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**Article:**

Biraglia, A and Kadile, V (2017) The Role of Entrepreneurial Passion and Creativity in Developing Entrepreneurial Intentions: Insights from American Homebrewers. *Journal of Small Business Management*, 55 (1). pp. 170-188. ISSN 0047-2778

<https://doi.org/10.1111/jsbm.12242>

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## **Introduction**

The determinants of entrepreneurial career choice form a complex web of various explanatory concepts. Entrepreneurship scholars and vocational psychologists have been searching for specific constructs of both individual characteristics and the external environment that are unique to prospective, novice entrepreneurs. Several antecedents of entrepreneurial intentions have been identified in recent studies, including entrepreneurship education (Bae, Qian, Miao, and Fiet 2014; Souitaris, Zerbinati, and Al-Laham 2007), regional environmental factors (Begley, Tan, and Schoch 2005; Mueller, 2006), cognition in the opportunity recognition process (Zahra, Korrib, and Yuk 2005; Teng 2007), locus of control, tolerance for ambiguity, creativity (Vesalainen and Pihkala, 1997), and entrepreneurial passion (Shane, Locke, and Collins 2003; Cardon, Dzietsma, Saporito, Matherne, and Davis 2005; Cardon, Wincent, Singh, and Drnovsek 2009).

Even though passion is very important for venture creation and growth (Cardon, Wincent, Singh, and Drnovsek 2009), literature has barely begun to uncover the most exciting questions concerning entrepreneurial passion, namely how and to what extent it can develop and influence entrepreneurial intentions in those people who are not formally and actively yet entrepreneurs. The authors apply social cognitive theory (SCT) developed by Bandura (1986; 2012) to address this gap and to capture both person and environment factors that form entrepreneurial career choice. SCT posits that learning occurs in a social context with a dynamic and reciprocal interaction of the person, environment, and behavior. Based on the above, we focus on the potential transition from practicing a hobby to the stage of developing entrepreneurial career intentions, facilitated by environment factors and person inputs of entrepreneurial passion and creativity. This study examines the role of entrepreneurial passion and creativity representing person factors interacting with the specific context of a leisure activity - homebrewing, which refers to the production of fermented beverages for non-commercial trade (American Homebrewers Association, 2014). In the United States particularly, this hobby is seen as a generator of business start-up intentions for craft breweries and microbreweries (McIntosh 1995). The number of independent breweries in the United States has gone through an exponential increase, with a 22.6 per cent growth from 2012 to 2013 only, with an impact of \$33.9 billion to the U.S. economy in 2012, and 108,440 estimated people employed in this sector (American Brewers Association 2014). We decided to study the role of a particular context in the development of

entrepreneurial intentions in line with one of the future research directions suggested by Fayolle and Liñán (2014: p.664).

Entrepreneurial passion is defined as “consciously accessible intense positive feelings experienced by engagement in entrepreneurial activities associated with roles that are meaningful for the self-identity of the entrepreneur” (Cardon, Wincent, Singh, and Drnovsek 2009: 515). The core argument of this paper is built on the premise that the passion for entrepreneurial activities, such as exploring new market ideas, sourcing founding capital, and establishing and developing new products (Cardon, Wincent, Singh, and Drnovsek 2009; Cardon, Gregoire, Stevens, and Patel 2013), can lead individuals to become entrepreneurs. Based on the research by Cardon and colleagues (2013), who conceptualized, developed, and validated a scale to measure entrepreneurial passion, this paper, to the best of our knowledge, is among the first to capture the impact of entrepreneurial passion on the choice of pursuing an entrepreneurial career. Cardon and colleagues operationalized this construct into passion for inventing- searching for a new business opportunity in new markets, founding- establishing a new business, and developing an already existing one (Cardon, Gregoire, Stevens, and Patel 2013). Specifically, since our research focuses exclusively on individuals who may become (but are not yet) entrepreneurs, only the founding dimension will be under scrutiny within this paper, because passion for inventing as conceptualized in Cardon et al. (2013) does not capture the establishment of a new venture in the already known business setting, but rather includes the search for business opportunities in new markets. Notably, this research focuses on the context of a particular hobby - homebrewing in the United States - seen as an ‘incubator’ of business start-ups in the craft brewing industry, which serves as an already established market segment. As a result, the authors advance the conceptual foundations of entrepreneurial passion as this research empirically tests one dimension of the scale, applying it to the setting of business intentions and uncovers its practical implications in the area of entrepreneurial career choice.

Entrepreneurial intentions refer to “the specific target behavior of starting a business” (Krueger, 1993: 6). Intentions help in predicting the actual behavior and reflect commitment toward future actions. While entrepreneurial passion as an affective state represents the general positive emotion or feeling of towards founding a business, entrepreneurial intentions are action-oriented and relate to specific venture creation or acquisition plans (Cardon, Wincent, Singh, and Drnovsek 2009; Krueger

1993). Therefore, the two concepts refer to distinctively different notions. Individuals who are passionate about entrepreneurial activities may, or may not, form the intention of starting a business, depending on some facilitating or obstructing factors. Therefore, this paper adds to the existing knowledge by utilizing some of those factors to evaluate the degree to which individuals who are passionate about founding a business are actually intending to do so under certain circumstances.

The paper also advances the literature in the field by examining whether creativity, in addition to entrepreneurial passion, constitutes an individual factor affecting business start-up intentions and assesses whether these effects are mediated by entrepreneurial self-efficacy. In line with SCT, the authors aim to understand how self-efficacy facilitates the relationship between individuals' passion for entrepreneurship and business start-up intentions.

In the sections that follow, the authors define key concepts and theoretical background of the paper. Then, SCT is extended, in order to explore how entrepreneurial passion can lead an individual into a business start-up, and what connections exist between entrepreneurial passion, entrepreneurial self-efficacy and creativity in relation to entrepreneurial intentions. Then, hypotheses are formulated and integrated into a conceptual model. Finally, the empirical study is presented with results of the proposed model, followed by a discussion of the findings and conclusions.

### **Theoretical Background and Hypotheses Development**

Understanding what leads individuals to undertake entrepreneurial careers constitutes an important inquiry in entrepreneurship research (Krueger 1993; Zhao, Seibert, and Hills 2005; Shane, Locke, and Collins 2003; Lee, Wong, Fu, and Leung 2011). The career choice decision is based on a complex web of interrelated factors, both internal and external. It means that along with internal predispositions toward entrepreneuring, environmental clues play an important role in creating entrepreneurial potential. In the formulation of Social Cognitive Theory (SCT), Bandura postulates that learning, motivational, and behavioral processes are the result of the reciprocal and bidirectional interaction of three different components: 1) environmental inputs; 2) personal factors; and 3) behavioral outcomes (Bandura 1989; 2006). SCT provides an overarching theoretical framework where career choice is a result of a dynamic interplay among those three components, as depicted in Figure 1.

