

Exploring the impact of social media on entrepreneurial intention: a survey on high-school students¹

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Massimiliano Vesci - Chiara Crudele - Rosangela Feola
Roberto Parente

Abstract

Purpose of the paper: In modern society, the media system is one of the most important agents of influence on minds and is a very powerful tool that generates awareness around entrepreneurship as well as acceptance and interest in this activity.

Built on Media Systems Dependency theory and theory of Planned Behavior, the study aims to explore if and how social media dependency affects students' cognitive processes that lead to intention to engage in entrepreneurial behavior.

Methodology: To test the proposed empirical framework and hypotheses, the study adopts a quantitative approach, through a survey and OLS Regression Analysis.

Findings: Social media dependency plays a significant role in the formation of students' entrepreneurial intentions and this relationship is mediated by the effects that the classical antecedents of intentions (according to the TPB) have on behavioral intentions. Social media dependency results in contributing to both behavioral and normative beliefs among students.

Research limits: Sampling procedures and outcomes may limit the generalizability of results.

Practical implications: The study advances entrepreneurship research on "exogenous" determinants of entrepreneurial intention also offering some practical suggestions for educators and policy-makers who wish to boost the effectiveness of entrepreneurship discourse through new digital tools.

Originality of the paper: In the studies on the determinants of entrepreneurship, this is the first piece of research that highlights the role of Media Dependency in the formation of entrepreneurial intention in a very young population and which condenses in an empirical framework two relevant theories from different fields.

Key words: student entrepreneurship; entrepreneurial intention; social media dependency; theory of planned behavior; cognitive model

¹ While the paper is the result of the authors' joint reflections, in terms of its final drawing up, paragraphs 1, 2.3 and 6.1 are attributed to Massimiliano Vesci, paragraphs 2.1, 3.2, 3.3 and 4 are attributed to Chiara Crudele, paragraphs 2.2, 3.1 and 5 are attributed to Rosangela Feola and paragraph 6.2 is attributed to Roberto Parente.

1. Introduction

In modern society, the media system is a crucial agent of influence on minds and represents a very powerful tool (Khajeheian, 2013). Media attention generates awareness around entrepreneurship and can increase acceptance and interest in this activity across a society (GEM, 2019). It also plays a key-part in affecting entrepreneurial phenomena as well (Fait *et al.*, 2015), by diffusing a variety of contents that transmit values and images associated with entrepreneurship and by fostering an entrepreneurial spirit overall in society (Bogatyreva *et al.*, 2019). As today's students are "digital natives" who are born with new information technologies and display a very strong use of social media (Schriever, 2021), we still lack knowledge about the implications of how social media use may affect young students' awareness of entrepreneurship and their predisposition to pursue entrepreneurial tasks. Grounded on the Media System Dependency Theory (MSD, Ball Rokeach and De Fleur, 1976) social media are also assumed to be impacting on users' cognitions, emotions and behaviors.

Furthermore, giving momentum to the students' entrepreneurship as an interesting and growing field of inquiry, which has been explored in a number of studies on academic entrepreneurship and entrepreneurial universities (for the Italian context see for example, Feola *et al.*, 2017, Riviezzo and Napolitano, 2014, Schillaci *et al.*, 2008), some authors have emphasized that the years of childhood and adolescence represent the ideal phase in which acquired information and knowledge of entrepreneurship nurture an overall positive attitude towards entrepreneurship itself (Geldhof *et al.*, 2014; Peterman and Kennedy, 2003). Moreover, students' entrepreneurship is assuming more and more importance because the very early development of entrepreneurial intentions among young people can lead to future persistence in their efforts to startup a new venture (Douglas *et al.*, 2021; DeGeorge and Fayolle, 2008).

To detect why an individual chooses an entrepreneurial career as a possible and feasible option, requires focus on the relations between intention and its cognitive determinants, which involve aspects such as attitudes and perceptions (Peterman and Kennedy, 2003; Fayolle *et al.*, 2006; Liñán, 2004). In addition, the broad theory behind intention models (Shapero, 1982; Ajzen and Fishbein, 1977; Ajzen, 1991) clearly contends that perceptions and attitudes are also the result of external social and cultural dynamics, which consistently impact on individuals' cognitive processes and values system (Shapero and Sokol 1982).

Based on these considerations, this study focuses on social media as an exogenous factor that plays a significant role in determining and influencing entrepreneurial intentions, especially in a young and not entrepreneurial educated population. Thus, this study intends to provide an answer tot the following research questions:

RQ1) Do social media influence high-school students' entrepreneurial intention?

RQ2) How does social media affect students' cognitive processes and perceptions of entrepreneurship (i.e., their overall entrepreneurial attitudes, perceived capabilities and social norms)?

Therefore, built on MSD theory (Ball-Rokeach and DeFleur, 1976; Ball-Rokeach, 1985), and the TPB (Ajzen, 1991, Ajzen and Fishbein 1975), this study analyzes the effect of social media on high school students' cognitive process and their consequent intention to engage in an entrepreneurial behavior.

The present research advances entrepreneurship theory and practice in three directions. First, it contributes to the student entrepreneurship field by examining in depth factors and causes that shape entrepreneurial intention in young students. Given the recognized importance of fostering entrepreneurship in the early stages of adolescence and pre-university age, undoubtedly, very little efforts have been made to try to explain the development of students' entrepreneurial intention specifically in the secondary school context.

