




Does direct experience matter? Examining the consequences of current entrepreneurial behavior on entrepreneurial intention

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Published online: 15 December 2016

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Abstract Entrepreneurial behavior research has used intention models to explain how an individual's beliefs shape the attitudes and motivations that influence entrepreneurial intention. Nevertheless, as entrepreneurship promotion initiatives become global, it becomes relevant to explore the consequences of being engaged in entrepreneurial behavior on entrepreneurial intention. We aim to shed light on whether the direct experience reinforces an individual's entrepreneurial intention or reduces it. Building on an extended version of the planned behavior theory, we use the behavioral reasoning theory to propose a research design to study the influence of being currently engaged in entrepreneurial behavior on entrepreneurial intention. We introduce individual's age as an additional moderator of the effects of directly experiencing entrepreneurial behavior. We use PLS-MGA to complete a multi-group SEM analysis for different groups of individuals (from a sample of 430), comparing groups based on their entrepreneurial activity and age group. Results of this research work evidence that current engagement in entrepreneurship activities produces significant differences in the intention to start a new venture between older and younger participants. The results suggest that engagement in entrepreneurial activity modifies entrepreneurial intention and that these effects are contingent to the individual's age. This research work contributes to the extant call

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to explore reverse causality between actual behavior and an individual's intention by introducing behavioral reasoning theory. These results provide support to initiatives to adapt entrepreneurship promotion efforts to the specific characteristics of the participants.

Keywords Entrepreneurial Intention · Behavioral reasoning · Theory of planned behavior · Senior entrepreneurship

Introduction

An underlying assumption in entrepreneurship promotion policies is that individuals that engage in entrepreneurship will persist in their behavior and contribute to economic growth (Lerner 2010). Thus, we would expect increased rates of entrepreneurial activity as policymakers maintain their entrepreneurship promotion efforts. Nevertheless, we have observed that the rates of entrepreneurial activity do not always increase in time; we observed a drop of activity in the US during the years following the global financial crisis recession (Fairlie et al. 2016) and more recently in countries like Spain, where the rate of nascent entrepreneurs has had a negative trend in the last years (Peña et al. 2016). These evidences suggest that while some individuals become new entrepreneurs, others might decide to abandon their entrepreneurial activity. As a result, the effectiveness of some entrepreneurship promotion initiatives are put in question (Acs et al. 2016).

Prior research on entrepreneurial behavior has focused on analyzing the factors that explain the changes in individual's entrepreneurial intention (Krueger et al. 2000) and how entrepreneurial intention (EI) is a valid predictor of future entrepreneurial behavior (Kautonen et al. 2013). But given the changing workforce structure and the increasing participation of adult individuals in entrepreneurial activities (Kautonen, Luoto and Tornikoski, 2011a), we need for further research on adult individuals, younger or older, to explore how entrepreneurial behavior as a career choice modifies their intention to continue engaging in entrepreneurial activities or abandon them.

The main goal of this paper is to study the consequences of direct entrepreneurial behavior experienced by adult individuals. We aim to clarify whether being engaged in the behavior modifies the antecedents of EI, with the ambition to contribute to clarify the apparent paradox that some policy makers observe when, despite having more individuals exposed to entrepreneurship, this does not always result in higher overall entrepreneurial activity in the long run (Acs et al. 2016).

To do this, our work focuses on extending the prior research work done studying entrepreneurial behavior using intention models into this specific phenomenon. We do so, introducing the behavioral reasoning theory (Westaby 2005) as a guide to explore the changes in the consolidated application of the theory of planned behavior (TPB) model in entrepreneurship (Lortie and Castogiovanni 2015). The behavioral reasoning theory (BRT) argues that engaging in the behavior will impact on the reasoning process of the individual as it justifies or defends the arguments in favor or against the behavior. Thus, as individuals gain knowledge on the entrepreneurial behavior, their reasons to sustain or abandon it could also change. Depending on their expectations, ambitions, and also their professional career moment (Kautonen, Luoto and Tornikoski, 2011a;

Lee and Wong 2004) we expect to observe whether and how the direct experience of the behavior impacts on the intention.

We use an extended version of the TPB model (Miralles et al. 2016) to propose a research design guided by the BRT (Westaby 2005) to study the influence of being currently engaged in entrepreneurial activities on the intention to start new entrepreneurial ventures (EI). We introduce age as an additional moderating factor in the analysis; scholars have suggested that age might be a determinant factor in the influence of experience on entrepreneurial intention (Kautonen et al. 2014; Lévesque and Minniti 2006; Sahut et al. 2015; Tornikoski et al. 2012). The extended research model allows us to explore whether direct experience in the entrepreneurial behavior generates differences on the construction of individual's entrepreneurial intention.

The sample for this study is based on a group of working-aged individuals interested in entrepreneurship, some of them already engaged in entrepreneurial activities, others just interested. We use structural equation modeling (SEM) techniques to analyze the proposed model for the different groups of individuals (from a sample of 430), depending on whether they were engaged in entrepreneurial activities or just interested, and their age. Using a partial least square structural equation model (PLS-SEM), we conduct PLS multi-group analysis (PLS-MGA) parametric tests (Sarstedt et al. 2011) to assess the differences in the EI drivers across the different groups of individuals.

Our results suggest that individuals engaged in creating a new venture display differences in how entrepreneurial knowledge (EK) influences EI. Direct exposure to the behavior impacts what the individual knows about the behavior; it changes the reasons it has in favor of or against it, impacting on the intention's antecedents. The results support that current engagement in entrepreneurial activity modifies the influence of the planned behavior model antecedents on EI; these effects are contingent to individual's age. Current engagement in entrepreneurial activities affect older and younger individuals' perceptions but not in the same manner. While there seems to be an overall positive effect among young individuals, for older individuals, experiencing the behavior challenges their assumptions and prior knowledge of the behavior. This research work offers valuable information for policy makers who want to design more effective entrepreneurship promotion programs; the results provide additional clues to tailor the focus of the promotional effort considering the profile of the participants.