**[insert Figure 1.]**

Environmental inputs include all those elements related to the social and cultural world where an individual grows up and lives, such as the school attended, his or her interaction with social groups and so on. People learn and associate themselves with others, being a part of the broader environment. This happens as a result of both direct and vicarious exposure within a particular social setting. In the context of entrepreneurial career choice, direct interactions encompass personal conversations and knowledge-sharing with other entrepreneurs, as well as taking related University courses. Vicarious interactions, instead, refer to the information individuals gather by observing other people's behavior and its consequences (Bandura 1989; 2012), such as reading about people who started their own business or being inspired by the entrepreneurial achievements of others. In turn, certain behavior also shapes the environment itself due to the bidirectional relationship among the three components of SCT. As an example, when some people decide to start an entrepreneurial career, they reinforce this mechanism, creating a situation other potential entrepreneurs can learn from. Homebrewing communities in the United States portray a specific context in which this mechanism is particularly pertinent, since members are regularly exposed to the information and the achievements of those individuals who managed to convert their hobby into an entrepreneurial career. Notably, these nascent entrepreneurs still maintain a strong tie with home brewing communities through organizing events, providing feedback and proposing collaborations after turning their hobby into business, thus influencing other members both personally and vicariously. However, in addition to these important external inputs and social ties, SCT argues that there are certain personal factors that might shape individual intent.

Personal factors comprise physical characteristics, such as age, size, race, sex, profession and physical attractiveness, as well as human expectations, beliefs, emotional states and cognitive competencies that determine overall assessment of the external environment and the decision to undertake a particular behavior. Cognitive competencies and emotional states in particular can play an important role in recognizing environmental clues and making decision to engage in specific behaviors. Along with the key demographic characteristics, this research focuses on entrepreneurial passion as being an important emotion among both novice and serial entrepreneurs (Thorgrén and

Wincent, 2013). In addition, creativity is also seen as an important personal factor, which is often discussed as relevant for entrepreneurial intent or behavior because it is linked with identification of opportunities that lead to the establishment of new firms (Ko and Butler, 2007). The presence of creativity might lead an individual to become an entrepreneur, when engaged in the active idea generation and problem solving processes. In other words, creativity could influence individuals' intentions to engage in business venturing. Finally, self-efficacy, which refers to the beliefs about one's ability to accomplish particular tasks, constitutes a unique element of SCT (Bandura 1997). This assessment of personal capabilities directs people to prepare and enter occupations in which they have a certain level of competence, supporting the transition from hobby to business in this particular context. At the same time, self-efficacy is also influenced by other individual and environmental factors, such as social modeling and vicarious experiences, which could act as both barriers and facilitators. Self-efficacy therefore represents a psychological mechanism that is essential for individuals to realize that they are capable of performing certain behaviors.

Concerning the behavioral dimension of SCT, Bandura (1986) conceptualizes it as an outcome of a three-way reciprocal interaction between personal inputs and contextual factors, as well as past experience. Past behaviors can impact future intents and acts through an increase in perceived self-efficacy. In order to successfully perform a behavior, a person must know what to do and how to do it. The more an individual performs an activity, the more likely is she or he to feel self-efficacious about it, since the evaluation of confidence in one's abilities is strengthened by learning, practicing and receiving feedback from others. Betz and Hackett (1986) claim stronger beliefs of self-efficacy to be associated with a wider array of career options that individuals consider to be possible to undertake. In our research, entrepreneurial career choice is considered as a behavior of interest, which could be influenced by the past behavior of engagement in the hobby.

Based on the above, the authors conceptualize SCT in a particular hobby context by focusing on important personal inputs, namely entrepreneurial passion, creativity, and self-efficacy, which, along with the environmental factors, influence the development of entrepreneurial intentions. In the sections that follow, we discuss the key concepts identified in details.

## **Entrepreneurial Passion**

Entrepreneurial passion constitutes a distinctive emotion that is common among entrepreneurs (Cardon, Gregoire, Stevens, and Patel 2013). Cardon and colleagues (2009) argue that individuals who experience entrepreneurial passion have positive intense feelings in relation to the entrepreneuring activities they are involved in and a strong motivational drive to follow those feelings. The construct measurement was developed based on three dimensions of the identity type of the actual or potential entrepreneur – inventing, founding and developing a business. As our research focuses exclusively on individuals who are not yet entrepreneurs and on gaining an understanding of nascent entrepreneurial intentions, only the founding dimension will be under scrutiny within this paper, which deals with the process of establishing a business (Cardon, Gregoire, Stevens, and Patel 2013; Breugst, Domurath, Patzelt, and Klaukien 2012).

Entrepreneurial passion as an affective state represents one of the personal factors within the SCT framework (Bandura 1989) and can sometimes help overcome certain barriers associated with new business establishment (Shane, Locke, and Collins 2003; Baum and Locke, 2004). Passion is likely to mobilize the needed energy for prospective entrepreneurs to overcome challenging situations by dealing with uncertainties and setbacks in the gathering of financial, human, and social resources (Cardon, Wincent, Singh, and Drnovsek 2009). In other words, during the development of entrepreneurial intentions, passion can lead to a narrower focus on the actual venture creation, without necessarily considering any contingencies or obstacles attached to it. In the context under investigation – homebrewing communities - individuals get involved in their hobby under the effect of intrinsic motivation, meaning that they are engaging in the activity due to an element of enjoyment. As mentioned earlier, while practicing their hobby, individuals engage in different types of personal and vicarious experiences. For those hobbyists, being passionate about entrepreneuring in general can constitute an important trigger of starting a business in this particular context. Therefore, homebrewers who are generally passionate about having an entrepreneurial career are likely to develop an intention to start a business in brewing.

The passion to create value and make an impact is fundamental to the nature of the entrepreneur (Ma and Tan, 2006: 711). The new venture creation happens over time and the first stage of this process is the formation of entrepreneurial intentions, which indicates the ‘behavior’ dimension of

SCT. Entrepreneurial intention reflects the individual's interest in starting a business and in choosing an alternative career route to regular employment (Krueger, Reilly, and Carsrud 2000; Fitzsimmons and Douglas, 2011; Schjoedt and Shaver, 2007). As explained earlier, passion for entrepreneurial activities within a specific context may trigger the planning of a context-related business start-up. In other words, a general affective state of entrepreneurial passion embedded within a particular context is likely to generate action-oriented entrepreneurial intentions. Therefore, it seems logical to predict that entrepreneurial passion can lead individuals towards an entrepreneurial career. Thus, the authors hypothesize:

**H1: Entrepreneurial Passion is positively related to entrepreneurial intentions.**

### **Creativity**

An individual's creativity refers to the development of ideas that are both novel and useful, either in the short or the long term (Amabile 1996). At the same time, creativity can emerge from an interaction between the individual and the environment (Hunter, Bedellm and Mumford 2007).

