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The relationship between organizational culture and entrepreneurial orientation in family firms: Does generational involvement matter?

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ABSTRACT

In family firms, organizational culture evolves through an ongoing dynamic process of intergenerational interaction. Previous research has examined the nexus between family organizational culture and entrepreneurial orientation (EO), but has ignored the moderating role that generational involvement could play on this relationship. To address this limitation in the literature and explore the existence of its potential role, this study draws from the Competing Values Framework to examine the extent to which generational involvement shapes the effects of clan culture and hierarchical culture on EO. From a quantitative study of 106 family SMEs, the results show that there is no single cultural path for developing and maintaining long-term family firm's entrepreneurial orientation. While clan culture fosters higher levels of EO when only one generation is involved, it is hierarchical culture that fosters higher levels of EO when multiple generations are simultaneously involved. This research pinpoints the importance for family firms that wish to ensure long-term entrepreneurial orientation to introduce changes in their cultural patterns when multiple generations are involved. It also reinforces the notions of formalization and control system in family firms, and their importance for long-term EO. This study calls for further empirical research on the potential role of hierarchical culture in setting up professionalization and family governance mechanisms, and to explore how they affect sustainable entrepreneurial family firm.

"Live together like brothers and do business like strangers."

Arabian proverb

1. Introduction

The question of why some family firms continue to be more entrepreneurial across generations than others has attracted, and remains to do so, considerable attention among scholars studying family firms. Researchers have offered two competing explanatory perspectives of the long-lasting family firm's entrepreneurial orientation. On the one hand, some scholars argue that beyond the founding generation (i.e., first generation), family firms may turn risk averse and exhibit a conservative and less innovative behavior towards pursuing entrepreneurial strategies (e.g., Duran, Kammerlander, Van Essen, & Zellweger, 2015; Jones, Makri, & Gomez-Mejia, 2008; Nordqvist & Melin, 2010; Short et al., 2009). This happens when family members, who are in control of the firm, become highly preoccupied with protecting family assets (Naldi, Nordqvist, Sjöberg, & Wiklund, 2007) or resist to give up ownership to an outside family member(s) in order to preserve family control (Habbershon & Williams, 1999).

On the other hand, other researchers argue that family firms may provide a context that is highly conducive towards firm-level entrepreneurship over generations (Discua Cruz, Howorth, & Hamilton, 2013; Miller & Le Breton-Miller, 2005; Nordqvist, Habbershon, & Melin, 2008; Rogoff & Heck, 2003). This virtue may stem from the stewardship behavior of the generation in control (Miller & Le Breton-Miller, 2005; Zahra et al., 2008), the disposition of subsequent generations to drive entrepreneurial pursuits (Kellermanns & Eddleston, 2006; Salvato, 2004), and to reach long-term orientation (Lumpkin, Brigham, & Moss, 2010) through particular configurations of resources and capabilities (Dyer, 2006; Habbershon & Williams, 1999; Sirmon & Hitt, 2003). Furthermore, governance, which is more expected to be present in multigenerational family firms (Dyer, 1988), is likely to be beneficial for family firm's entrepreneurship (Le Breton-Miller, Miller, & Bares, 2015).

Prior opposing findings may stem from lack of consideration that family firms are heterogeneous (e.g., Chua, Chrisman, Steier, & Rau, 2012; Melin & Nordqvist, 2007), mainly because of: 1) family organizational culture, as it is embedded in family history and business (Dyer, 1986; Gersick et al., 1997), and of 2) generational involvement in management

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and control (Chua, Chrisman, & Sharma, 1999; Kellermanns & Eddleston, 2006; Kellermanns, Eddleston, Barnett, & Pearson, 2008; Steier, Chrisman, & Chua, 2015). Therefore, family organizational culture could evolve significantly and manifest distinctive characteristics (Chrisman, Chua, Pearson, & Barnett, 2012; Chrisman & Patel, 2012) depending on generational involvement (Adiguna, 2015; Dyer, 1988).