The article starts with a review of our current understanding of how behavior experience could impact on the individual's intentions, introducing the theoretical background that provides support for the hypotheses development. Next, the presentation of the research design, sample, and survey instrument is completed. Then, a description of the results, with a detailed group analysis, is done, providing empirical evidence to complete the hypotheses test. Finally, the implications for entrepreneurship theory are discussed, as well as the implications for entrepreneurship education and policy makers.

Theoretical background

Entrepreneurial behavior research describes the individual's creation of a new venture as a planned and deliberate behavior, thus suitable to be studied using intention models

(Schlaegel and Koenig 2014). The shared agreement among researchers on entrepreneurship as a planned behavior (Lortie and Castogiovanni 2015) introduces the assumption that intention is a good predictor of future behavior (Krueger et al. 2000). Empirical evidences of the relationship between the activation of entrepreneurial intention (EI) and subsequent entrepreneurial behavior of individuals (Kautonen et al. 2013; Kolvereid and Isaksen 2006) have consolidated the validity of such an assumption.

The last decades of research on EI have explored the application of different models to identify and describe the potential determinants for an individual's EI (Krueger et al. 2000; Liñán and Fayolle 2015). Most of this research has had as a primary focus on how EI is developed, providing clues on why individuals engage in entrepreneurial behavior (Liñán and Fayolle 2015).

The TPB as an entrepreneurial intention model

Among the different models and methodological options to do research on entrepreneurial intention (EI), the TPB, developed by Ajzen (1991) has become one of the dominant psychological perspectives to study this phenomenon (Lortie and Castogiovanni 2015). Based on the TPB, the individual's EI is an indicator of the effort that the individual is willing to make to perform the entrepreneurial behavior (Liñán and Chen 2009).

Researchers who have used TPB have been able to find support for the predictive validity of intention in entrepreneurial behavior (Kautonen et al. 2013). This theory aims to explain the development of an individual's EI by exploring three antecedents: personal attitude (PA), social norm (SN), and perceived behavioral control (PBC); each of these three elements contributes to explain the differences across individuals on their entrepreneurial intention (Liñán and Fayolle 2015).

The personal attitude (PA) towards entrepreneurial behavior describes “the degree to which a personal has a favorable or unfavorable evaluation or appraisal of the behavior” (Ajzen 1991, p. 188). The social norm (SN) captures the perceived social pressure to perform or not the behavior (Ajzen 1991); it measures the perceptions of the individual of how positively or negatively referent others (including family, friends, and significant others) view the behavior (Lortie and Castogiovanni 2015). Finally, the perceived behavioral control (PBC) refers to the perceived ease or difficulty of performing the behavior by the individual (Ajzen 1991).

The consolidation of the EI research in the last decade not only has permitted the extension of the TPB but also has made visible important research gaps (Liñán and Fayolle 2015). The application of the TPB to explain specific types of entrepreneurial behaviors such as senior entrepreneurship (Sahut et al. 2015), has struggled to clarify whether it was age (Kautonen et al. 2014) or work experience (Kautonen et al., 2011a, b) that would explain differences in EI. The difficulties to extract clear inferences from EI research that would move forward from the established research on entrepreneurial programs' impact on student samples (Bae et al. 2014; Schlaegel and Koenig 2014) motivate our theoretical background development to explore how actual entrepreneurial behavior (direct experience) could influence on EI; we review additional work that can help to provide a more specific framework to the phenomenon under study.

Direct experience influence on entrepreneurial intention

Research exploring the influence of individual's experience on the development of EI has brought attention to the individual's education and work experience (Kautonen, Luoto and Tornikoski, 2011a). Prior studies exploring the differences across individuals with different work experience (either in number of years or in types of experience) have brought insights into how EI might be conditioned by the type of work (Zapkau et al. 2015). Furthermore, scholars have suggested to focus on the types of experience and how this experience is actually transformed or not into knowledge (Politis 2005), specifically, introducing the construct of entrepreneurial knowledge (EK) as a factor that would capture an individual's prior experience in entrepreneurial activities and explaining the differences that an individual's background can introduce in the development of EI (Miralles et al. 2016).

In close relation to an individual's experience, scholars have suggested that individual's age might be a moderating factor on the influence of work experience on entrepreneurial intention (Kautonen et al. 2014; Lévesque and Minniti 2006). In this sense, accumulating direct experience in entrepreneurial activities at a young age will not be the same as having this experience towards the end of one's professional career when overall entrepreneurial intentions are expected to be lower (Kautonen et al. 2014). Nevertheless, recent empirical attempts to clarify the interplay between individual's experience and age showed that age was not a source of significant differences on the TPB's factors influence on EI (Tornikoski et al. 2012). In another empirical setting, Sahut et al. (2015) found that overall, older individuals would show lower EIs, reinforcing the evidences that suggest that despite having higher levels of experience and potential knowledge, they would exhibit reduced ambitions to become entrepreneurs.

Furthermore, the assessment of public policies results to foster entrepreneurial behavior across all types of individuals has raised concerns on their effectiveness and efficiency. Not considering the a priori EI of individuals and their entrepreneurial experience could result in an opportunistic entrepreneurial behavior response to public incentives (Shane 2009) or in an overall inefficient allocation of talent into entrepreneurship (Acs et al. 2016).

As a result, scholars have called for research that contributes to clarifying how the current situation of the individual and their potential perception of career choices (e.g., related to age) could influence the entrepreneurial intention and future behavior (Fayolle and Liñán 2014). This article's focus is to explain whether individuals that have a direct experience with the entrepreneurial behavior would exhibit higher or lower EI and if this relationship would be influenced by the individual's age. The exploration of this question requires an extension to the adaptation of the TPB in entrepreneurship (Ajzen 1991; Lortie and Castogiovanni 2015), that is, introducing factors that could help to capture the reasons (derived from actual behavior) behind sustaining or abandoning their entrepreneurial intention. To address this gap, we introduce behavioral reasoning theory (Westaby 2005) in order to gain a better understanding of how the current entrepreneurial behavior of individuals could impact on their entrepreneurial intention.

