw conclusions about the influence that gender has on new venture creation. As in other contexts, males are more likely to start a new venture than females. This is a result commonly accepted in the literature (Gupta et al., 2009; Shirokova et al., 2016; Zhao et al., 2005). Alexander and Honig (2016) also found that in an African context, women are less predisposed than men to engage in entrepreneurial activities. What is more, they provide evidence that career choice intentions to be a founder in an own business is a good predictor of new venture creation. Several studies that have examined the direct link between intention and behavior reached the same conclusion (Kautonen et al., 2010; Meoli et al., 2020). However, with entrepreneurship being a complex phenomenon, subject to uncertainty

and without immediate outcomes, intention alone is not an ideal predictor of entrepreneurial behavior (Orbell et al., 1997).

In several previous studies, having an entrepreneurial family background has a positive effect on entrepreneurial intention and hence on new venture creation (Edelman et al., 2016; Laspita et al., 2012). However, this proved not to be the case here. Our results showed that family background is not a determining factor for creating a new venture in the African context. In fact, the African context is very complex and the diversity of ethnicities brings different cultural perspectives to bear on entrepreneurial activities (Mungai, 2013). There are also recent studies on the relationship between firm growth and performance (Davidsson et al., 2010) that found a negative effect between family financial support and startup activities. What might play a role here as well is that offspring is discouraged to enter entrepreneurship if they see their parents struggle to keep the family business running, as a career as an entrepreneur can be hard (Cieslik and Van Stel, 2017).

The circle of organizational influence positively affects new venture creation, especially due to the significant role of program learning. Becoming an entrepreneur is a learning process, where students learn and acquire entrepreneurial skills such as entrepreneurial spirit, creativity, risk propensity, problem solving and business networking (Gieure et al., 2020). Program learning is a very important initiative since it equips students with the skills required to engage in entrepreneurial activities (Elmuti et al., 2012). Our empirical analysis found a clear positive relationship between program learning and new venture creation among university students in Africa.

Regarding social influences, power distance was found to have a positive influence on new venture creation in the African context, particularly when it comes associated with low individualism, high uncertainty avoidance, and low masculinity

(Shneor et al., 2013). This result is in accordance with other studies that argue that African countries have a preference for high power distance (Thomas, 2015). Subjective norms were not found to be a significant variable with regard to enhancing the likelihood of a university student creating a new venture. Alexander and Honig (2016), also in an African context, found in a direct link that subjective norms have an insignificant role as a predictor of entrepreneurial intentions.

A key result of our research, stemming from Table 3, is the one showing that in these African countries career choice intentions immediately after studies and after five years are seriously influenced by the lack of employment opportunities in the formal labor market. This had been somehow intuitively spotted in other studies (e.g., Brixiová et al., 2015; Verheul et al., 2011) but no formal hypothesis testing had previously been conducted on this.

The present study contributes to understanding the link between career choice intentions and behaviors, namely with regard to the direct role that social context plays. It provides a framework, based on social cognitive career theory, which allows us to give a career perspective on entrepreneurial behavior. It is also one of the few studies that explores entrepreneurship and career choice intentions in the African context. This study also has implications for various actors. For researchers, the results confirm that distinguishing two levels of analysis —career choice intentions and social context— is important to understand how individuals transform their career choice intentions into venture creation. According to social cognitive career theory, the former is associated with the effects of personal agency in the career development process, and the latter with additional factors, such as contextual influences that affect career choice behavior.

In addition, our results should be of interest to universities and policymakers. Universities need to keep creating conditions that are favorable to developing

entrepreneurial processes. Our finding that program learning positively influences new venture creation suggests that universities and schools might play a relevant role in promoting entrepreneurial intention among university students. Appropriate education and training programs can supply students the knowledge, skills and practical experience necessary for entrepreneurial processes and hence for improving entrepreneurial intention (Jena, 2020).