Family organizational culture is "*an important strategic resource that family firms can use to achieve a competitive advantage by promoting entrepreneurship and enhance the distinctiveness of these firms' products, goods, and services*" (Zahra, Hayton, & Salvato, 2004: 373). Because family organizational culture evolves and varies across generational involvement; therefore, its influence on the family firm-level entrepreneurship may differ significantly from one generation involved to multiple generations involved.

Although the influence of organizational culture on family firms' EO has been identified as a central theme in López-Fernández, Serrano-Bedia, and Pérez-Pérez's (2016) bibliometric study, however scholars' understanding of the sustainable relationship between organizational culture and EO is limited when it comes to know which salient culture affects a family firms' ability to nurture EO over time.

As argued by Jaskiewicz, Combs, and Rau (2015), nurturing entrepreneurship across generations presents a real challenge because family firms are expected to become less entrepreneurial after the founding generation. To understand the challenge of entrepreneurial dynamics across generations, scholars highlighted the need to examine EO as one of the main predictors of entrepreneurship in family firms (e.g., Jaskiewicz et al., 2015; Kellermanns et al., 2012; López-Fernández et al., 2016; Lumpkin et al., 2010; Zellweger et al., 2012). In this study, EO is defined as a strategic posture through which a firm exhibits innovation, risk-taking and proactiveness activities (Covin & Slevin, 1991; Miller, 1983, 2011). Entrepreneurial orientation refers to the driving force behind the organizational pursuit of entrepreneurial activities (Covin & Wales, 2012); hence, it represents a critical antecedent to firm-level entrepreneurship and performance (e.g. Rauch, Wiklund, Lumpkin, & Frese, 2009).

Based on the aforementioned discussion, the literature on entrepreneurial family firms seems to lack theory as well as empirical investigations that examine the dynamics between organizational culture and entrepreneurial orientation across generational involvement. To address this limitation, this research adopts Competing Values Framework, generational involvement and entrepreneurial orientation perspectives to better understand these dynamics, by answering the following research question: *To what extent does generational involvement moderate the relationship between organizational culture and EO in family firms?*

The study asserts that the number of family generations simultaneously involved in management of the firm is a key determinant that moderates the relationship between organizational culture and family firm's entrepreneurial orientation. In this study, I examine 106 family SMEs. The results show, respectively, significant evidence for a positive effect of clan culture and a negative effect of hierarchical culture on EO. Furthermore, generational involvement moderates significantly these effects.

This study contributes to the literature in several ways. First, it develops theory asserting that generational involvement moderates the relationship between organizational culture and EO. Specifically, it asserts that the nature and the strength of clan and hierarchical cultures' effects on EO vary from a single generation to multiple generations involved. By doing so, the results and theory show that there is no single cultural path for developing and maintaining long-term entrepreneurial orientation. This study offers an empirical evidence on the important role of generational involvement in shaping the nexus between organizational culture and EO, and in understanding such a dynamic over generations. These findings respond to Zahra et al's. (2004) call to explore cultural differences across generations and to examine how they sustain family firms' entrepreneurship over time. They also respond to Chrisman et al's. (2012) call to devote more attention on the mediators and moderators of family involvement's effects.

Second, this study challenges the conventional perception that a hierarchical culture could be a perpetual hindrance to entrepreneurial orientation. It shows that the aspects of hierarchical culture, such as formalization, efficiency and control systems (Cameron & Quinn, 2006) can positively affect a family firm's EO when multiple generations are involved. This research not only reinforces the notions of formalization and control in family firms, and their importance for long-term EO, but it also contributes to the literature on family governance and professionalization of family firms.

2. Theoretical framework and hypotheses development

This study aims to examine the moderating role of generational involvement that shapes the nexus between organizational culture and EO. The conceptual model, depicted in Fig. 1, is based on two complementary arguments. First, the argument on the direct effect of clan and hierarchical culture on EO (H1a and H1b). Second, the argument of the moderating effect of generational involvement on the clan culture − EO (H2a), and the hierarchical culture − EO relationship (H2b), respectively. Taken together, these hypotheses indicate that explanatory power of the complex role of the dimensions of organizational culture for the long-term entrepreneurial orientation of family firms can make greater sense when the role of generations involved is considered. In the following paragraphs, each type of organizational culture is defined and theory development is presented regarding its relationship with the EO and generational involvement.