Introducing behavioral reasoning theory

The introduction of the behavioral reasoning theory (Westaby 2005) responds to the expectation that this perspective can provide additional clues on how being engaged in a behavior could introduce differences in the intention and on the individual's commitment. Behavioral reasoning theory (BRT) helps to clarify why some individuals might persist in the effort while others could actually see their perceptions towards entrepreneurship modified and are more likely to consider other options as career choices (Henderson and Robertson 1999).

The BRT suggests that individuals' motivations and perceptions are influenced by individuals' reasons: "reasons impact global motives and intentions, because they help individuals justify and defend their actions, which promotes and protects their self-worth" (Westaby 2005, p. 98). While the individual's beliefs are individual subjective evaluation of the future outcomes, looking forward, reasons are defined as perceptions that the individual makes by evaluating the present, part of its current behavioral explanation (Westaby 2005). Thus, the actual engagement in the behavior might have a limited influence on the individual's overall beliefs or values but could very well modify the underlying reasons of the individual in relation to the behavior.

The contribution of BRT to the TPB is that it would provide an additional theoretical perspective to explain the changes in intentions and subsequent behavior of individuals. It is argued that "once a behavior is executed, reasons should become strengthened through post-decision dissonance processes" (Westaby 2005, p. 116), as the reasons get stronger, they would help to justify, defend, and even support increased behavioral commitment (Westaby 2005).

Prior uses of the BRT have helped to better understand behaviors where individual's actual behavior could influence the reasons to support or abandon the behavior. For example, it has been used to study the leadership behavior among managers (Westaby et al. 2010), undergrad students drinking behavior (Norman et al. 2012), or error reporting behavior by nurses (Russo et al. 2015), among other phenomena. In the context of entrepreneurship, the BRT offers the possibility to further evolve the application of the TPB in entrepreneurship (Lortie and Castogiovanni 2015), studying the effect of the engagement in the actual behavior on the motivational antecedents of the entrepreneurial intention.

The reasoning process derived from the direct experience of the behavior is also influenced by the personal characteristics. For example, it could be argued that engaging in entrepreneurship as a late career choice would generate an impact different from that of a young entrepreneur who is still exploring career options (Kautonen et al. 2014). Thus, when introducing the BRT, other elements such as age could be influencing factors on the development of the individual's EI.

Our research question is to understand whether engagement in the entrepreneurial behavior modifies the development of individuals' EI. Additionally, we want to inquire whether the individual's age (young or older) helps to explain differences in the effect of being directly engaged in actual entrepreneurial behavior on the construction of the EI.

Hypotheses development

In order to address the research question, we propose to build upon an extended model of EI (Miralles et al. 2016), including the construct of entrepreneurial knowledge (EK),

and we assume that the perceptual variables of the TPB model (personal attitude (PA), social norm (SN), and perceived behavioral control (PBC)) take a mediating role between the entrepreneurs learning from direct experience (entrepreneurial knowledge (EK)) and entrepreneurial intention (EI).

The extended model (see Fig. 1) allows us to compare how individual’s current behavior and age could influence the antecedents of EI, and the relationship of these antecedents with the EI variable. The exploration of these expected differences across individuals is done with a set of structured hypotheses.

Entrepreneurial knowledge and the antecedents of entrepreneurial intention

The direct experience of being engaged in entrepreneurial behavior is expected to generate specific, and mostly tacit, experiential knowledge on what it takes to be an entrepreneur (Politis 2005). This exposure to the behavior is also expected to be a key influence on the individual’s reasoning (Westaby 2005). Therefore, we would assume that EK derived from education or prior training might be different from that gained through direct experience. While prior research has shown limited direct impact of entrepreneurial education programs on EI (Bae et al. 2014), we expect entrepreneurial experience to have a stronger influence and help to decipher differences in the intention’s antecedents.

Thus, we would expect that direct engagement in the behavior would influence the individual’s reasoning and introduce differences in the relationships between EK and the antecedents of EI. Direct experience in entrepreneurial behavior is expected to contribute to experiential EK; as a result, individuals might actually realize the less attractive elements of an entrepreneurial career (impacting negatively on their attitude towards the behavior [PA]) or might also realize that they are not so well-prepared for this career as expected at first (negative impact on the PBC) or even observe that this is not a behavior that receives social support as they have expected (lower SN). Likewise, we could also argue that the opposite could be true, as direct experience would modify the expectations based on other sources of EK and result in positive stronger influence on the antecedents. Still, taking into account how the initial stages of entrepreneurship

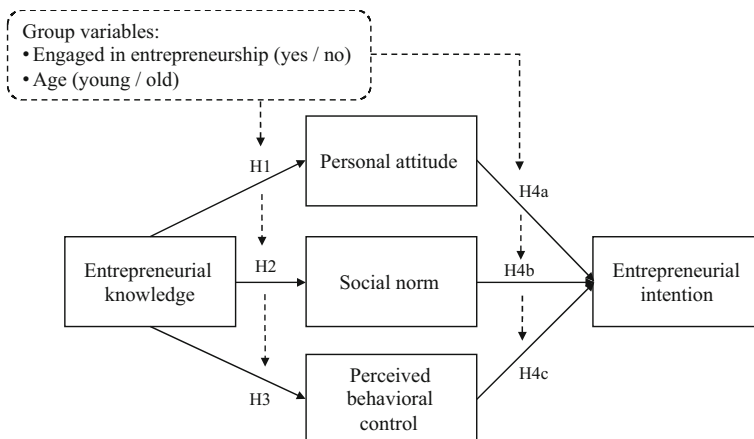


Fig. 1 Theoretical framework and group analysis detail

are often saddled with uncertainty and require complex tasks of dealing with the liabilities of newness (Politis 2008) the negative effect would still dominate.

Thus, we argue that the path coefficients of the three connecting hypotheses would show significantly different values for individuals engaged in the actual behavior (see Fig. 1), expecting that the coefficients are lower for engaged entrepreneurs than for those who derive their EK from other types of work experiences or from formal education and training.