Our study has several limitations that nevertheless shed light on new research perspectives. For instance, the role the family plays regarding choosing a career as an entrepreneur may not be limited to the entrepreneurial family background. Further studies should include other measures that would clarify the role of the family in the process of transforming intentions into entrepreneurial behavior, such as social class, educational level, wealth, and social and financial support of the family. Further studies should also explore social influences better, and include variables associated with the regional socio-economic dynamics. Another limitation is related to the characteristics of the GUESSSS dataset, which until 2018 did not allow for longitudinal studies. A cross-sectional study does not allow identification of the dynamics of the development process that underlie career choices. Also related to the database, is the fact that GUESSSS does not have a measure of the entrepreneurs' wealth or financial support. Despite these limitations, however, we show that choosing whether to start a new venture in the African context is affected by career choice intentions and by some social context issues (power distance) and organizational influences, in particular the effectiveness of entrepreneurship education courses.

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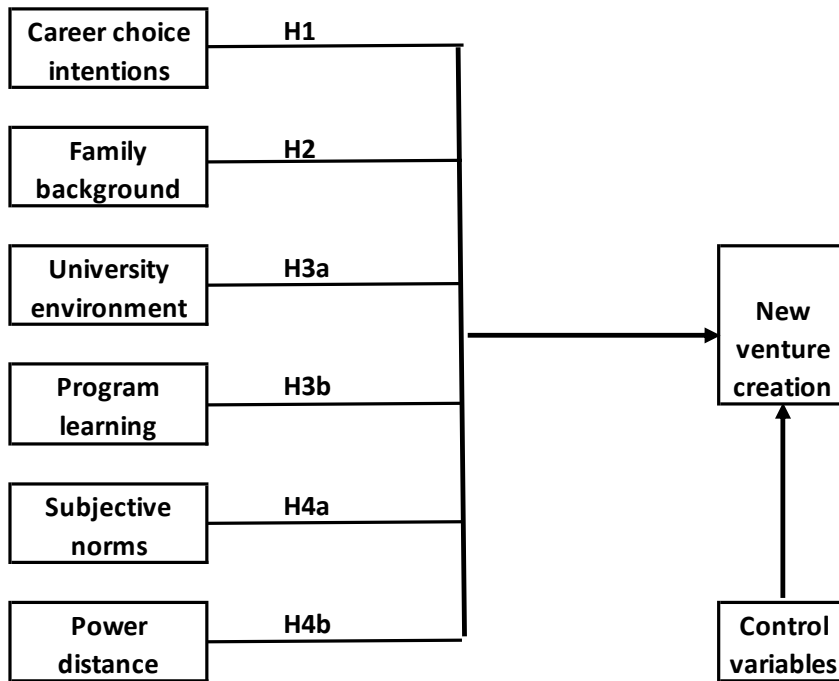
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**Figure 1. Conceptual model**



**Table 1. Sample profile (N=3068)**

	Mean	Max	Min	S.D.	Frequency	Percentage
Age	27.5	59	16	8.84		
Gender:						
Male					1406	45.8
Female					1662	54.2
Marital stage:						
Single and divorced					2423	79.0
Married and registered					645	21.0
Partnership						
Full time student:						
Yes					1230	40.1
No					1838	59.9
Field of study:						
Business and Economics					583	19.0
Natural Sciences and Medicine					1201	39.1
Social sciences, Law and Arts					905	29.5
Other					379	12.4
Country:						
Algeria					556	18.1
Sierra Leone					68	2.2
South Africa					2444	79.7
Religion:						
Christianity					1757	57.3
Islam					658	21.4
Other					640	20.9