3. The importance of organizational culture and entrepreneurial orientation in family firms: The competing values framework

Since the 1980s, studies in strategy and organizational behavior have underlined the key role of organizational culture for firm growth, effectiveness, and competitive advantage (Barney, 1986; Cameron & Quinn, 2006; Fiol, 1991; Quinn & Rohrbaugh, 1983; Wilkins & Ouchi, 1983). Organizational culture is defined as "*the underlying values, beliefs, and principles that serve as a foundation for an organization's management system as well as the set of management practices and behaviors that exemplify and reinforce those basic principles*" (Densіon, 1990: 2). In corporate entrepreneurship research, organizational culture is identified as an important antecedent of entrepreneurial decision making (Covin & Slevin, 1991; Lumpkin & Dess, 1996; Zahra et al., 2004). It is also presented in a context within which EO may or may not emerge (Covin & Slevin, 1991).

In a family firm context, organizational culture is recognized for its role to determine organizational success beyond the first generation (Dyer, 1988). Further research has argued that it plays a role of a potential antecedent that could promote or hinder the pursuit of entrepreneurial activities (Chirico & Nordqvist, 2010; Craig, Dibrell, & Garrett, 2014; Fletcher, Melin, & Gimeno, 2012; Goel & Jones, 2016; Zahra et al., 2004; Zahra et al., 2008).

In addition, family organizational culture is re-produced from a continuous dynamic process of intergenerational interaction (Adiguna, 2015) that combines the family firm's history, its industry characteristics, current relationships among family members, and finally, the beliefs and values embedded within the family (Astrachan, Klein, & Smyrnios, 2002; Dyer, 1986; Gersick et al., 1997). Given such attributes that contribute to heterogeneity of family firms (Chrisman et al., 2012; Melin & Nordqvist, 2007), every family firm is likely to manifest particular cultural characteristics, especially when multiple generations are involved. Such dynamics could affect the firm's entrepreneurial endeavours.

This research adopts the Competing Values Framework (Cameron & Quinn, 2006) that offers an effective representation of organizational culture at the firm-level, through which it analyses the basic values, beliefs and principles shared by the members of an organization (Harrington & Guimaraes, 2005; Naranjo-Valencia, Jiménez-Jiménez, & Sanz-Valle, 2011) on strategic, political, institutional and interpersonal aspects (Cameron & Quinn, 2006). The Competing Values Framework is relevant to this study as its core cultural types mirror Dyer's configuration (1986, 1988) of family organizational culture and Dyer's typology (2006) of family firms. More precisely, this study focuses on two types of organizational culture: Clan culture and hierarchical culture. These two types of culture are likely to well capture the evolution of family firms from a clan family firm to a professional family firm (see Aronoff, 1998; Dyer, 1989, 2006; Moores & Mula, 2000; Sonfield & Lussier, 2004).

4. Main effects of organizational culture on EO

4.1. Clan culture and EO

Based on the works of Cameron and Quinn (2006), clan culture is characterized by tradition and loyalty. It emphasizes cohesion and collaboration, and encourages members to embrace the firm's values and goals. Within such a culture, success is defined based on internal climate and concern for people, while the organization places a premium on teamwork, participation, and consensus (Cameron & Quinn, 2006).

In Dyer's (2006) typology of family firms, clan family firms are typically small and generally owned and managed by the family members of the founding generation. This type of a family firm exhibits a low complexity (Salvato, 2004) and a high degree of trust, both of which enhance communication and coordination between family members and create goodwill with firm stakeholders (Habbershon & Williams, 1999). The family members attempt to meet both firm and family needs, and contribute with their skills, knowledge, access to networks and commitment to acquire resources for ensuring firm's survival (Dyer, 2006).