Second, this study improves on past research on the external conditions that influence student entrepreneurship, suggesting a consistent role played by the social media system: virtually no research has examined how the user's (in our case, students/potential entrepreneurs) opportunities for communication and information on processes that accompany the use of social media may impact on their own cognitions, perceptions and consequent actions. Moreover, despite the emerging research on digital entrepreneurship in general (e.g., Soluk *et al.*, 2021; Nambisan, 2017; Sussan and Acs, 2017) and the extensive adoption of social media in modern communities, relatively little exploration has addressed the role of social media in the entrepreneurship domain.

Finally, this article offers some practical contributions to students, educators and policy makers, disseminating some insights on the potential of the new digital tools in augmenting and fostering students' attitudes and inclinations.

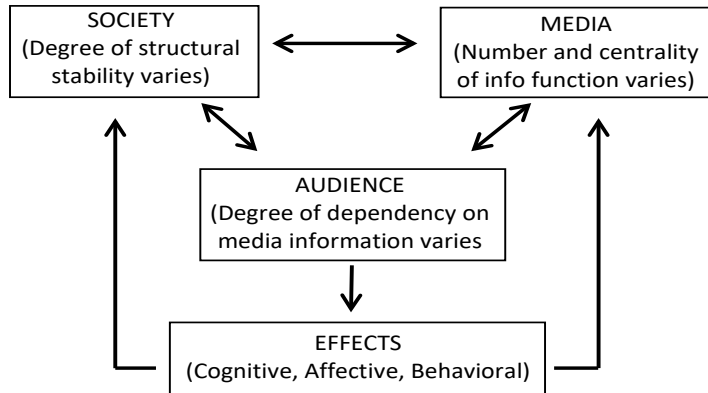
2. Theoretical Background and Hypotheses

2.1 Media Systems Dependency (MSD) theory applied to social media

In contemporary societies, where people cannot count exclusively on their interpersonal resources and relations to acquire all the needed information for their daily lives, the mass media system arises as an indispensable information source-system. Ball-Rokeach and DeFleur (1976), propose the Media System Dependency (MSD) theory which relates to the factor of dependency and its outcomes (Figure 1). The framework (Ball-Rokeach, 1985) explains that people rely on information that is "created, gathered, processed, and disseminated by media, which in turn brings about cognitive, affective and behavioral changes" (Ball-Rokeach and DeFleur, 1976, p. 9). So, it emphasizes the concept of dependency, i.e., a relation in which "the attainment of goals by one party is contingent upon the resources of another party" (Ball-Rokeach and DeFleur 1976, p. 6). The power of media is considered as the resultant of a limited control of information resources and of the capacity of media systems of information in gathering/creating, processing, and diffusion

(Ball-Rokeach, 1998). People establish a number of dependency relations with a broad variety of new and old media. However, it must be noted that, in the existing information and communication domain, the powerful weight of traditional mass media has given way to new emerging forms of new media (e.g., among others, the social media).

Fig. 1: Social Media Dependency Framework



Source: Adapted from the original MSD Theory (Ball-Rokeach and DeFleur, 1976)

Kaplan and Haenlein (2010) define social media as “a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and allow the creation and exchange of user-generated content” (p. 61). They include platforms such as Facebook, Instagram, Twitter (Olanrewaju *et al.*, 2020). Indeed, applying the idea of “dependency” to the contemporary communication and information environment becomes a significant effort. Besides affecting marketing, instruction, and communication (Kim *et al.*, 2014a), the use of social media seems, in fact, to have transformed, in particular, students’ information-seeking behaviors. The pervasiveness of social media such as Twitter, Instagram, and Facebook offer remarkable opportunities for individuals to communicate through social networks (Junco, 2013; Nadkarni and Hofmann, 2012). According to Suliveres (2014), human face to face interactions are becoming less important following the emergence of social media in society nowadays. Social media have become a more common method for interpersonal communications (Kujath, 2011) and have attracted a large number of users, especially from teenagers and university students alike. In particular, Ahn (2011) shows that teenagers are among the most prolific users of social media. A number of other researches also corroborate that social media is, in fact, the most popular form of technology and the most common activity among teenagers today (O’Keeffe and Clarke-Pearson, 2011; Reich, Subrahmanyam, and Espinoza, 2012). This shift in students’ habits could also cause a shift in how they obtain, evaluate and process information obtained from social media, and then influence their behaviors. In light of these considerations, expanding the idea of “media system dependency” from the MSD theory, Kim and Jung

(2016) suggest the concept of Social Media dependency, conceptualized as the degree of perceived benefit and effectiveness of a Social Media tool for achieving a variety of critical goals in individuals' everyday lives. The advent of social media has revolutionized not only the ways in which people stay connected and communicate, but also substantial processes that generate new opportunities and challenges for students and educators (Kaplan and Haenlein, 2010).