**Table 2. Items and values of Cronbach's Alpha for composite variables (N=3068)**

	Cronbach's Alpha
<b><i>Family Background:</i></b>	<b><i>0.892</i></b>
Are your parents self-employed? No; Yes, father; Yes mother; Yes, both	
Are your parents majority owners of a business? No; Yes, father; Yes mother; Yes, both	
<b><i>University Environment:</i></b>	<b><i>0.880</i></b>
The atmosphere at my university inspires me to develop ideas for new businesses.	
There is a favorable climate for becoming an entrepreneur at my university.	
At my university, students are encouraged to engage in entrepreneurial activities.	
<b><i>Program Learning:</i></b>	<b><i>0.914</i></b>
The courses and offerings I attended increased my understanding of the attitudes, values and motivations of entrepreneurs.	
The courses and offerings I attended increased my understanding of the actions someone has to take to start a business.	
The courses and offerings I attended enhanced my practical management skills to start a business.	
The courses and offerings I attended enhanced my ability to develop networks.	
The courses and offerings I attended enhanced my ability to identify an opportunity.	
<b><i>Subjective Norms:</i></b>	<b><i>0.757</i></b>
If you would pursue a career as an entrepreneur, how would your close family react?	
If you would pursue a career as an entrepreneur, how would your friends react?	
If you would pursue a career as an entrepreneur, how would your fellow students react?	
<b><i>Power Distance:</i></b>	<b><i>0.713</i></b>
In my society, a person's influence is based primarily on: - Ability and contribution to society; or - Authority of one's position.	
In my society, followers are expected to: - Question leaders when in disagreement; or - Obey leaders without question.	
In my society, power is: - Shared throughout society; or - Concentrated at the top	



**Table 3. Descriptive statistics (N=3068)**

	Mean	S.D	Min	Max	Frequency	Percentage
<b><i>Dependent variable:</i></b>						
New venture creation: Yes					1630	53.1
No					1438	46.9
<b><i>Independent variables:</i></b>						
Career choice intentions right after studies:						
Employee in an organization					2548	83.1
Founder in an own business					520	16.9
Career choice intentions 5 years after:						
Employee in an organization					1452	47.3
Founder in an own business					1616	52.7
Family background	0.42	0.81	0.00	3.00		
University environment	4.09	1.71	1.00	7.00		
Program learning	4.36	1.70	1.00	7.00		
Subjective norms	5.48	1.28	1.00	7.00		
Power distance	4.64	1.70	1.00	7.00		

**Table 4. Pairwise correlations**

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1. Age	1.000	-0.118	0.037	-0.592	0.564	0.125	0.028	-0.018	0.097	0.122	0.033	-0.028	0.046
2. Gender	-0.118	1.000	0.101	0.076	-0.055	-0.118	-0.090	0.028	-0.115	-0.125	-0.027	0.023	-0.154
3. Field of Study	0.037	0.101	1.000	-0.030	-0.006	-0.077	-0.062	-0.069	-0.028	-0.083	-0.008	-0.065	-0.045
4. Full-time student	-0.592	0.076	-0.030	1.000	-0.396	-0.085	-0.098	-0.004	0.010	-0.061	0.028	0.004	-0.084
5. Marital status	0.564	-0.055	-0.006	-0.396	1.000	0.073	0.011	0.033	0.026	0.061	-0.008	0.009	0.019
6. Career choice intentions after studies	0.125	-0.118	-0.077	-0.085	0.073	1.000	0.309	0.027	0.086	0.104	0.009	0.004	0.298
7. Career choice intentions 5 years later	0.028	-0.090	-0.062	-0.098	0.011	0.309	1.000	0.089	0.067	0.097	0.051	-0.005	0.342
8. Family background	-0.018	0.028	-0.069	-0.004	0.033	0.027	0.089	1.000	-0.028	-0.045	0.038	-0.014	0.031
9. University environment	0.097	-0.115	-0.028	0.010	0.026	0.086	0.067	-0.028	1.000	0.634	0.294	-0.077	0.069
10. Program learning	0.122	-0.125	-0.083	-0.061	0.061	0.104	0.097	-0.045	0.634	1.000	0.273	-0.056	0.126
11. Subjective norms	0.033	-0.027	-0.008	0.028	-0.008	0.009	0.051	0.038	0.294	0.273	1.000	-0.008	-0.017
12. Power distance	-0.028	0.023	-0.065	0.004	0.009	0.004	-0.005	-0.014	-0.077	-0.056	-0.008	1.000	0.041
13. New venture creation	0.046	-0.154	-0.045	-0.084	0.019	0.298	0.342	0.031	0.069	0.126	-0.017	0.041	1.000