Homebrewing, as many other hobbies, is often characterized by a lack of resources in relation to equipment and technical skills. Nonetheless, individuals who perform it are capable of overcoming this challenge by exhibiting high levels of creativity, which is facilitated by direct interactions with other homebrewers, such as personal networking and exchange of tips, as well as vicarious learning (Ford 1996). Creativity can also be facilitated by people's expectations drawn from their past success in different fields, and importantly, by observing the success of others in the same environment. In line with SCT, vicarious learning is related to a thought process of cognitive modeling, where individuals do not merely observe an example of behavior, but also actively pay attention and store in their mind symbolic information on how to behave in certain situations (Bandura 1986). As a result of continuing experience with the world, individuals gain a vast amount of information and store it in the form of various cognitive structures or concepts which are especially relevant to creativity and the emergence of new ideas (Baron 2007). Novel ideas are generated from the expansion or combination of those concepts, when individuals engage in cognitive modelling, and creativity is exhibited. In other words, if obtained information is processed effectively, it can result in novel idea generation. These novel

ideas represent the whole notion of creativity and often result in new entrepreneurial ventures (Ward 2004; McMullan and Kenworthy, 2008).

Creativity is also seen as important to entrepreneurial intent or behavior, because it is linked with identification of opportunities that lead to the establishment of new firms (Ko and Butler, 2007; Lumpkin, Hills, and Shrader 2004; Hansen, Shrader, and Monllor 2011). In their study on career anchors, Feldman and Bolino (2000) have linked creativity to self-employment motivation, arguing that individuals with high perceived creativity are likely to be drawn to an entrepreneurial career option. In addition to that, empirical studies by Zampetakis and Moustakis (2006) and Zampetakis, Gotsi, Andriopoulos, and Moustakis (2011) investigated how different types of creativity affect the entrepreneurial intentions of people who are not yet entrepreneurs. As a result, they found that individuals' perceived creativity is likely to lead them to engage in venturing. Similarly, Lee, Florida and Acs (2004) argue that new firm formation is closely associated with creativity.

Another study explored a construct of improvisation that has been found to influence the formation of entrepreneurial intentions (Hmieleski and Corbett, 2006). Notably, the majority of scale items for this construct reflect the creative side of an individual, while one dimension actually borrows items from the creativity scale directly.

Previous research has related the generation of novel ideas to problem solving (Hansen, Shrader, and Monllor 2011). Indeed challenging situations might trigger the determination to overcome the obstacles in alternative ways or to acquire new information to solve their problems (Zhou, Hirst, and Shipton 2012). As such, solving problems successfully can enhance individuals' self-perception about their creativity, which might lead to engage in more challenging tasks and behaviors (Amabile 1996). According to Sternberg and Lubart's (1999) definition, entrepreneurship is somewhat a result of creativity, because often new businesses are original and useful. Hence, the authors hypothesize:

**H2: Creativity is positively related to entrepreneurial intentions.**

### **The Mediating Role of Entrepreneurial Self-Efficacy**

A high level of entrepreneurial passion and the capacity to create new solutions seem to constitute adequate antecedents for individuals' entrepreneurial intentions. Starting a business can

present, nonetheless, several risks and difficulties linked to the set-up of the firm. Individuals may perceive obstacles as challenges and be even more determined to overcome them, inventing creative and alternative solutions (Zhao, Seibert, and Hills 2005). Therefore, when starting a business people have to rely strongly on the belief that with their skills they will be able to succeed and to reach their goals. This belief in their own skills constitutes what is known by Bandura as 'self-efficacy' (1997). Self-efficacy takes the central part of SCT (Bandura 1986; 1997), enhancing individuals' capacity to accomplish their tasks and achieve their goals. Self-efficacy is claimed to be a very context specific construct, resulting in a higher predictive level on the outcomes when it is tailored for a particular focus of activity (Bandura 1997).

As the outcome being considered in this study is the foundation of a business utilizing the entrepreneurial activity, the entrepreneurial self-efficacy construct rather than the general self-efficacy construct is considered as a research variable. Entrepreneurial self-efficacy is defined as one's confidence in being able to implement skills to achieve a goal and is highly task-oriented (Zhao, Seibert, and Hills 2005: 1265). Entrepreneurial self-efficacy appears to be a very important prerequisite of new venture intentions as it forms a complex web of interrelated perceptions of one's ability to complete a task or achieve a goal (Zhao, Seibert, and Hills 2005; Lee, Wong, Foo, and Leung 2011).

Passion has been found to foster confidence and competence within the context of individual activities and intentions (Cardon, Gregoire, Stevens, and Patel 2013). It has also been related to higher levels of entrepreneurial self-efficacy (Murnieks, Mosakowski, and Cardon 2012). However, in the latter study, the relationship was found to be significant in a condition where respondents had already established their business, whereas this study targets individuals who are only potentially interested in establishing their own business. It is possible to argue that the process of starting a business requires a great level of ability to overcome several barriers and challenges along the way. For that reason, entrepreneurial self-efficacy can be taken into consideration as an intervening factor in the relationship between entrepreneurial passion and entrepreneurial intentions.

**H3: The effect of entrepreneurial passion on entrepreneurial intentions is mediated by entrepreneurial self-efficacy.**

Similarly, entrepreneurial self-efficacy has been selected as a potential mediator of creativity and entrepreneurial intentions. The idea generation that happens during the creative performance of an individual can foster one's self-confidence and a competence for specific domain-related activities. Baron (2008) suggests that affect influences cognitive processes, priming associations based on different moods and highlighting heuristic patterns that lead the decision process. In other words, creating new ideas, products and so on, leads people to examine their capacity for becoming involved in entrepreneuring in relation to the domain where their creativity is being displayed. Thus, through becoming creative enough, an individual can potentially realize their own ability and competence in becoming an entrepreneur. However, no matter how creative individuals assess themselves to be, the barriers on the way to entrepreneuring can still appear insurmountable. In other words, a high level of creativity might not be enough to overcome the risks related to the start-up of a new venture. Individuals need to perceive themselves as being capable to conduct activities associated with entrepreneuring in order to develop intentions of starting a business. Hence, the authors hypothesize that:

**H4: The effect of creativity on entrepreneurial intentions is mediated by entrepreneurial self-efficacy.**

### **Control Variables**

The authors also include a series of control variables in the research model in order to reduce the confounding effect of variations and to maximize the verity of the findings by better specifying the model. Consistent with SCT, there are several personal and environmental factors that can affect individual predispositions and business start-up intentions. Different people devote varying amounts of time to their leisure activities. This depends on a series of reasons stemming from work and family commitments. Thus, people will have varying degrees of experience in their hobby and this can affect their decision to maintain it as a leisure activity or transform it into something commercial (Gelber 1999). In the present context, a difference in the years spent by individuals in homebrewing may affect their attitude and readiness to engage in entrepreneurial activities, and is introduced as 'the number of years spent in homebrewing' within this study. Personal factors like age and professional background, as well as relationship status, are also likely to impact a decision of starting their own business. To

account for that, control variables ‘age’, ‘professional occupation’ and ‘marital status’ were also introduced. Similarly, being a part of homebrewing community can expose people to receiving various environmental stimuli from their peers that might trigger the development of entrepreneurial intentions, such as feedback on brewing and potential awards in relevant competitions or collaboration offers from other homebrewers. As such, control variables of ‘awards’, ‘collaborations’ and ‘feedback’ were introduced in the model. An example item from the ‘awards’ measure is ‘I have received some awards for my home brewing’. An item representing the ‘collaborations’ measure, is ‘I have received a collaboration offer from other homebrewers’. Finally, a ‘feedback’ example item is ‘I regularly receive expert advice on my brewing results’. All hypotheses and control variables are presented in the conceptual model in Figure 2.

**[insert Figure 2.]**

## **Research Methods**

To address the research hypotheses, a tailored designed survey with a structured questionnaire targeting homebrewers in the U.S.A. was developed. A tailored design method (Dillman, Smyth, and Christian 2009) was chosen due to the fact that it involves multiple motivational features, as well as the use of online tools and media in compatible and mutually supportive ways to encourage a high quantity and quality of response. Prior to the full-scale survey launch, the survey instrument was pre-tested among nine academics with research expertise in entrepreneurship and small business management. They were asked to assess the questionnaire and the cover letter, evaluating both grammatical and stylistic aspects, as well as face validity and the appropriateness of the scales. Moreover, three board representatives of the American Homebrewing Association were asked to provide their feedback in relation to the survey. This resulted in some minor corrections that were implemented accordingly in the questionnaire.

The sampling procedure was conducted using the American Homebrewers Association (AHA) database, contacting the homebrewing clubs spread all over the United States. A sample of 652 eligible homebrewers was initially drawn from the database, and after a series of telephone calls and electronic mails, a total of 226 questionnaires were collected (35 percent effective response rate). The

non-response bias was assessed on the basis of three techniques as outlined in Armstrong and Overton (1977), such as outlining potential reasons of non-response, comparing the study sample characteristics with the national survey data within the target sample and comparing the responses on the study constructs of the first 10 percent with the last 10 percent of respondents (Jones, Mothersbaugh, and Beatty 2002). On the basis of the three approaches used to assess non-response bias in this study, the results allowed us to conclude that there was no non-response bias present.

It was also ensured that brewers chosen: (1) were those directly involved in brewing activities; (2) had sufficient knowledge to respond to the questions, and (3) believed that their responses reflected the 'real' situation, tested using the respondent evaluation section in the survey. The purpose of this survey section was to ensure that the study included suitable key informants and their responses were valid, fitting the context of the study (Kumar, Stern, and Anderson 1993). The final elimination of 13 more questionnaires took place due to low scores (anything below four on a seven-point scale<sup>a</sup>) in the above mentioned items, which resulted in 213 usable questionnaires.

According to the respondents' profile statistics, the sample was mainly composed by male respondents (94 percent) due to the nature of the hobby, and the majority of respondents were included in an age group ranging from 25 and 55 years. Approximately 80 percent of respondents were married or living with a partner and only five percent were retired or unemployed. Major occupational categories were business and management, engineering and technical, education and science, and IT.

Multi-item scales were applied to measure all reflective constructs and measures were selected from prior research and adapted to fit the context of the study and facilitate the process of data collection. Specifically, a four-item scale was employed to measure entrepreneurial passion ( $\alpha = .94$ ), a six-item scale was used to capture creativity ( $\alpha = .92$ ) and a three-item scale was applied to measure entrepreneurial self-efficacy ( $\alpha = .88$ ), all based on seven-point response format ranging from (1) "strongly disagree" to (7) "strongly agree". Items were adapted from Cardon and colleagues (2013) from the 'founding' characteristics of entrepreneurs, since the present study is interested in entrepreneurial intentions. Additionally some items from Zhou and George (2001) and Zhao and colleagues (2005) were adopted. Finally, an entrepreneurial intentions construct was identified,

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<sup>a</sup> For additional checks the authors eliminated all cases that scored below 6 and no changes in the effects among the key variables were found.

conceptualized and treated as a multidimensional formative construct and was measured using a four-item scale adapted from Zhao and colleagues (2005), including items on how interested respondents would be in starting their own business or acquiring it in the next five or ten years, on a seven-point response format ranging from (1) “a little” to (7) “a great deal”. To assess the interrelationship among the items and latent variables the authors conducted factor analysis using IBM SPSS software (See Table 1). Four factors were extracted as expected and together explained 76.57 percent of variance. No issues were identified as all items loaded on the corresponding factors and the loadings were  $> .7$ . The results of this procedure allowed the authors to proceed to further analysis.

**[insert Table 1.]**

### **Analysis and Results**

Structural Equation Modelling (SEM) in EQS software was used for data analysis purposes. This particular methodology was chosen based on several considerations (Bagozzi and Yi, 2012; Hair, Black, Babin, and Anderson 2010). First, it offers rigor of analysis by providing an integrative function – encompassing various leading methods within it. Second, it helps to be clear and precise on measurement issues and specification of hypotheses. Third, it takes into account reliability of measures and works well both under the notion of discovery and confirmation. Finally, it is useful specifically for cross-sectional or longitudinal surveys, using the multi-measure approach and accounts for originally not considered relationships. The statistical procedures recommended by Diamantopoulos and colleagues (2008) were followed to assess internal and external validity of the study, along with the application of techniques suggested by Anderson and Gerbing (1988) regarding the two-step approach, to estimate the measurement and structural models.