H1. The influence of entrepreneurial knowledge (EK) on personal attitude (PA) will be weaker for engaged entrepreneurs than for non-engaged entrepreneurs.

H2. The influence of entrepreneurial knowledge (EK) on social norm (SN) will be weaker for engaged entrepreneurs than for non-engaged entrepreneurs.

H3. The influence of entrepreneurial knowledge (EK) on perceived behavioral control (PBC) will be weaker for engaged entrepreneurs than for non-engaged entrepreneurs.

Age as moderator

Furthermore, age could play a role in these expected differences; as individuals enter their adult career, the choices previously made carry additional commitment requirements (Staw 1981). As a result, older individuals are more likely than younger individuals to reassess their situation in a more positive manner, as the choice of having started an entrepreneurial career at a later stage makes it more difficult to change their career choice again. In line with some researchers (Kautonen et al., 2011a, b; Lévesque and Minniti 2006), we expect that those who decide to become entrepreneurs at a later age might also modify their personal attitude (PA), adjusting their self-evaluation to provide some sense to their career decision.

Therefore, we expect that direct experience from the entrepreneurial behavior in older individuals will result in a stronger influence of EK on PA (H1), as well as on social norm (SN) in H2, and perceived behavioral control (PBC) in H3. This effect has been described as the “freezing effect” that would be observed with senior individuals once they have made an important decision such as a career choice (Fayolle et al. 2011). Thus, we expect age to be a positive moderator of these relationships (H1, H2, and H3), as older individuals who have engaged in entrepreneurship will be more likely to have stronger reasons to sustain this career choice than those who have not yet engaged in entrepreneurship.

The antecedents of entrepreneurial intention influence

Similarly, we also expect that the antecedents of entrepreneurial intention (EI), personal attitude (PA), social norm (SN), and perceived behavioral control (PBC) will exhibit different influences on EI depending on whether the individuals are engaged in entrepreneurship and depending on whether they are younger or older (see Fig. 1).

Being an active entrepreneur would mean that there is a direct appreciation of the skills and capabilities needed to be a successful entrepreneur; similarly, we would also expect that, if they have made mistakes assessing their capacities, now that they are

getting direct experience they are likely to have a less optimistic perspective (Fayolle et al. 2011). In this sense, we would expect that being currently engaged in entrepreneurship would enhance their overall EI, but with different influences on each of the antecedents.

The direct experience of the behavior is likely to modify the perception of the PA towards the behavior. Learning the unexpected complexities of being an entrepreneur (Politis 2008) is expected to reduce the influence of PA on the overall EI. At the same time, being engaged in the behavior is expected to contribute to a positive reassessment of the social context as well as the PBC on the behavior's intention (Kasouf et al. 2013). Prior research on the effects of entrepreneurial experience in individuals support the hypotheses that the learning derived from being exposed to the behavior would have an overall positive effect on the individuals' evaluation of their capacity to perform the behavior and their overall intention (Sánchez 2011).

Therefore, we would expect that:

H4a. The influence of personal attitude (PA) on entrepreneurial intention (EI) is weaker on engaged entrepreneurs than for non-engaged entrepreneurs.

H4b. The influence of social norm (SN) on entrepreneurial intention (EI) is stronger for engaged entrepreneurs than for non-engaged entrepreneurs.

H4c. The influence of perceived-behavioral control (PBC) on entrepreneurial intention (EI) is stronger for engaged entrepreneurs than for non-engaged entrepreneurs.

Age as moderator

The difference between engaged and non-engaged individuals is again expected to be moderated by the individual's age. As observed in prior research, senior entrepreneurs might be driven not by a strong PA towards the behavior but instead by a perception that they have the experience, knowledge, and capabilities needed to perform this task (Kautonen et al. 2014). As a result, we expect in this case that the difference of age between younger and older individuals will amplify the impact of engagement in the behavior (H4a, H4b, and H4c). Thus, for either engaged or non-engaged individuals, age will contribute to the moderating effect of being engaged in the entrepreneurship behavior. PA will have a weaker influence for older individuals (influence on H4a), SN will show a stronger influence for older entrepreneurs (influence on H4b), and likewise, PBC will show a stronger influence on EI for older individuals (influence on H4c).

Research design

The empirical analysis was carried out with a sample of working-aged individuals who are engaged and not engaged in the actual entrepreneurial behavior. The participants answered a questionnaire with statements based on the measures of the variables in the theoretical framework using the Entrepreneurial Intention Questionnaire (EIQ) developed by Liñan & Chen (2009) and used and described in detail in Miralles et al. (2016);

the full questionnaire is available in the Appendix. To create the groups of individuals depending on their actual entrepreneurial behavior, the question “E1—At this time, do you have your own venture?” was used (see Appendix). This question was developed and tested with a pilot of 35 surveys to confirm that the concept of ownership would help identify the individuals who were currently engaged in the entrepreneurial behavior (Vandewalle et al. 1995). In this study, they will be referred to as engaged entrepreneurs and non-engaged entrepreneurs, respectively.

To study the effects of age, two groups were created: a young-participants group, aged below 35, and an old-participants group, aged 35 and above. Prior research suggests that motivations for entrepreneurial behavior as well as employment status choices are different for younger and older individuals (Lévesque and Minniti 2006). The older age group (35 and older) is also the group that in previous research showed stronger preference for self-employment compared to other age groups (Kautonen et al. 2014).

The data from the questionnaire responses were analyzed using PLS-SEM algorithms performed in the SmartPls 3.0 Software (Ketchen 2013).

Sample

The sample is composed of participants from the region of Catalonia in the northeastern part of Spain. This region has a vivid entrepreneurial setting (Veciana et al. 2005) and has a long tradition of proactive support to entrepreneurial activity (Guerrero et al. 2006). In 2009, the Regional Government of Catalonia sponsored a program to accelerate potential entrepreneurial projects across the whole region of Catalonia. The selected participants were either already starting their first new venture or interested in entrepreneurship. There were 850 accepted applicants in the program, and 645 attended the sessions. The program coordinator gave authorization to the researchers to carry out the survey; no compensation was offered to the participants, but the regional government received a report of the survey results.