With the growing volume and variety of information that spreads through social media, the related concept of "information literacy" becomes more and more important. Information literacy can be defined as "the ability to access, evaluate, organize and use information in order to learn, problem-solve, make decisions in formal and informal learning contexts, at work, at home and in educational settings" (Bruce, 1997 a, b). To be information-literate and for an effective use of social media for information-seeking, individuals should have the necessary skills to identify the most appropriate sources as well as properly evaluate the information acquired from the selected sources. This concept can be easily transposed to the social media domain. Social media, in fact, are different from traditional media. While on traditional media, contents are commonly provided by unidirectional flows of communication, social media entail interactive, multi-directional, co-operative processes centered on "Web 2.0", in which information can be easily produced and shared. Social media users are interconnected by accessing each other's profiles and posts, commenting and sharing ideas (Vitak *et al.*, 2011). Therefore, social media competence encompasses knowledge and expertise and self-efficacy in which attitude plays an important role in enhancing social media literacy (Vanwynsberghe *et al.*, 2011). The users must possess dynamic behavior by having right attitudes and confidence to use that skill. Bahk, Sheil, and Lin (2010) for example, clearly show a strong connection between social media and the millennial community, to use social media platforms, particularly in seeking for job opportunities.

2.2 Entrepreneurial intention and its antecedents: the Theory of Planned Behavior

Conceived as a process, at the heart of the entrepreneurship process is the notion of voluntary decision-making embedded in the concept of intention. According to the extensive literature on social cognition, entrepreneurial intention is the best predictor of a certain behavior, i.e., career choice, which is basically built on cognitive processes (Krueger *et al.*, 2000; Peterman and Kennedy, 2003; Lanero *et al.*, 2015). As a growing research field, entrepreneurial intention is indeed being assumed as the best predictor of an individual's planned behavior, especially when such behavior is difficult to observe or concerns a certain unpredictable time lag. It is therefore essential to understand how these intentions are actually formed.

Recently, some new theoretical perspectives have emerged to explain the actions and logic that underlie entrepreneurial behavior (i.e., effectuation theory, Sarasvathy, 2001, bricolage theory Baker and Nelson,

2005). Effectuation, for example, refers to a logic that is complementary to traditional causation logic, and is more appropriate for dealing with situations of extreme uncertainty and which require assets such as creativity, problem solving and tolerance for ambiguity (Sarasvathy 2001). Effectuation is therefore a theory of design, which responds to uncertainty, goal ambiguity, and social enactment of meaning in actions (Sarasvathy 2004), mainly dealing with more advanced stages of the entrepreneurial process. Conversely, the TPB has been extensively adopted in the field of entrepreneurship to predict students' entrepreneurial intention (Lortie and Castrogiovanni, 2015; Linà, Urbano, and Guerrero 2011; Ramos-Rodriguez *et al.*, 2010), and better deals in explaining future, perspective planned actions. Moreover, the existing research has widely tested and validated this empirical framework (see for example: Krueger *et al.*, 2000; Krueger, 1993; Tkachev and Kolvereid, 1999; Peterman and Kennedy, 2003; Kolvereid, 1996; Guerrero *et al.*, 2008) adapting the original theorization to various kinds of entrepreneurial endeavors.

The TPB is in fact widely considered one of the most adopted and influential frameworks for explaining and predicting specific individual behaviors. It identifies three close determinants of behavioral intention: perceived attitudes toward the behavior, the social norm, and perceived behavioral control. According to the TPB, attitude represents the overall desirability that individuals manifest in respect to a specific behavior, and can be summarized as the personal beliefs and expectations about the behavior in question. Social norm refers to the sum of the perceptions of individuals regarding how influential people in their lives judge their involvement in a certain behavior, such as starting a business. Therefore, it is based upon a belief of social expectation that conditions such behavior (Bicchieri, 2012; 2017).

The circle of influential people usually includes family, friends, and people who are particularly relevant to the individual. Perceived behavioral control refers to individuals' personal beliefs about being capable of performing a specific behavior and represents the perceived ease or difficulty of performing such behavior (Ajzen, 1987; Ajzen, 1991). At the core of the TPB is that all social behaviors are reasoned, controlled or planned (Ajzen and Fishbein, 2000) and intention, which is the extent an individual is committed to some prospective target behavior, robustly explains and predicts any plannable social behavior (Krueger and Carsrud, 1993; Krueger *et al.*, 2000). Since in the current research entrepreneurial intentions are considered a clear manifestation of voluntary and conscious decisions to possibly join in new venture creation, it becomes crucial to an in-depth understanding of how such decisions are made.

2.3 Hypotheses' development

In the overall media system, social networks are the most visited websites in which students engage in online chatting and forums (often instead of face-to-face interactions) making them generally highly dependent on the internet (Kuss *et al.*, 2013). Students show good knowledge of ICT due to its widespread usage and application in schools and academia. Today

they use a wide range of devices and online platforms to enable their learning process (Gualtieri *et al.*, 2012). According to Tsai *et al.*, (2009), the use of internet and online platforms has a significant effect on students' habits and behavior. The social media is used as a platform to create networking and for knowledge sharing, business dealing and employment. Laurence (2012) explains young users spend time on the internet for various reasons, such as employment, professional relations and social interactions. Furthermore, undergraduate students are technology savvy and fast learners in technology development, making them the most active group following the latest trends of technology (Park, 2010). Experienced internet users have greater self - control in terms of their addiction to the internet and apply it more purposefully because they have greater exposure on internet usage and function (Mafé and Blas, 2006). In light of the aforementioned perspectives, social media are assumed to impact on individuals' cognitions, emotions and behaviors. As such it is possible to conclude that social media dependency affects students' attitudes, their idea to have control over realizing a certain action, and the way they perceive the judgement of their peers, families and society at large, in performing certain actions.