The measurement model estimations suggest a good model fit ( $\chi^2_{(113)} = 233.592$ ;  $p = .000$ ; CFI = .98; NFI = .96; NNFI = .97; RMSEA = .071). In addition to that, the measurement model shows that all indicators reflect significantly the domain of the latent construct with high item loadings. Moreover, construct reliability ( $\alpha > .8$ ), noticeably exceeds Bagozzi and Yi's (1988) recommended .60 benchmark. To assess convergent validity authors have calculated average variances extracted (AVEs) for each construct, which were above the recommended .50 benchmark (Bagozzi and Yi, 1988). At the

same time, to assess discriminant validity for each multi-item latent variable, the authors checked correlations among constructs, with only one correlation (between entrepreneurial passion and entrepreneurial intentions) being on the edge of the recommended threshold, yet still below the accepted 0.7 value (Anderson and Gerbing, 1988; Spicer 2005; Hair, Black, Babin, and Anderson 2010). Moreover, the authors compared average variances extracted with the squared correlation estimate among each pair of constructs (Fornell and Larcker, 1981; Cadogan, Souchon, and Procter 2008). Finally, the authors performed multicollinearity checks, which revealed no issues in relation to the constructs. The test returned the following results: VIF < 3, tolerance > 0.4 and collinearity diagnostics condition index < 30, all being within recommended values (Hair, Black, Babin, and Anderson 2010; Tabachnick and Fidell, 2001). In all cases, the average variances extracted for the latent variable exceeded the squared correlation estimate. Table 2 shows the results of descriptive statistics, correlations, squared correlations and reliabilities of the constructs.

**[insert Table 2.]**

In order to minimize possible common method variance, preventive procedures recommended by Podsakoff and colleagues (2003) were applied. For instance, all survey items were put together under overall topic sections rather than being grouped by specific construct, to preclude respondents from identifying items measuring a particular construct or guessing the actual hypothesized relationships. In addition to that, the survey also guaranteed respondents' anonymity and confidentiality. Common method bias (CMB) was also proactively checked applying the Harman's 1-factor test (Podsakoff, MacKenzie, Lee, and Podsakoff 2003) to the model, which resulted in a very poor fit ( $\chi^2_{(118)} = 1087.239$ ;  $p = .000$ ; CFI = .76; NFI = .74; NNFI = .73; RMSEA = 0.197), indicating that a method factor does not account for a large proportion of common variance in the data. In addition to that, an alternative model was run, also demonstrating poor fit ( $\chi^2_{(116)} = 382.69$ ;  $p = .000$ ; CFI = .95; NFI = .93; NNFI = .94; RMSEA = 0.104). Consequently, CMB did not appear to be an issue in this study.

As for the non-response bias, this has been assessed on the basis of the three techniques outlined by Armstrong and Overton (1977). These approaches included the identification of potential reasons

of non-response, the comparison of our respondents' profile with the data from The National Homebrewing Survey (American Homebrewing Association 2014), and the evaluation of the responses on the study's first 10 percent with the last 10 percent of respondents. As a result, we have found no significant differences between the means of key study constructs, which allowed us to conclude that there was no non-response bias present.

A structural model was then run to assess the hypothesized associations of the conceptual research framework and provided significant goodness-of-fit indices: ( $\chi^2_{(110)} = 313.98$ ;  $p = .000$ ; CFI = .98; NFI = .96; NNFI = .97; RMSEA = .067). The results are presented in Table 3. Then, four control variables – brewing experience (previously having undergone a natural log function to remove unnecessary skewness of the distribution), respondents' age, professional background (both recoded into 'dummy' variables) and relationship status have also been tested in the structural model. This procedure ensured that there is no inter-correlatedness bias in the model (Field 2005). None of the control variables affected the findings concerning our hypotheses. Notably, brewing experience was found to be significantly related to entrepreneurial self-efficacy, being particularly evident among more experienced homebrewers ( $\beta_{(\text{more experienced})} = 0.193$ ,  $p = 0.005$  versus  $\beta_{(\text{less experienced})} = -0.020$ ,  $p = 0.736$ ). Therefore, the inclusion of this control variable (measured by the number of years spent in homebrewing by the respondents) suggested that more experienced homebrewers are likely to be more self-efficacious of starting a new business. This finding is in line with the theoretical perspective of SCT, where the performance of past behavior is likely to affect one's appraisal of own capabilities. Similarly, collaborations had a significant effect on entrepreneurial self-efficacy ( $\beta = 0.193$ ,  $p = 0.002$ ), meaning that recognition of one's capabilities by others and cooperation with them can boost the appraisal of own abilities, for instance, when engaging in creating brewing recipes or brewing together. The effect of brewing experience and collaborations on entrepreneurial intentions was nevertheless non-significant. These results (reported in Table 3) have facilitated to conclude on the absence of any particular bias in relation to the experience and collaborations factors. As a whole, the use of control variables allowed further clarification of the relationship among the other investigated variables (Rubin 2012).

**[insert Table 3.]**

It is evident from the results that direct relationships between entrepreneurial passion, creativity and entrepreneurial self-efficacy with entrepreneurial intentions are significant. As such, hypotheses H1 and H2 concerning the direct relationship between antecedents (entrepreneurial passion and creativity respectively) and entrepreneurial intentions were supported.

### **Mediation Analyses**

To test the mediation role of entrepreneurial self-efficacy on entrepreneurial intentions a series of regressions have been performed following the approach recommended by Baron and Kenny (1986). Results suggest that all the considered constructs have a significant effect on their own on the entrepreneurial intentions (Creativity  $\beta = .248$ ,  $t_{(211)} = 3.72$ ,  $p < .000$ ; Entrepreneurial Passion  $\beta = .652$ ,  $t_{(211)} = 12.50$ ,  $p < .000$ ; Entrepreneurial Self-Efficacy  $\beta = .583$ ,  $t_{(211)} = 10.42$ ,  $p < .000$ ). However, when entrepreneurial self-efficacy is considered as a predictor together with creativity, the effect of the latter decreases consistently ( $\beta = -.062$ ,  $t_{(210)} = -.96$ ,  $p = .338$ ). A Sobel test (Sobel 1986) shows that indirect effect is significant ( $Z = 6.34$ ,  $p < .000$ ). Therefore, it is evident that entrepreneurial self-efficacy fully mediates the effect of creativity on entrepreneurial intentions. Concerning the mediation operated by entrepreneurial self-efficacy on the relationship between entrepreneurial passion on entrepreneurial intentions, this leads to a contained decrement of the effect ( $\beta = .474$ ,  $t_{(210)} = 7.01$ ,  $p < .000$ ). The Sobel test confirmed the significance of the mediation effect ( $Z = 3.70$ ,  $p < .000$ ). However, entrepreneurial self-efficacy can be considered only a partial mediator of this relationship, as the effect of entrepreneurial passion on entrepreneurial intentions remains robust and statistically significant even in the presence of the mediating variable.