**Table 5. Logit Model Results: New venture creation (0/1) and career choice intentions right after studies**

	Model 1			Model 2			Model 3		
	Odds Ratio	95% CI for Odds ratio		Odds ratio	95% CI for Odds ratio		Odds ratio	95% CI for Odds ratio	
		Lower	Upper		Lower	Upper		Lower	Upper
Age	0.998	0.987	1.010	0.997	0.985	1.008	-	-	-
Gender: Female	0.555***	0.480	0.642	0.575***	0.496	0.668	0.572***	0.495	0.663
Field of Study: Natural Sciences and Medicine	0.910	0.741	1.117	1.023	0.828	1.265	-	-	-
Field of Study: Social sciences, Law and Arts	0.796**	0.636	0.972	0.886	0.712	1.104	-	-	-
Field of Study: Other	1.024	0.791	1.326	1.121	0.861	1.461	-	-	-
Full-time student	0.861	0.717	1.033	0.861	0.715	1.037	-	-	-
Marital status: Married and registered partnership	0.895	0.724	1.108	0.897	0.722	1.114	-	-	-
Career choice intentions: Entrepreneur	4.944***	3.993	6.122	4.981***	3.999	6.203	4.972***	4.000	6.180
Family background	-	-	-	1.030	0.939	1.129	-	-	-
University environment	-	-	-	1.022	0.968	1.079	-	-	-
Program learning	-	-	-	1.141***	1.078	1.207	1.150***	1.102	1.201
Subjective norms	-	-	-	0.968	0.912	1.027	-	-	-
Power distance	-	-	-	1.086***	1.040	1.134	1.085***	1.039	1.132
Constant	1.230	-	-	0.479**	-	-	0.345***	-	-
-2 Log likelihood	4286.56	-	-	4174.67	-	-	4184.45	-	-
Chi	5.507	-	-	9.135	-	-	11.260	-	-
Pseudo R <sup>2</sup> (MacFaden's)	0.079	-	-	0.092	-	-	0.089	-	-

Notes: Significance levels \* p < 0.1; \*\* p < 0.05; \*\*\* p < 0.01.

The reference group for field of study is Business and Economics.

**Table 6. Logit Model Results: New venture creation (0/1) and career choice intentions 5 years after studies**

	Model 4			Model 5			Model 6		
	Odds ratio	95% CI for Odds ratio		Odds ratio	95% CI for Odds ratio		Odds ratio	95% CI for Odds ratio	
		Lower	Upper		Lower	Upper		Lower	Upper
Age	1.008	0.997	1.019	1.007	0.996	1.019			
Gender	0.551***	0.476	0.639	0.574***	0.494	0.667	0.560***	0.483	0.649
Field of Study: Natural Sciences and Medicine	0.955	0.777	1.174	1.066	0.861	1.320			
Field of Study: Social sciences, Law and Arts	0.786***	0.635	0.973	0.878	0.704	1.094			
Field of Study: Other	1.033	0.796	1.341	1.109	0.849	1.449			
Full-time student	0.966	0.803	1.162	0.973	0.806	1.174			
Marital status: Married and registered partnership	0.928	0.748	1.151	0.930	0.747	1.158			
Career choice intentions: Entrepreneur	3.659***	3.161	4.235	3.662***	3.153	4.254	3.656***	3.153	4.240
Family background				0.977	0.890	1.072			
University environment				1.015	0.961	1.073			
Program learning				1.137***	1.074	1.204	1.154***	1.103	1.207
Subjective norms				0.938**	0.883	0.995	0.937**	0.884	0.994
Power distance				1.091***	1.045	1.139	1.090***	1.043	1.138
Constant	0.556***			0.260***			0.310***		
-2 Log likelihood	4220.57			4112.55			4120.32		
Chi	7.603			9,462			4.824		
Pseudo R <sup>2</sup> (MacFaden's)	0.093			0.105			0.106		

Notes: Significance levels \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

The reference group for field of study is Business and Economics.