Although to date limited research on individual-level media dependency (e.g. Lowrey, 2004; Ho *et al.*, 2015; Morton and Duck, 2001) has analyzed these influential effects on users' attitudes and behavior, Lowrey (2004) adopting the MSD framework on a sample of U.S. residents, examined people's media dependency following the September 11 terrorist attacks, finding that individual-level media dependency significantly predicted changes in the respondents' overall attitudes and behavior. Ho *et al.*, (2015), applying the TPB and MSD theory on Singaporean citizens, found that media dependency positively predicts two types of pro-environmental behaviors. Morton and Duck (2001) examined the effect of media dependency in predicting safe sex attitudes and behaviors in a gay community.

Therefore, built on MSD theory and combining the concept of information literacy with the evidence underlying this theory, this study hypothesizes that social media have an important role in shaping entrepreneurial awareness and consciousness in students. Their effect is even better understood in high school students who have not received an entrepreneurial education, and whose strong digital culture influences the way in which they seek, process and share information and knowledge.

As a consequence, the following hypothesis is formulated:

Hp.1: Social Media dependency positively affects students' Entrepreneurial Intention

The previous section has clarified that the TPB distinguishes perceived attitudes, social norm, and perceived behavioral control as close determinants of a specific behavioral intention (Ajzen, 1987; Ajzen, 1991). As Ajzen (1991) originally theorized, attitudes, subjective norms, and PBC were believed to be preceded by one's general beliefs. Entrepreneurship scholars have expanded upon this original theorization to include all types

of different variables that precede the TPB and earlier research applying the TPB highlighted that the three usual antecedents of intention are in turn affected by external/exogenous phenomena, mainly related to individuals' social, cultural and institutional context (Linan *et al.*, 2011). Accordingly, other constructs that were not a part of the original TPB have also been tested as antecedents to the model. For example, gender (Kolvereid, 1996; Zhao *et al.*, 2005), autonomy, authority, self-realization, and economic opportunity (Kolvereid and Isaksen, 2006) personality traits, i.e. openness, conscientiousness, extraversion, agreeableness, and neuroticism, (Obschonka *et al.*, 2010, Roy *et al.*, 2017), past entrepreneurial experience, education, and growing up in a family with a family business (Carr and Sequeira 2007; Dimov 2010; Lim *et al.*, 2010; Peterman and Kennedy 2003; Zhao *et al.*, 2005) have been found to be significant antecedents to attitudes, subjective norms, and PBC.

Therefore, over the last 20 years, entrepreneurship scholars have expanded and altered the original theorization to include all these types of different determinants and antecedents, in order to improve the applicability of the TPB in explaining and predicting several entrepreneurship phenomena (Lortie and Castogiovanni, 2015). Hence, to accomplish with the study research aims, this prior evidence is deemed to be supportive in introducing an additional construct in the TPB base-model as a possible antecedent of entrepreneurial intention, namely social media dependency. In fact, the acquisition of information and knowledge through social media tools might make the difference, particularly in young students' development of favorable/unfavorable beliefs and perceptions regarding various kinds of entrepreneurial endeavors.

As noted above, very little research on individual-level media dependency has considered these enhanced effects on individuals' attitudes and behavior. However, applying the TPB and MSD theory in the field of mass communication, Ho *et al.*, (2015) examine the effects, amongst other variables, of the three antecedents from the TPB and media dependency on certain kinds of pro-environmental behaviors.

Hence, this study attempts to examine how the level of entrepreneurial knowledge and information gathered through social media influences the three closed antecedents of entrepreneurial intentions. As such, we formulated the following hypotheses:

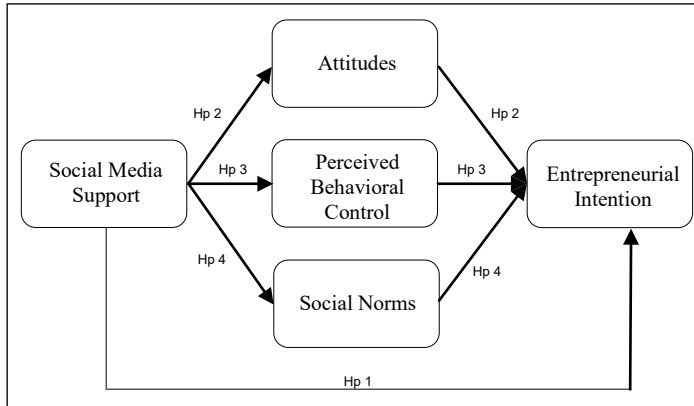
Hp.2: The relationship between Social Media dependency and Entrepreneurial Intention is mediated by Attitudes

Hp.3: The relationship between Social Media dependency and Entrepreneurial Intention is mediated by Perceived Behavioral Control

Hp.4: The relationship between Social Media dependency and Entrepreneurial Intention is mediated by Social Norms

All the above hypotheses are summarized in the model depicted in Figure 2.

Fig. 2: The empirical model of research



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Source: Authors' elaboration

3. Data and Method

3.1 Sample

To test the above hypotheses, a survey on high school students in two poles located in Southern Italy was developed administering a web-based structured questionnaire during classes in March-April 2019. The school was a technical institute which includes three different professional macro-profiles: fashion and textiles, tourism, and mechanics. All the students in our sample had never received any kind of course or education about entrepreneurship.