As the rigor of Baron and Kenny's approach has been criticized in the last years (Preacher and Hayes, 2004; Zhao, Lynch, and Chen 2010), a bootstrapping procedure has been performed following Preacher and Hayes (2004) procedures to assess the mediation effect. Results support the mediation effects found with the Baron and Kenny method: Entrepreneurial Self-Efficacy partially mediates the relationship between Entrepreneurial Passion and Entrepreneurial Intentions ( $t = 7.01$ ,  $p < .000$ , confidence intervals = .551 - .996, level of confidence = 95 percent, number of bootstrapping resamples = 5000); in the case of the relationship between Creativity and Entrepreneurial intentions,

Entrepreneurial Self-Efficacy is confirmed as a full mediator ( $t = -.960$ ,  $p = .338$ , confidence intervals =  $.537 - .946$ , level of confidence = 95 percent, number of bootstrapping resamples = 5000). Therefore we can conclude that H3 is only partially supported, while H4 has been fully proved by the mediation analyses. This further supports the fundamental role played by entrepreneurial passion in the intention of starting a business. Results for both the Baron and Kenny's and the bootstrapping procedures are summarized in Table 4.

**[insert Table 4.]**

## **Discussion**

In line with the evident growth of research interest into the reasons as to why people pursue entrepreneurial careers (Lee, Wong, Foo, and Leung 2011; Zhao, Seibert, and Hills 2005), this study focused on some antecedents of entrepreneurial intentions under the framework of social cognitive theory (Bandura, 1986; 2012). Social cognitive theory posits that individuals' actions are a result of an interaction between personal, environmental and behavioral elements, suggesting their reciprocal interrelatedness.

In this study, the results support the notion that being passionate about entrepreneurial founding activities is likely going to lead individuals to get involved with the intention of a business start-up. A similar effect is found when individuals perceive themselves to be creative. Being a part of a stimuli-rich environment, such as homebrewing communities, with a wide array of possibilities and examples of successful hobby to business transitions, can transform general passion for entrepreneuring into the development of context-related entrepreneurial intentions. The fact that prospective entrepreneurs decide to move ahead in the face of daunting obstacles suggests that they are highly passionate and indeed, literature indicates that passion is a very important and prevalent emotion among entrepreneurs (Cardon, Wincent, Singh, and Drnovsek 2009; Cardon, Foo, Shepherd, and Wiklund 2012; Thorgren and Wincent, 2013), both nascent and experienced.

In our study, entrepreneurial self-efficacy was introduced as a mediator of the relationship between passion, creativity and entrepreneurial intentions, in accordance with SCT, where confidence and belief in one's own capabilities takes a central part in shaping human behavior. However, for entrepreneurial passion it demonstrated only a partial mediation as the direct association between this

construct and intentions remained significant and positive, suggesting that entrepreneurial passion constitutes a powerful construct in determining individuals' intentions in starting a new business. Furthermore, this result remains stable also when applying several personal and environmental controls that could have restricted the development of entrepreneurial intentions, such as age, family commitments and professional occupation. The positive and strong relationship found between entrepreneurial passion and entrepreneurial self-efficacy constitutes a new element to the already established determining factors that lead individuals in becoming entrepreneurs. Concerning the relationship between creativity and entrepreneurial intentions, the results demonstrated a strong significant outcome, meaning that the more creative individuals assess themselves to be, the more likely they will develop intentions to start a business, as also suggested by previous literature (Ward 2004). Nevertheless, when entrepreneurial self-efficacy was introduced into the model, it served as a strong and significant mediator. This proves that no matter how creative individuals assess themselves to be, their awareness of being capable of starting a business constitutes a much more important factor in developing their entrepreneurial intentions.

These results propose multiple routes on how personal and environmental factors affect entrepreneurial intentions, suggesting a key role of entrepreneurial passion on its own as a sufficient driver to intend to start a business; on the other hand, creativity does not appear to be an adequately robust driver to develop intentions, as people still need to feel themselves efficient, skilled and capable of being a founder of a company. The vast majority of previous research on entrepreneurial intentions has used samples of an academic nature, such as students or recent graduates to investigate the intentions of starting up a business (Liñan and Chen, 2009; De Clercq, Honig, and Martin 2013; Zhao, Seibert, and Hills 2005; Krueger, Reilly, and Carsrud 2000). However, new entrepreneurs are not necessarily coming from either of the previously mentioned samples. Our study provides a different viewpoint on intentions to start a business using a more relevant and growing business setting, as well as the role of context and communities in the formation of entrepreneurial intentions (Fayolle and Liñan, 2014).

### **Implications for Research and Practice**

The present study offers a number of significant contributions in the understanding of factors

that lead individuals to become entrepreneurs. First, the powerful role of entrepreneurial passion in directly influencing entrepreneurial intentions advances the entrepreneurship field. To the best of our knowledge, this is the first study to apply entrepreneurial passion as a personal dimension to SCT, which also highlights a greater role of affect in understanding people's intentions for their future actions (Markman, Balkin, and Baron, 2002; Hmieleski and Baron, 2009). The effects of passion remain robust even when other personal and environmental factors are specified in the model. Second, the focus on the stage preceding the business foundation represents a contribution in extending research on nascent entrepreneurs (Davidsson and Honig, 2003), as these leading factors have often been ignored by the previous literature (Sequeira, Mueller, and McGee, 2007) or only measured after the business was set up. This study also advances the understanding of the entrepreneurial self-efficacy construct, having it empirically tested not in a usual sample of university students or already practicing entrepreneurs (Zhao, Seibert, and Hills 2005; Bullough, Renko, and Myatt, 2014). In addition to that, the findings of our research emphasize the role of creativity in shaping entrepreneurial intentions, where entrepreneurial self-efficacy acts as a boundary condition. The context of application of this study represents an exciting insight into the expansion of the craft brewery segment that has demonstrated high growth of new businesses in the last few years (American Brewing Association 2014). In line with SCT, the context here provides additional clues and inputs that affect the formation of entrepreneurial intentions, based on vicarious learning, since people observe business start-up experiences of former homebrewers, and receive insights that they can use in their own venture establishments.

Considering the discussed findings and conclusions, this study offers several important practical implications. Generally, this study could contribute to the development of a self-assessment tool, which would facilitate in helping people decide whether or not they are ready to become entrepreneurs. This tool could measure an individual's entrepreneurial passion for the particular domain, entrepreneurial self-efficacy and many other factors that are important for the formation of entrepreneurial intentions, such as learning, opportunity recognition and so on. The strong impact of entrepreneurial passion on the formation of entrepreneurial intentions could be used as a determining factor for an individual's career choice. In addition to that, educators in academia could emphasize specific entrepreneurial domains – inventing, founding or developing, when discussing the

implications of entrepreneurial passion and the other factors that motivate people to become entrepreneurs. In relation to the taught programs on entrepreneurship, the focus could be in orienting students to market sectors they are passionate about instead of depicting general scenarios of businesses start-ups. To conclude, this study could be of interest to those who research, teach or work in the entrepreneurial field, because it clarifies the interaction of the personal, environmental and behavioral factors with the development of entrepreneurial intentions.