A clan culture is characterized by altruism, which is considered to foster loyalty and commitment to the collaborative strategy and family's long- term prosperity (e.g., Eddleston & Kellermanns, 2007; Ward, 1997). Hence, clan culture is associated with a group-based approach to entrepreneurship because it accentuates collaboration in the entrepreneurial decision-making (e.g., Zahra et al., 2004), and favours rewarding individuals when they share their knowledge (DeLong & Fahey, 2000). Since one generation involved is expected to be small sized, so the close interaction among family members emerges as critically enabling formation of a shared vision of the family firm's mission and goals (Mustakallio, Autio, & Zahra, 2002). Furthermore, this close interaction among family members can foster innovation processes (De Massis et al., 2016). As argued by Discua Cruz et al. (2013), in family firms based on entrepreneurial team, family members' relationships are strengthened by a shared vision and leveraged to identify new opportunities that satisfy the entrepreneurial ambitions of the firm.

Since nature of family relationship plays a role in entrepreneurial outcomes (Brannon, Wiklund, & Haynie, 2013), it is expected that attributes, such as altruism, shared knowledge and vision, trust, close collaboration and commitment to work as a team, foster the pursuit of collaborative entrepreneurial activities. Building on this, the following hypothesis proposes that the adoption of clan culture when one generation is involved positively affects the family firm's EO.

Hypothesis 1a. *There is a positive relationship between a family firm's clan culture and its entrepreneurial orientation.*

4.2. Hierarchical culture and EO

According to Cameron and Quinn (2006), hierarchical culture is characterized by formalization, coordination and control systems. It focuses on centralization, strategy planning, formal rules and clear policies in order to ensure standardization, professionalization and predictability. In such a culture type, success is defined according to internal organizational efficiency, effectiveness, stability and smooth functioning.

These values are expected to induce rigidity within the family firm's structure, and reduce organizational flexibility and decentralization, which are fundamental characteristics when family firm is small sized, in other word, when there is only one generation involved. This flexibility enables family firms to exploit entrepreneurial opportunities (Zahra et al., 2008). In contrast, centralization and formalization values have been found to lead to lower levels of innovation, proactivity and risk taking activities (Covin & Slevin, 1988). Hence, the hierarchical culture aspects stifle family firms in their efforts to pursue entrepreneurial activities (Hall, Melin, & Nordqvist, 2001; Zahra et al., 2004) when only one generation is involved.

In small organizations, formal control systems could create obstacles towards entrepreneurial activities when efforts are focused on cost reduction through economies of scale and on control of resources (Cameron & Quinn, 2006), rather than on innovation and risk taking. Therefore, the higher the formalization and control when only one generation is involved, the harder it is to pursue EO, because such contexts leave little room for flexibility in small sized firm, to adapt and react, to environment changes and for unplanned entrepreneurial pursuits (Hall et al., 2001). Thus, the following hypothesis proposes that a hierarchical culture, when one single generation is involved, negatively affects the family firm's EO.

Hypothesis 1b. *There is a negative relationship between a family firm's hierarchical culture and its entrepreneurial orientation.*

5. Organizational culture-EO relationship: The moderating role of generational involvement

Generational involvement refers to the number of family generations simultaneously involved as the primary steward in the management of the firm (Kellermanns & Eddleston, 2006; Zahra, 2005). Generational involvement is identified as a proxy for knowledge diversity (Ling & Kellermanns, 2010), because it has a cognitive nature rooted in different generations' knowledge and perspectives (Sciascia, Mazzola, & Chirico, 2013), that in turn form valuable assets for entrepreneurial projects (Kellermanns et al., 2008). It is claimed to be a key contextual dimension, relevant to family firm's entrepreneurship (Chirico, Sirmon, Sciascia, & Mazzola, 2011; Chrisman et al., 2012; Kellermanns et al., 2008; Lumpkin, Steier, & Wright, 2011) and innovation capability (e.g., De Clercq & Belausteguigoitia, 2015; Litz & Kleysen 2001; Röd, 2016).