This study followed recommendations by Conway and Lance (2010) for minimizing the issue of common method bias in three ways. First, the study adopted a self-reporting response method to capture individuals' attitudes and perceptions - all of which representing information with limited alternative sources. Second, providing robust construct validity and absence of overlaps amongst items (details are provided in the measurement section). Third, the study adopts proactive design steps in order to lessen these effects by randomly distributing three different versions of the survey, in which each one presented a different order of the questions, and a different order of the items within each question. At the end of the process, 363 valid responses were obtained.

3.2 Measures and common method variance

Following Churchill (1979) and Kline (2005), in this study all the constructs were measured with multiple items generally adapted from validated scales from previous studies (Table 1). Table 2 shows all the key independent and dependent measures and their related statistics for construct validity.

Entrepreneurial Intention was measured with six items based on the Entrepreneurial Intention Questionnaire (EIQ) first developed by Liñán and Chen (2009) and later modified by Liñán *et al.*, (2011). Following Liñán and Chen (2009), this study adopted a pure-intention measure. To assess the psychometric qualities of the intention measure, a principal component analysis with Varimax rotation was performed. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (0.91) and the Bartlett test (significant at the 5% level) provide assurance that the scale is homogenous and adequate. This is also confirmed by Kaiser's criteria (unidimensional measurement scale) and the explained total variance (83%). The reliability of the scale is also acceptable based on Cronbach's alpha (0.95), Jöreskog's rho (0.96) and the rho of convergent validity (0.83).

TPB variables were measured with 14 items in total, partially adapting the scale proposed by Liñán *et al.*, (2009) attitudes (5 items), subjective norms (3 items), and perceived behavioral control (6 items).

To obtain a score for the Attitude variable, a component score between the five items was computed for this construct (Bartlett test significant at the 5% level, KMO 0.85). The reliability of the scale is good based on Cronbach's alpha (0.89), Jöreskog's rho (0.92) and the rho of convergent validity (0.71). The same procedure was developed for Perceived Behavioral Control measure (Cronbach's alpha 0.92, Jöreskog's rho 0.94 and the rho of convergent validity 0.72) and Subjective Norms (Cronbach's alpha 0.79, Jöreskog's rho 0.88 and the rho of convergent validity 0.71).

To measure Social Media dependency, this study developed a Social Media Entrepreneurial Support scale heavily built on the scale proposed by Liñán and Chen (2009) adapting their five items used to evaluate how entrepreneurial education support affects attitudes and intentions. As such, respondents indicated their agreement with the following four statements: "Social Media generated in myself a greater appreciation of the figure of the entrepreneur"; "Social Media generated a preference in myself for the opportunities offered by being an entrepreneur"; "Social Media helped develop the skills needed to be an entrepreneur"; "Social Media helped develop the intention to become an entrepreneur". Interviewees were asked to indicate the extent of their agreement/disagreement with each statement on a 7-point Likert scale or, in the case of social media support, to what extent each factor is supportive in developing entrepreneurial awareness. The final score for Social Media dependency was calculated as the component score of the four adapted items. The reliability of the scale is good based on Cronbach's alpha (0.88), Jöreskog's rho (0.92) and the rho of convergent validity (0.74).

Based on previous research (Linan and Chen, 2009; Yordanova and Tarrazon, 2010; Parker, 2009; Rotefoss and Kolvereid, 2005; Tkachev and Kolvereid; 1999) this analysis considers a set of control variables that could potentially influence a student's entrepreneurial intention: in particular, (i) gender a dummy variable that equals one if the individual is a female, and zero otherwise -, (ii) age - which equals the individual's age - (iii) work experience - respondents were asked to indicate "yes" or "no" to the following question "Have you ever worked in the past?" -, (iv) entrepreneurial background (respondents were asked to indicate "yes" or

“no” to the following question “Are your family members Have your family members ever been business owners?” -, (v) time spent on social media, have been included as control variables.

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Tab. 1: Research constructs and items

Latent Variable	Items	References
Attitude (ATT)	Being an entrepreneur implies more advantages than disadvantages to me	Linan <i>et al</i> 2009
	A career as entrepreneur is attractive for me	
	If I had the opportunity and resources, I'd like to start a firm	
	Being an entrepreneur would entail great satisfactions for me	
	Among various options, I would rather be an entrepreneur	
Perceived Behavioral Control (PBC)	To start a firm and keep it working would be easy for me	
	I am prepared to start a viable firm	
	I can control the creation process of a new firm	
	I know the necessary practical details to start a firm	
	I know how to develop an entrepreneurial project	
Subjective Norms (SN)	If you decided to create a firm, would people in your close environment approve of that decision? Indicate from 1 (total disapproval) to 7 (total approval).	
	Your close family	
	Your friends	
	Your colleagues	
Entrepreneurial Intention (EI)	I am ready to do anything to be an entrepreneur	
	My professional goal is to become an entrepreneur	
	I will make every effort to start and run my own firm	
	I am determined to create a firm in the future	
	I have very seriously thought of starting a firm	
Social Media Dependency (SMD)	I have the firm intention to start a firm some day	
	Social Media generated in me a greater appreciation of the figure of the entrepreneur	Self-elaboration from Liñan and Chen (2009) entrepreneurship education scale
	Social Media generated a preference in me for the opportunities offered by being an entrepreneur	
	Social media helped develop the skills needed to be an entrepreneur	
Social media helped develop the intention to become an entrepreneur		

Source: Authors' elaboration

To assess some typically specific endogeneity threats, this study examined the data for common method variance using the Harman single-factor test, which is commonly utilized in entrepreneurship and small business studies for detecting such bias (Walter and Block, 2016). The results of the factor analysis suggest that there is not a single dominant

factor, as the data revealed that all factors with eigenvalues exceeding one, accounting for 35.1 percent of the variance (where adequate threshold is <50 percent). Thus, the results suggest that common method variance is not a substantial concern, given that no single factor accounts for the majority of the variance within our data.