The questionnaires were administered during the introductory face-to-face session, which resulted in high participation rates. However, there were only 430 respondents whose questionnaires were deemed complete for the analysis. The results of the descriptive analysis are shown in Table 1.

The sample description of the study (see Table 1) shows that in the sample there are more males than females (56.1% versus 43.9%) and a slightly higher number of older (35 years old and older) than younger (younger than 35 years old) participants (51.6% versus 48.4%). More than 70% of the respondents have university and postgraduate educational degrees, 35.8% and 36.3%, respectively, and the rest have professional education, high school, and educational attainments lower than high school. As for engagement in any form of entrepreneurial activities, 42.1% were not engaged, while 43.3% have been engaged in such for more than six months and 14.6% have been engaged only in such activity for less than six months.

A cross-tabulation of age and entrepreneurial engagement is found in Table 2. There are more older engaged entrepreneurs compared to younger engaged entrepreneurs

Table 1 Sample characteristics

	N	Mean	%	SD
Individual's age	430	35,27		7,15
Younger (<35)	208		48.4	
Older (35+)	222		51.6	
Gender				
Male	242		56.1	
Female	188		43.9	
Education				
Lower than high school	5		1.2	
High school only	30		7.0	
Professional education	85		19.7	
University degree	154		35.8	
Postgraduate educational degree	156		36.3	
Engagement in entrepreneurship				
Non-engaged	181		42.1	
Less than 6 months	63		14.6	
More than 6 months	186		43.3	

(54.62% versus 45.38%), and the reverse is seen for non-engaged young entrepreneurs versus non-engaged older entrepreneurs (52.49% versus 45.51%).

Evaluation of the measurement model

The structural model in this study uses the extended TPB model, whose constructs are illustrated in Fig. 1. The goal of the model is to explain the role of EK, PA, SN, and PBC on EI. In this study, EK is measured using four dimensions, PB has three, SN has six, PBC has five, and EI has four. The indicators for all these dimensions are considered reflective because they are mutually interchangeable (Ketchen 2013).

Table 3 shows the results of the evaluation of the reflective measurement models where the cross-loadings were used to assess the discriminant validity of the indicators in the constructs. As seen in the table, the cross-loadings of the indicators are greater than all of their loadings on the other constructs, which establishes the presence of discriminant validity (Ketchen 2013).

Table 2 Sample structure (engagement and age groups)

	Complete sample	Younger entrepreneurs	Older entrepreneurs
Complete sample	430 (100%)	208 (48.37%)	222 (51.63%)
Engaged in the actual behavior	249 (100%)	113 (45.38%)	136 (54.62%)
Non-engaged	181 (100%)	95 (52.49%)	86 (47.51%)

Table 3 Items and construct cross-loadings to assess discriminant validity of the measurement model

	EI	EK	PA	PBC	SN
EI1	0.63	0.27	0.42	0.46	0.23
EI2	0.70	0.14	0.42	0.34	0.06
EI3	0.85	0.20	0.52	0.33	0.26
EI4	0.85	0.21	0.49	0.37	0.18
EK1	0.12	0.68	0.14	0.42	0.16
EK2	0.18	0.74	0.22	0.30	0.12
EK3	0.22	0.78	0.34	0.43	0.09
EK4	0.29	0.88	0.31	0.53	0.18
PA1	0.40	0.27	0.78	0.29	0.10
PA2	0.57	0.35	0.83	0.40	0.18
PA3	0.42	0.12	0.70	0.27	0.05
PBC1	0.43	0.39	0.31	0.75	0.23
PBC2	0.42	0.40	0.36	0.77	0.16
PBC3	0.31	0.38	0.24	0.75	0.19
PBC4	0.31	0.44	0.29	0.78	0.15
PBC5	0.40	0.48	0.39	0.76	0.16
SN1	0.29	0.05	0.17	0.17	0.73
SN2	0.22	0.12	0.12	0.17	0.82
SN3	0.11	0.10	0.06	0.19	0.74
SN4	0.21	0.17	0.19	0.18	0.76
SN5	0.12	0.16	0.04	0.16	0.73
SN6	0.05	0.21	0.05	0.16	0.64

Table 4 presents the internal consistency reliability, indicator validity, and convergent and discriminant validities of the measurement models. Following the suggested rules of thumb of evaluating reflective measurement models (Ketchen 2013), the constructs exhibit internal consistency reliability because all of the composite reliabilities are higher than 0.708. The model also exhibits convergent validity because all the AVEs are higher than 0.50.

Evaluation of the Structural Model

Upon confirming the reliability and validity of the constructs, we proceed with the evaluation of the structural model shown in Fig. 2, which involves examining the model's predictive capabilities and the relationships between the constructs using Smart PLS 3, a statistical software for partial least-squares structural equation modeling (SEM). The paths of the model were confirmed with *t*-value coefficients that would be significant at least at the 95% level ($p < 0.05$); thus, the measurement strength of the paths offered the possibility to further explore the relationship correlations between the variables of the model. This figure also displays the path coefficients together with their significance values and the corresponding R^2 of the constructs, and it was found that all

Table 4 Reliabilities, convergent and discriminant validities, and correlations among latent constructs of the measurement model

Latent construct	Cronbach's alpha	AVE	Composite reliability	EI	EK	PA	PBC
EI	0.724	0.553	0.830				
EK	0.807	0.632	0.873	0.273			
PA	0.658	0.591	0.812	0.611	0.336		
PBC	0.848	0.621	0.891	0.495	0.552	0.426	
SN	0.851	0.573	0.889	0.247	0.177	0.157	0.232

relationships in this structural model are significant except between SN and EI. The R^2 values of EI are in line with prior studies (Lortie and Castogiovanni 2015).