### **Limitations and Future Research**

This study contains some limitations and insights for future research. First, our research applies SCT to one particular hobby setting. Testing these predictions in other contexts could contribute to the generalizability of results. Second, this research has been focused only on the founding domain out of the three originally conceptualized in the entrepreneurial passion scale developed by Cardon and colleagues (2013). Future research can also extend these findings testing the role played by the other two domains not explored so far. Third, we have only tested how the development of intentions takes place, rather than the likelihood of the actual business establishment. Future research can focus on active entrepreneurs in various industries who have been previously involved in their business context as hobbyists, in order to add dimensions to the present model, such as performance and profit growth after the business' set up. Future studies could also try to apply this perspective and to add credibility in the form of longitudinal research. Lastly, future research may incorporate additional variables to test moderating effects on the relationship between entrepreneurial passion and intentions, for example, perceived risk of starting a business or different outcome expectations, such as autonomy, financial rewards, and social impact to name a few.

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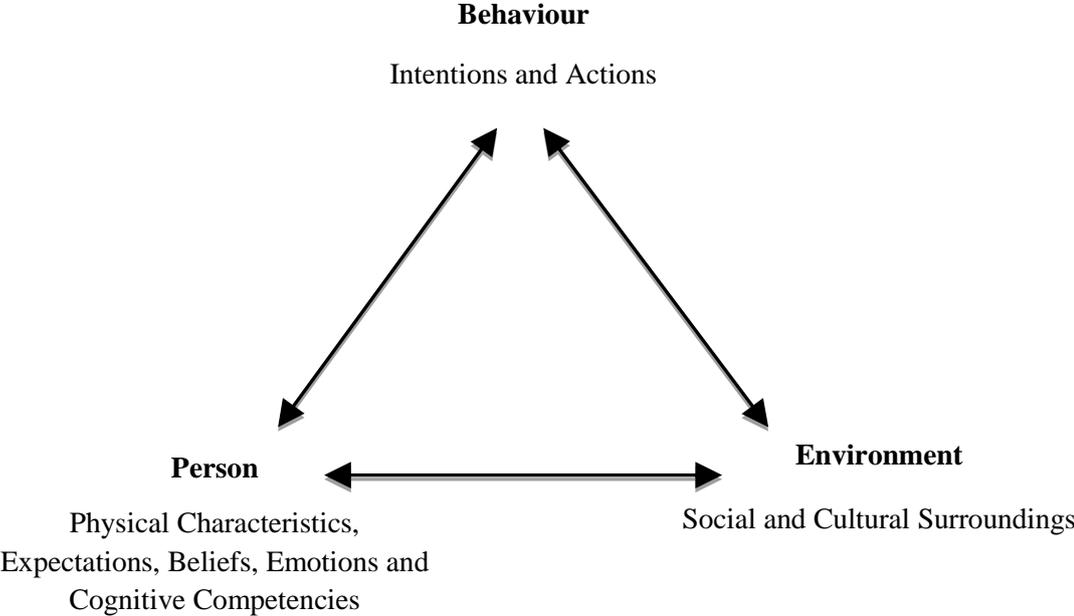
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**Figures**

**Figure 1.**

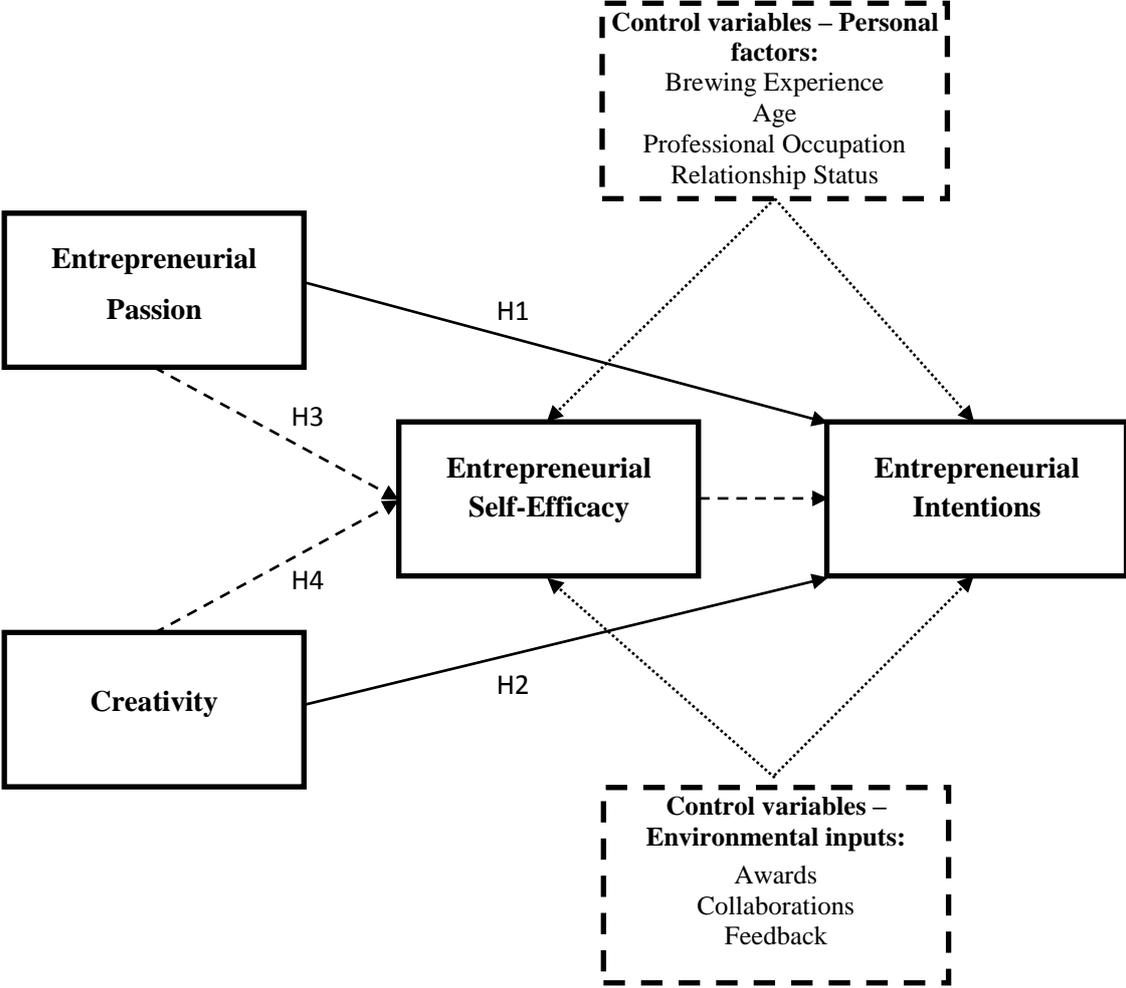
**Social Cognitive Theory Model (Adapted from Bandura, 1989).**



Figures

Figure 2.