Tab. 2: Study measures and construct validity estimates

	Items (n)	Cronbach's alpha	RHO of convergent validity	RHO (Joreskog)	Eigenvalue	KMO	Percent of variance explained
Entrepreneurial Intention	6	0,959	0,831	0,967	4,985	0,915	83,090
Attitude	5	0,898	0,710	0,924	3,553	0,852	71,062
Perceived Behavioral Control	6	0,923	0,727	0,941	4,362	0,868	72,701
Subjective Norms	3	0,794	0,715	0,882	2,144	0,698	71,473
Social Media Dependency	4	0,884	0,743	0,920	2,971	0,832	74,271

Source: Authors' elaboration

3.3 Analytical method

To test the research hypotheses (i.e., the direct effect of social media dependency and the mediating effects of attitude, perceived behavioral control and social norm on entrepreneurial intention) OLS regression analysis was employed. Prior to running the analysis, to assess some typically specific endogeneity threats, the study checked for simultaneity problems a following prescriptions from Anderson *et al.* (2018) and Anderson (2022) 'swapping' the independent and dependent variables and evaluating whether the original dependent variable was a statistically significant predictor of the original independent variable. This approach yielded little insight into whether endogeneity is present in a model (Wooldridge, 2010). Our results show no statistical significance, assessing that simultaneity is not an issue in our data. This study followed the multi-step procedure of Baron and Kenny (1986) to test the mediating effects of TPB variables. In particular, the first model only took the control variables into consideration. The second model incorporated social media support to study hypothesis Hp1. In model 3,4 and 5, we regressed social media support on the three variables derived from Ajzen's TPB (namely, social norms, attitude and perceived behavioral control). Finally, model 6 includes the effects of overall independent variables, namely social media support and the three variables that represent the traditional dimensions of the TPB, to investigate Hp 2,3 and 4. In addition, to assess the mediating effects the bootstrap approach suggested by Zhao *et al.*, (2010) and the method by Preacher and Hayes (2008) was employed, setting the bootstrap samples to 5000 and the confidence level to 95%. Finally, to assess multicollinearity, the variance inflation factor (VIF) of each independent variable was computed.

4. Results

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Descriptive statistics of the variables used in the study are provided in Table 3. As can be seen, more than half (57%) of the respondents are females, average age is of 18 years old. The majority of students (72.2%) do not have an entrepreneurial background but at the same time have previous work experience (78.8%). About the time spent on social media, about 27% of respondents said they used social media for less than an hour up to 2 hours a day, 47% for 2 to 4 hours a day and a good percentage (about 26%) comes to use social media from 4 to more than 5 hours a day.

Tab. 3: Descriptive Statistics of the study's sample (N=363)

Variables		N	%
Gender	Man	156	43
	Woman	207	57
Entrepreneurial Background	Yes	101	27.8
	No	262	72.2
Work Experience	Yes	286	78.8
	No	77	21.2
School Year	Fourth	153	42.1
	Fifth	210	57.9
Study profile	Tourism	232	63.9
	Fashion and textiles	47	12.9
	Mechanics	84	23.2
Social Media Use (frequency)	Less than 1 hour per day	27	7.4
	1 to 2 hours a day	71	19.5
	2 to 3 hours a day	104	28.7
	3 to 4 hours a day	67	18.5
	4 to 5 hours a day	46	12.7
	More than 5 hours a day	48	13.2

Source: Authors' elaboration

Results of regression analyses are presented in Table 4. All VIFs displayed in the last column of Table 4, show values under 2.5, below the threshold (VIF<3) set by scholars (Hair *et al.*, 2010); thus, multicollinearity bias is not an issue.

In Model 1, the control variables all load on the dependent variable. The results show that Work Experience ($p < .01$) and Entrepreneurial Background ($p < .001$) have statistically significant relationship with EI. Social time has a significant relationship at $p < .1$.

These observations suggest that time spent on social media decreases entrepreneurial intent while work experience and the presence of entrepreneurial activities within the family context positively influence the EI. As model 2 in Table 4 shows, standardized Betas for Social Media support ($\beta = .48$; $t=10.807$; $p < .001$) is positive and strongly significant, confirming Hp1. As we can see from Models 3, 4 and 5, Social Media support significantly affects Attitudes ($\beta = .48$; $t=10.936$; $p < .001$), Perceived Behavioral Control ($\beta = .49$; $t=11.430$; $p < .001$) and Social Norms ($\beta = .25$; $t=4.882$; $p < .001$).