Results

This study focuses on understanding the differences among the following groups: engaged versus non-engaged, young versus old, young engaged versus old engaged, old engaged versus old non-engaged, and young engaged versus young non-engaged entrepreneurs. We used multi-group analysis (MGA) to compare the path coefficients between these groups (Sarstedt et al. 2011). It is assumed that these categorical moderator variables influence the relationships in the PLS path models (Ketchen 2013).

Tables 5, 6, 7 and 8 were created after applying PLS-MGA (Sarstedt et al. 2011), where we analyze the effect of engagement and age on EI with the other latent constructs in the TPB model. The tables also include the results of the test of equality of standard errors where the null hypothesis is having equal standard errors between the two groups.

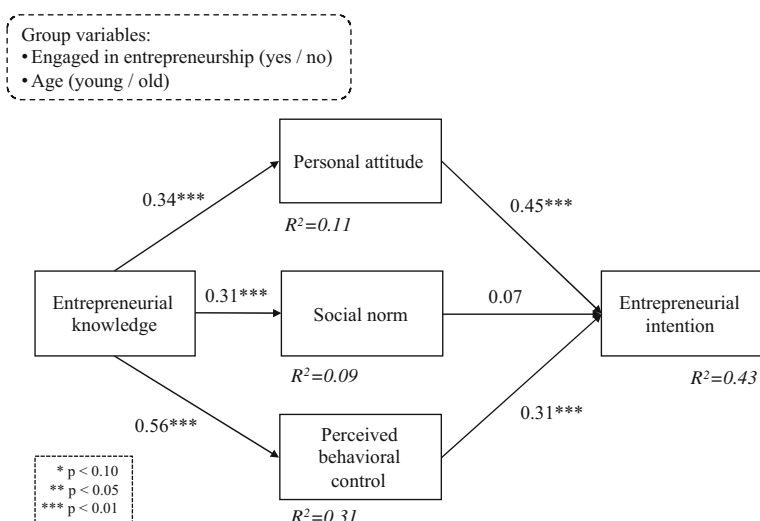


Fig. 2 Structural equation model with complete sample

Table 5 Hypotheses test by groups: engaged versus non-engaged

Engaged in actual behavior versus non-engaged		Path estimates			Significance in Path estimates difference
Hypothesis	Path	Complete sample	Non- engaged	Engaged	
H1	EK -> PA	0.34***	0.27***	0.37***	0.10
H2	EK -> SN	0.31***	0.35***	0.24***	0.11
H3	EK -> PBC	0.56***	0.53***	0.53***	0.00
H4a	PA -> EI	0.45***	0.42***	0.47***	0.06
H4b	SN -> EI	0.07**	0.08	0.06	0.01
H4c	PBC -> EI	0.31***	0.37***	0.24***	0.13[^]
R^2 value	EI	0.43	0.45	0.40	
	PA	0.11	0.08	0.14	
	SN	0.09	0.13	0.06	
	PBC	0.31	0.28	0.28	

[^] $p < .20$

* $p < .10$

** $p < .05$

*** $p < .01$

In Table 5, we present the results on whether the antecedents of EI differ significantly for those who are currently engaged or non-engaged in entrepreneurial behavior. We can observe that only the path social norm (SN) → Entrepreneurial intention (EI) is not significant. Comparing both groups, only perceived behavioral control (PBC) → entrepreneurial intention (EI) differs significantly ($p < 0.20$), showing a higher relationship between PBC and EI (0.37, $p < 0.01$) for non-engaged compared to those engaged in the actual behavior (0.24, $p < 0.01$).

In Table 6, we are interested in analyzing whether the antecedents of EI in TPB differ significantly for those who are engaged in entrepreneurial activities based on age (younger versus older). We identify that only the path entrepreneurial knowledge (EK) → perceived behavioral control (PBC) for the younger group is not significant. Comparing both groups, EK → PA (personal attitude), EK → SN, and EK → PBC differ significantly. Interestingly, the relationship between EK and PA, as well as the EK and PBC, is stronger for young engaged individuals, while EK and SN are stronger for older individuals currently engaged in the entrepreneurial behavior.

In Table 7, we are interested in analyzing whether the antecedents of EI in the TPB model differ significantly for the older who are either engaged or not in entrepreneurial activities. Taking old non-engaged and old engaged separately, we can see that path SN → EI is not significant in both groups. Comparing both groups, EK → PBC and PBC → EI differ significantly; in both paths, the stronger relationship is observed for those individuals who are not currently engaged in the behavior, suggesting a significant change for those having direct experience with the behavior.

In Table 8, we are interested in analyzing whether the antecedents of EI in TPB differ significantly for young respondents who are either engaged or not in

Table 6 Hypotheses test by groups: older versus younger engaged entrepreneurs

Older versus younger engaged in actual behavior		Path estimates			Significance in Path estimates difference
Hypothesis	Path	Complete sample (engaged)	Young engaged	Old engaged	
H1	EK -> PA	0.34***	0.49***	0.27***	0.22*
H2	EK -> SN	0.18***	0.14***	0.37***	0.23*
H3	EK -> PBC	0.55***	0.64	0.41***	0.22**
H4a	PA -> EI	0.48***	0.49***	0.46***	0.03
H4b	SN -> EI	0.11*	0.15^	0.01***	0.14
H4c	PBC -> EI	0.26***	0.20	0.23	0.03
R^2 value	EI	0.45	0.46	0.35	
	PA	0.11	0.24	0.07	
	SN	0.03	0.02	0.14	
	PBC	0.31	0.41	0.17	

^ $p < .20$

* $p < .10$

** $p < .05$

*** $p < .01$

Table 7 Hypotheses test by groups: older engaged versus older non-engaged

Older engaged in actual behavior versus older non-engaged		Path estimates			Significance in Path estimates difference
Hypothesis	Path	Complete sample (Old)	Old non-engaged	Old engaged	
H1	EK -> PA	0.30***	0.34***	0.27***	0.08
H2	EK -> SN	0.33***	0.33**	0.37***	0.04
H3	EK -> PBC	0.52***	0.57***	0.41***	0.16^
H4a	PA -> EI	0.41***	0.38***	0.46***	0.08
H4b	SN -> EI	0.02	0.03	0.01	0.02
H4c	PBC -> EI	0.39***	0.49***	0.23***	0.26**
R^2 value	EI	0.45	0.55	0.35	
	PA	0.09	0.11	0.07	
	SN	0.11	0.11	0.14	
	PBC	0.27	0.33	0.17	