Conceptual Model and Hypotheses.



Note: —————> Direct effect;      - - - - -> Mediated effect;  
- - - - -> Control variable.

## Tables

**Table 1.**  
**Factor Analysis Loadings and Construct Validity.**

Item	Creativity	Entrepreneurial Passion	Entrepreneurial Self-efficacy	Entrepreneurial Intentions
I often come up with creative solutions to problems	0.88			
I am good at providing a fresh approach to problems	0.87			
I often come up with new and practical ideas	0.81			
I often have new and innovative ideas	0.76			
I am good at generating creative ideas	0.75			
I often promote and champion ideas to others	0.72			
Owning a company will be energizing		0.88		
Nurturing a new business through its emerging success will be enjoyable		0.85		
Establishing a new company is exciting		0.84		
To become a founder of a business is very important part of who I want to be		0.74		
How confident are you in creating new products			0.76	
How confident are you in successfully identifying new business opportunities			0.75	
How confident are you in commercializing an idea or new development			0.73	

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How interested are you in acquiring and building a company into a high-growth brewing business in the next 5 to 10 years				0.89
How interested are you in acquiring a small brewing business in the next 5 to 10 years				0.88
How interested are you in starting and building a high- growth brewing business in the next 5 to 10 years				0.81
How interested are you in starting your own brewing business in the next 5 to 10 years				0.72
Average variance extracted	0.61	0.81	0.71	0.76

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**Table 2.**  
**Descriptives, Correlations and Reliabilities.**

<b>Construct</b>	<b><i>α</i></b>	<b>Mean</b>	<b>SD</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>
1 Entrepreneurial Passion	0.94	4.87	1.58	-	0.125	0.443	0.425							
2 Creativity	0.90	5.73	0.84	0.354**	-	0.256	0.062							
3 Entrepreneurial Self-Efficacy	0.88	4.84	1.46	0.666**	0.506**	-	0.430							
4 Entrepreneurial Intentions	0.93	3.85	1.97	0.652**	0.248**	0.583**	-							
5 Brewing Experience	-	9.58	8.21	-0.291**	-0.067	-0.006	-0.121	-						
6 Age <sup>a</sup>	-	-	-	-0.167*	-0.138*	-0.138*	-0.110	0.462**	-					
7 Relationship Status <sup>b</sup>	-	-	-	-0.022	-0.143*	-0.026	0.037	0.090	-0.066	-				
8 Professional Occupation <sup>c</sup>	-	-	-	0.181**	0.035	0.153*	0.176**	-0.146*	-0.160*	0.113	-			
9 Awards	0.73	4.81	1.49	0.108	0.091	0.077	0.096	0.047	0.085	-0.012	0.109	-		
10 Collaborations	0.66	4.71	1.32	0.338**	0.212**	0.395**	0.362**	-0.091	-0.165*	0.095	0.142*	0.142*	-	
11 Feedback	0.77	5.53	0.87	0.350**	0.245**	0.281**	0.284**	-0.074	-0.018	0.104	0.007	0.312**	0.197**	-

Note: squared correlation are reported above the diagonal in italic

\*\* p < .001      \* p < .05

<sup>a</sup> 1: ≤ 35; 2: 36-45; 3: ≥ 46

<sup>b</sup> 0: 'single'; 1: 'in a relationship'

<sup>c</sup> 0: 'non-occupied'; 1: 'manufacturing'; 2: 'services'

**Table 3.**  
**Results of the Structural Model.**

Hypothesis		Standardized Estimate	t-value
<b>H1</b>	Entrepreneurial passion → Entrepreneurial intentions	0.671	9.03***
<b>H2</b>	Creativity → Entrepreneurial intentions	0.232	2.71***
<b>H3</b>	Entrepreneurial passion - -> Entrepreneurial intentions (mediated path)	0.395	4.05***
<b>H4</b>	Creativity - -> Entrepreneurial intentions (mediated path)	-0.091	-1.33
	Entrepreneurial passion → Entrepreneurial self-efficacy	0.681	10.74***
	Creativity → Entrepreneurial self-efficacy	0.304	4.79***
	Entrepreneurial self-efficacy → Entrepreneurial intentions	0.396	3.53***
<b>Effects on Entrepreneurial self-efficacy (controls)</b>			
	Brewing experience	0.193	3.19**
	Age	-0.081	-1.36
	Relationship status	0.010	0.10
	Professional occupation	0.096	1.04
	Awards	-0.054	-0.94
	Collaborations	0.193	3.12**
	Feedback	0.020	0.31
<b>Effects on Entrepreneurial intentions (controls)</b>			
	Brewing experience	-0.002	-0.04
	Age	0.011	0.18
	Relationship status	0.107	1.08
	Professional occupation	0.014	0.19
	Awards	0.013	0.23
	Collaborations	0.087	1.34
	Feedback	0.049	0.75

Notes: Goodness-of-Fit Statistics: Chi-square ( $\chi^2$ ) = 313.98, p = .000, df = 154; Normed Chi-square ( $\chi^2/df$ ) = 2.04; Normed Fit Index (NFI) = 0.96; Non-Normed Fit Index (NNFI) = 0.98; Comparative Fit Index (CFI) = 0.98; Root Mean Squared Error of Approximation (RMSEA) = 0.067.

\*\*\* Significant at p < 0.000    \*\* Significant at p < 0.01    \* Significant at p < 0.05

**Table 4.**

**Mediation Analyses with Baron and Kenny's and Bootstrapping Procedures.**

(a) Baron and Kenny's procedure

<b>IV</b>	<b>Effect on DV</b>	<b>Effect on Mediator</b>	<b>Effect on DV with Mediator</b>	<b>Sobel's Z Values</b>
<b>Creativity</b>	.25***	.50***	-0.06	6.34***
<b>Passion</b>	.81***	.62***	.47***	3.70***

(b) Bootstrapping (95% level of confidence, 5000 bootstrap resamples)

<b>IV</b>	<b>Effect on DV</b>	<b>Effect on Mediator</b>	<b>Effect on DV with Mediator</b>	<b>Confidence Intervals</b>
<b>Creativity</b>	.58***	.89***	-.33	.537 -.946***
<b>Passion</b>	.81***	.62***	.59***	.551 - .996***

Note: DV = Entrepreneurial Intentions, Mediator = Entrepreneurial Self Efficacy, \*\*\* = p<.000,