Tab. 4: Results of Hierarchical Regression Analysis

Variable	Model 1 (DV:EI)	Model 2 (DV:EI)	Model 3 (DV:ATT)	Model 4 (DV:PBC)	Model 5 (DV:SN)	Model 6 (DV:EI)	VIF
Gender	-.066 (-1.210)	-.035 (-.748)	-.067 (-1.147)	-.054 (-1.163)	.010 (.182)	.022 (.825)	1.189
Social Time	-.084+ (-1.593)	-.084+ (-1.593)	-.039 (-.852)	-.080+ (-1.806)	.057 (1.079)	-.050* (-1.980)	1.121
Work Experience	.143** (2.790)	.121+ (2.718)	.127** (2.831)	.122** (2.804)	.033 (.642)	.008 (.321)	1.087
Entrepreneurial Background	.224*** (4.396)	.139** (3.085)	.095* (2.104)	.160*** (3.633)	.088+ (1.671)	.037 (1.465)	1.115
Social Media Dependency		.480*** (10.807)	.489*** (10.936)	.496*** (11.430)	.253*** (4.882)	.036 (1.221)	1.500
Attitude						.666*** (17.599)	2.495
PBC						.228*** (5.981)	2.532
SN						.023 (.846)	1.251
Constant	-.140 (-.798)	-.057 (-.372)	-.133 (-.869)	-.081 (-.543)	-.267 (-1.505)	.057+ (.672)	
N. Observ	363	363	363	363	363	363	
R2	.105	.325	.316	.357	.084	.797	
Adjusted R2	.095	.316	.306	.348	.071	.793	
F-Value	10.478***	34.453***	32.961***	39.605***	6.536***	173.838***	

Bold values indicate: + $p < .1$ * $p < .05$ ** $p < .01$ *** $p < .001$

Source: Authors' elaboration

When including Attitudes, Perceived Behavioral Control and Social Norms (Model 6), the effects of Social Media support on Entrepreneurial Intention is no longer significant, confirming the mediation power of the TPB (only social norms do not affect EI significantly). To better assess the mediating effects, the bootstrap approach recommended by Hayes (2009) and Zhao *et al.*, (2010). indicates that the confidence intervals (bias corrected confidence intervals) of the indirect effects of Attitudes and Perceived Behavioral Control are .58-.75 and .13-.32, respectively. These confidence intervals did not include 0, demonstrating that the indirect effects are significant, and the mediations are established. Therefore, these results support Hp 2 and Hp 3, whereas Hp 4 (the mediating effect of Social Norms on Intention) does not find support in the data.

5. Discussion

The present study aimed to understand the role that social media play in the formation of entrepreneurial intentions among high school students. It considers a sample of individuals that have never been subjected to notions of entrepreneurship (having never followed courses or specific education on the theme of entrepreneurship), setting a research design that involved the investigation of the impact of social media, defined as information sources and knowledge vehicles, on the attitudes and perceptions that

lead to students' entrepreneurial intention. With this aim the study tried to fill two main gaps emerging from the existing literature on student entrepreneurship: first, the considerable lack of studies analyzing the very early formation of entrepreneurial intentions, by considering pre-college level students; second, the ignored role that social media have in fostering awareness and interest in entrepreneurship as a career choice among the youngest.

In order to deal with the study's aims, two theories were taken into account for the construction of our theoretical framework and hypotheses, namely the TPB (Ajzen, 1987; Ajzen, 1991; Krueger and Carsrud, 1993) and MSD theory (Ball-Rokeach and DeFleur, 1976; Ball-Rokeach, 1985), into which we also integrated the concepts of information and social media literacy (Vanwynsberghe *et al.*, 2011; Bruce, 1997) that contribute to our understanding on how people access, evaluate, organize and use information in order to learn, problem-solve and make decisions. To achieve our empirical goal a survey on classes of high school students was performed, to test the direct effect of social media dependency on entrepreneurial intention, and the mediated effect through their influence on perceptions and attitudes.

Our empirical results demonstrate that social media dependency plays a significant role in the formation of entrepreneurial intention and that this relationship is mediated by the effect that the classical antecedents of intention have had on intention to startup a new venture. Social media dependency, in fact, appears to favor both behavioral and normative beliefs among high school students in two ways: first, by affecting behavioral beliefs that produce either favorable/unfavorable attitudes toward the target behavior, and also affecting individuals' perception of feasibility; second, by influencing normative beliefs that give rise to the social norm. This in light of the role of social media as one of the most important channels through which young people, above all, communicate, make relationships, exchange information and knowledge with relevant others. All our hypotheses, with the exception of the mediation effect of the social norm, have been confirmed, assessing the robustness of the TPB (Ajzen, 1991) in explaining the formation of entrepreneurial intention among high school students. However, the social norm has been non-significant in a number of different studies, representing the most difficult component of TPB to be interpreted. Ajzen (1991) himself found that this factor is frequently the weakest element of the TPB and, in line with Ajzen, Linan *et al.* (2011) affirm that personal attitude and perceived behavioral control are the most relevant factors explaining entrepreneurial intentions. Finally, we can observe that social media dependency, positively associated with entrepreneurial intentions, validates the idea that students may rely on the social media for informational and behavioral guidance. This finding clarifies the instrumental role of social media dependency in inspiring and fostering entrepreneurial awareness, in shaping cognitive and perceptual processes and the consequent intention.

6. Conclusions

6.1 Implications of the study

Evidence from our study makes important contributions to extant literature on student entrepreneurship.

The importance of our work derives from having introduced, within a classic model of intentionality, an exogenous variable, namely social media dependency, in an effort to describe how this construct can explain the formation of positive attitudes and perceptions toward entrepreneurship. Thus, this study expands on the Media System Dependency Theory (Ball-Rokeach and DeFleur, 1976) body of knowledge emphasizing the role of new social media platforms in people (and particularly in very young users) and dependence on information disseminated by social media themselves, that, in turn, determine individuals' cognitive, affective, and behavioral changes.