^ $p < .20$

* $p < .10$

** $p < .05$

*** $p < .01$

Table 8 Hypotheses test by groups: young engaged versus non-engaged entrepreneurs

Young engaged in actual behavior versus young non-engaged		Path estimates			Significance in Path estimates difference
Hypothesis	Path	Complete sample (Young)	Young Non-engaged	Young Engaged	
H1	EK -> PA	0.37***	0.21*	0.49***	0.28**
H2	EK -> SN	0.29***	0.39***	0.14	0.25^
H3	EK -> PBC	0.58***	0.49***	0.64***	0.15^
H4a	PA -> EI	0.48***	0.46***	0.49***	0.03
H4b	SN -> EI	0.13**	0.17*	0.15*	0.02
H4c	PBC -> EI	0.22***	0.23***	0.20**	0.03
R^2 value	EI	0.42	0.40	0.46	
	PA	0.13	0.04	0.24	
	SN	0.09	0.15	0.02	
	PBC	0.34	0.24	0.41	

$^{\wedge} p < .20$

* $p < .10$

** $p < .05$

*** $p < .01$

entrepreneurial activities. Taking young non-engaged and young engaged in the behavior separately, we can see that path $EK \rightarrow SN$ of young engaged is not significant. Comparing both groups, $EK \rightarrow PA$, $EK \rightarrow SN$, and $EK \rightarrow PBC$ differ significantly. We observe that for young individuals with direct behavior engagement showing a stronger relationship between EK and the mediating variables of PA and PBC , no differences are observed in the paths leading to EI .

Discussion and implications

The study of entrepreneurial behavior using the theory of planned behavior (TPB) has been a fruitful research area in the last decades (Liñán and Fayolle 2015). As this research area has consolidated, new challenging questions have also emerged. We have taken as starting point the call from Schlaegel and Koenig (2014) to explore the potential reverse causality of entrepreneurial behavior on entrepreneurial intention (EI).

Our results show that direct exposure to the entrepreneurial behavior modifies the drivers of EI , but only when the individual's age is taken into consideration. When not controlling for age, the path coefficients between the sample of individuals engaged in the entrepreneurial behavior and those who were interested but not engaged in it did not show significant differences. Therefore, in our sample, we did not find sufficient evidence to argue that engagement in the entrepreneurial activity modifies, regardless of age, the individual's intention. Thus, we did not capture significant differences related to engagement or further commitment in the activity (Fayolle et al. 2011).

Nevertheless, as we introduced age as a potential moderator on the effects of direct experience gained by actual engagement in the activity, we find that the age of the individual is a factor that uncovers part of the apparent homogeneity in the overall sample analysis. In fact, as the effect of actual engagement is studied across the different age groups (younger and older), further differences in the path coefficients are observed.

These results have implications for older age or senior entrepreneurship (Kautonen, Tornikoski and Kibler, 2011b; Tornikoski et al. 2012). First, it offers a better understanding of how actual entrepreneurial behavior would modify the relationship between entrepreneurial knowledge (EK) and entrepreneurial intention (EI); while for the young individuals' sample engagement in the actual behavior strengthens the influence of EK on the personal attitude (PA) and perceived behavioral control (PBC) constructs (see Table 8), such effect is not observed in the older individuals' sample, in fact, we observe the opposite effect for the relationships between EK and PBC and also for the relationship between PBC and EI (see Table 7).

These findings would imply that the direct behavior experience could be generating positive or negative effects depending on the individual's beliefs and reasoning in relation to the behavior (Westaby 2005). In this sense, we could argue that for older individuals, experiencing the behavior comes as a "reality check," as it can be observed in the significant drop of PBC as a driver of EI (see Table 7). Such a drop reduces the weight of their perceived capacity to develop the behavior as they are experiencing the difficulties related to the entrepreneurial behavior.

Extending on prior work related to experiential entrepreneurial learning (Politis 2008), we are now able to observe and clarify the effects of the actual exposure to the behavior. While in our first observation there are no strong significant differences (see Table 5), the differences in the engaged or non-engaged groups in relation to the strength of the linkage between PBC and EI (0.13, $p < 0.20$) gains strength as we divide the sample into the other age subgroups. The area of impact of the changes across groups (mostly around the PBC construct) reinforces prior research interest in exploring how PBC or self-efficacy matters in the development and sustainment of entrepreneurial behavior (Liñán and Fayolle 2015; McGee et al. 2009; Naktiyok et al. 2009). What came as a surprising finding is that the direct experience of the behavior has a different impact on the strength of the model's main relationship (entrepreneurial knowledge- > perceived behavioral control- > entrepreneurial intention) for the younger and the older sample of individuals.

Reviewing the literature on entrepreneurial knowledge (Miralles et al. 2016; Widding 2005) we could argue that actually we could be observing two different effects on how entrepreneurs learn from being engaged directly in the behavior (Politis 2008). For young individuals with limited work experience, direct experience would expand their knowledge reservoirs (Widding 2005), building up their belief that they can perform the behavior. For older individuals, we could be observing the opposite process; the direct experience of the behavior would contradict their preexisting knowledge (built through prior training or work experience), generating an experience that might not fit

with their expectation on what being an entrepreneur entails. Such argumentation would help to better understand the findings from Kautonen, Luoto and Tornikoski (2011a), suggesting that older entrepreneurs would sustain their entrepreneurial behavior despite finding that they were less prepared than expected, as their career choices become narrower once engaged in the entrepreneurial behavior.

Other relevant aspects are that the results contribute to the ongoing consolidation of the theory of planned behavior (TPB) in entrepreneurial intention research (Liñán and Fayolle 2015). The results have shown the predictive capability of the model; all the relationships in the model are significant, except for social norm, in their linkage to entrepreneurial intention. This also contributes to the introduction in the TPB model of antecedents such as entrepreneurial knowledge, current status of the individual (engaged or not in an entrepreneurial activity), and age group in the development of more accurate measures for EIs in nonstudent samples.