Considering the social media system for the first time as a critical factor in the development of students' entrepreneurial intention, the empirical framework developed in this study proposes an extension to the classic cognitive approaches, widening the sphere of analysis by increasing the elements that contribute to the development of intentionality patterns. Starting from this pilot study, future research has the potential to increase knowledge about the influence of new media and digital tool on some kind of entrepreneurial tasks and endeavors. In light of this theoretical perspective, studying this aspect is increasingly urgent, given the pervasiveness of these new digital tools, and the importance they have in conveying information, models, lifestyles and knowledge, especially among the youngest (Kim, 2014 a, b).

The study has also some practical and policy-making implications. The Internet is certainly the most important social revolution of recent times, and the drastic nature of the changes made by social media is undeniable: they have changed our lives, the way we relate to ourselves and to others, our way of thinking, of behaving and, last but not least, our education and information processes. The youngest (so called "Millennials") certainly represent that segment of the population most affected by this revolution. Born at the turn of 2000, it is the first generation, in history, that in adulthood shows familiarity with the use of digital instruments. Students use socials as communication tools, transmission and collaboration between networks of people, communities and organizations enhanced by technological features and mobility. When we talk about the primacy of digital, we mean that change in the culture of individuals that causes them to first consult digital channels to communicate, have fun and even get informed. The fruition and production of knowledge takes place more and more often online. According with the results of this study, it seems clear that the influence of social media in our daily activities exists as digital technologies facilitate the search for information. Social media could become a resource to be exploited for students' education. If smartly used, they can help tomorrow's people and professionals grow. Educating everyone to understand digital mechanisms and allowing them to relate

in an informed way has become a necessity. To enhance entrepreneurial intentions, educators should be aware that the social media may offer very interesting didactic possibilities, from the development of creativity to the growth of digital skills and they can help develop, through the spread of entrepreneurial culture and narratives, awareness, and consciousness of entrepreneurship as a possible career choice among students.

In addition, policy makers and educators should acknowledge the importance of social media from an institutional point of view: entrepreneurship research has widely acknowledged that entrepreneurial activity is an important element for a country's economic growth, dynamism (Acs *et al.*, 2012; Acs *et al.*, 2008; Audretsch and Keilbach 2004, 2008) and well-being (e.g., Audretsch *et al.*, 2005; Wennekers *et al.*, 2005). For some people, starting a business may be well outside their range of personal experience. They may live in an environment in which entrepreneurs are few, or in which entrepreneurship has a low profile. Conversely, they may have family or friends who have started their own business or be in an environment in which entrepreneurship is high-profile, with significant positive media attention. The difference is important, as it affects the awareness and perceived attractiveness of entrepreneurship as a positive career option. Therefore, it may be necessary for policy-makers to welcome these new tools as a communication and information vehicle that shapes attitudes and perceptions, especially of the youngest, and should therefore implement entrepreneurship discourse through social media. Along these lines, this study also suggests to educators, teachers, and academics that it is essential to acknowledge the importance of social media as a communication and information tool for the youngest. Accordingly, they should try to develop and integrate within the educational settings the most suitable skills that allow students to manage social media with the aim of seizing and exploiting opportunities and establishing favorable networks.

6.2 Limitations and future research suggestions

Although we believe that the present study is of great importance for having considered, for the first time, the influence of social media on the entrepreneurial process leading to behavioral intentions, this research is not without limitations that present new avenues for future research. First, the convenience sample and our analysis of cross-sectional data prevents causal inference and makes it more difficult to generalize our result to other samples. So future research could apply longitudinal perspectives on more random samples. Moreover, experimental design could clarify causation. A second limitation lies in the measurement items for social media dependency construct. Given that to our knowledge, there is no construct adapted to this concept in the field of entrepreneurship, we adapted other measures for our research purposes. Future research could investigate in depth and refine the measurement pattern. Third, since our sample consists only of high school students who have not received any type of entrepreneurship education, it would be useful and interesting to investigate the same framework on a sample of university students, who have followed specific courses on entrepreneurship, in order to

better disentangle the role that social media have in the formation of entrepreneurial intention compared with education. Finally, endogeneity is an issue especially for those constructs that are novel and could present a bidirectional relationship of influence. And this study is not exempt from this limit. However, this is the first study that has adopted the new construct of SMD in the entrepreneurship field and the simultaneity issue has been managed following the literature on method prescriptions in the application of OLS analysis. But new research avenues have been opened, and future studies can apply in the specific context of entrepreneurship's social media dependency on more powerful tools (like Structural Equation Modeling, Bagozzi and Yi, 2011; Kaplan, 2008) in testing their hypotheses.

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Massimiliano Vesci
Chiara Crudele
Rosangela Feola
Roberto Parente
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Academic or professional position and contacts

Massimiliano Vesci

Associate Professor of Management
University of Salerno - Italy
e-mail: mvesci@unisa.it

Chiara Crudele

Research Fellow in Management
University of Salerno - Italy
e-mail: chcrudele@gmail.com

Rosangela Feola

Assistant Professor of Management
University of Salerno - Italy
e-mail: rfeola@unisa.it

Roberto Parente

Full Professor of Management
University of Salerno - Italy
e-mail: rparente@unisa.it