Limitations

This research is not absent of limitations; there are several opportunities to further extend this work and find alternative research designs to contrast the study findings. First, we have been working with a sample of individuals that had already displayed some interest in the entrepreneurial behavior; further studies could aim to randomly select a sample of individuals from the population and compare their responses with those individuals who are currently acting as entrepreneurs. Alternatively, a longitudinal design could follow individuals before and after they engage in entrepreneurship for the first time and compare the changes in their perceptions and intention towards entrepreneurship. In this sense, it would be interesting to also include in future studies individuals with past prior entrepreneurial experience (our participants had to either be currently engaged for first time in entrepreneurship or be interested).

Second, there are several measures that could become interesting additional controls for this type of research. For instance, there could be a control to capture whether the individual's perception of the actual entrepreneurial behavior is a positive or negative experience, avoiding potential contamination due to subjective evaluation of the ongoing experience (Foo et al. 2009). In this sense, literature on work engagement or other similar areas could provide clues on how to further develop this stream of research (Jensen et al. 2010; Van Rooy et al. 2011).

Additional measures could capture the type of entrepreneurial venture that the entrepreneur is involved in, to be able to control for different types of new venture creation efforts. In our sample, we had information on the number of months that they had been engaged in the venture creation effort, but the variable did not provide significant differences across the engaged individuals. Further research could have a broader measure, capturing information on those

individuals who are engaged and doing repeated measurements across time, tracking potential changes in their reasoning as they gain further direct experience in the behavior.

Third, as we study the influence of age on the effects of being engaged in entrepreneurial behavior, future studies could also classify the sample respondents depending on their perception of alternative career choices. Probably this would help to understand whether older individuals persist in entrepreneurial behavior as they perceive to have fewer career choices than other individuals.

Overall, further efforts to extend our understanding on how being exposed to the behavior could impact on the intention to sustain or abandon it would benefit from additional measurement points across time, responding to other scholars' suggestions to further elaborate on the influence of sustained commitment and engagement on the entrepreneurial behavior (Fayolle et al. 2011).

Conclusions

This study reports on a first effort to study how individuals engaged in the actual behavior could provide differences in the perceptions and other intention's antecedents. We introduced behavioral reasoning theory (Westaby 2005) as a guide to enrich the entrepreneurial behavior TPB model. We observed that actual behavior could be a source of differences across individuals, specifically if we also take into consideration different age brackets. The findings suggest that being exposed to the actual behavior of entrepreneurship would strengthen the influence of personal attitude (PA) and perceived behavioral control (PBC) on entrepreneurial intention (EI) for younger individuals; meanwhile, it would weaken the relationship between perceived behavioral control (PBC) and entrepreneurial intention (EI) for older individuals. Overall, the research contributes to the consolidation of both: the TPB as a model to study different profiles of entrepreneurial behavior and as a solid framework to explore its moderating role when introducing new antecedents to explain an individual's behavior.

Practical implications of this research point towards the importance of age as a factor influencing the effectiveness of entrepreneurship promotion policies. While young individuals seem to benefit from being exposed to the behavior, older individuals might require further support in their transition and consolidation in their entrepreneurial career. Being engaged in the behavior generates new reasons in favor and against, and these reasons revert into changes in their motivations to engage in entrepreneurial behavior.

Appendix

Questions on the measures of the variables in the theoretical framework were built using the Entrepreneurial Intention Questionnaire (EIQ) developed by Liñan & Chen (2009). In addition, the questionnaire included measures for Entrepreneurial

Knowledge (EK) and for their entrepreneurial behavior activity (currently running a new venture or not).

In the questionnaires distributed to the sample, the questions were sorted in random order (not grouped by construct) to avoid acquiescence bias.

Entrepreneurial Knowledge (EK)

Indicate your level of agreement with the following sentences
(total disagreement: 1, total agreement: 7)

1 2 3 4 5 6 7

- EK1 Thanks to my experience, I know how to start a viable business
 EK2 Thanks to my professional experience, I know well clients' problems
 EK3 It is easy for me to identify business opportunities in my professional area
 EK4 Thanks to my knowledge, I am comfortable at my work as I know how the business works
-

Personal Attitude (PA)

Indicate your level of agreement with the following sentences
(total disagreement: 1, total agreement: 7)

- PA1 Being an entrepreneur implies more advantages than disadvantages to me
 PA2 A career as entrepreneur is attractive for me
 PA3 Among various options, I would rather be an entrepreneur
-

Social Norm (SN)

Do you perceive support for entrepreneurial initiatives in your close environment? Indicate from 1 (total disapproval) to 7 (total approval).

- SN1 *Your close family*
 SN2 *Your friends*
 SN3 *Your colleagues*

Do you perceive a positive perception towards entrepreneurial initiatives in your close environment?
Indicate from 1 (total disapproval) to 7 (total approval).

- SN4 *Your close family*
 SN5 *Your friends*
 SN6 *Your colleagues*
-

Perceived Behavioral Control (PBC)

Indicate your level of agreement with the following sentences
(total disagreement: 1, total agreement: 7)

- PBC1 *I am prepared to start a viable firm*
 PBC2 *I can control the creation process of a new firm*
 PBC3 *I know the necessary practical details to start a firm*
 PBC4 *I know how to develop an entrepreneurial project*
 PBC5 *If I tried to start a firm, I would have a high probability of succeeding*

Entrepreneurial Intention (EI)

Indicate your level of agreement with the following sentences
(total disagreement: 1, total agreement: 7)

- EI1 *I am ready to do anything to be an entrepreneur*
 EI2 *My professional goal, in the short term, is to create a business*
 EI3 *I am determined to create a firm in the future*
 EI4 *I have the firm intention to start a firm someday*

E1 At this time, do you have your own venture?

-Yes-No

E2(if Yes) since when (in months) _____

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