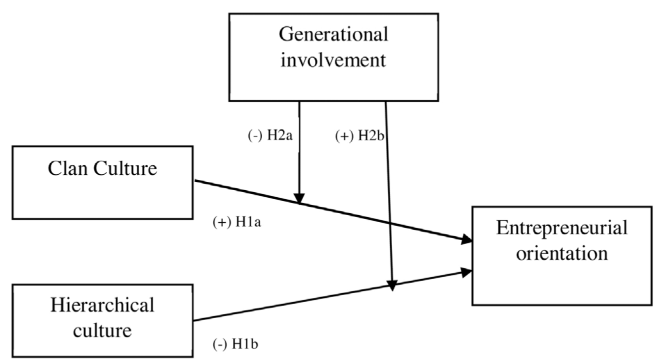

Fig. 1. Conceptual framework.

Since a family firm evolves from one generation towards multiple generations involved, its management style, organizational culture and governance mechanisms, naturally change (Dyer, 1988; Gersick et al., 1997; Sonfield & Lussier, 2004). As a consequence, an increased number of generations involved in management is expected to change the relevance of organizational culture effect on long-term entrepreneurial orientation, in several ways. First, while a diversity of values is limited when only one generation is involved; these values become extensive and more riche in the case of multiple generations involved (e.g., Gersick et al., 1997). Adiguna (2015) argues that, due to multigenerational interaction between founders and subsequent generations, the organizational culture continues to be in reproduction dynamic. This process enriches the family firm's organizational culture, and consequently reinvigorates its entrepreneurial ideas: "*the founder alone may find it difficult to have innovative ideas without the fresh momentum added to the firm by second-generation members*" (Salvato, 2004: 73). Second, family firms that remain successful and entrepreneurial across generations are those that own an organizational culture with a strong effect on long-term entrepreneurial behavior (Miller & Le Breton-Miller, 2005). This culture is nurtured through the values and beliefs of multiple family generations involved in the firm's management, all of whom emphasize the importance of entrepreneurial activities to the sustainability of their firm (Kellermanns et al., 2008). Third, multiple generations involved often exhibit values and beliefs that reflect increasing need to reinvent a business to sustain growth and survival (e.g., Jaffe & Lane, 2004; Kellermanns et al., 2008), to create jobs and wealth for the newer generation (Poza, 1989) through entrepreneurship (Kellermanns & Eddleston, 2006). These values and beliefs, accumulated by multiple generations involved, are likely to become the foundation of a long-term entrepreneurial orientation.

In that light, the following hypotheses argue that due to the intensity of values and beliefs, when multiple family generations get involved in the management, the degree of generational involvement becomes a decisive factor in determining whether a clan or hierarchical culture is salient for the long-term family firm's EO, as shown in Fig. 1.

5.1. Clan culture, entrepreneurial orientation and generational involvement

By definition, the family firm is a collective endeavour, driven by a collectivistic mindset (O'Boyle, Pollack, & Rutherford, 2012), and relied on mutual trust and clan based collegiality (Eddleston & Kellermanns, 2007). Family firms are naturally inclined to have a clan culture that could lead to altruism (Eddleston & Kellermanns, 2007), and spur a team-based approach to entrepreneurship (Discua Cruz et al., 2013; Zahra et al., 2004).

However, when multiple close-knit generations are involved, a family firm is likely to become a fertile environment for conflicts because of the amalgam between family and business interests (Harvey & Evans, 1994). In such a context, the misalignment between individual, family and business interests become elevated (Sonfield & Lussier, 2004) and thus asymmetric altruism may increase (Lubatkin, Schulze, Ling, & Dino, 2005), that in turn, weakens positive impact of clan culture on EO.

Hence, the involvement of multiple family generations might induce tensions, serious conflicts, asymmetric altruism and rivalry competing interests between family members (e.g., Chirico & Salvato, 2016; Kellermanns et al., 2008; Lubatkin et al., 2005). These divergent interests (Gersick et al., 1997; Miller et al., 2011) could inhibit the potential advantages of family group interactions (Chirico & Salvato, 2016), and thus hamper the family firm's entrepreneurial orientation. As argues by De Clercq and Belausteguigoitia (2015), the multitude of preferences and interests of multiple generations involved can inhibit the successful conversion of intergenerational strategy involvement in the pursuit of innovation.

Clan culture, as such, is supposed to be beneficial to EO when only one generation is involved. However, these benefits are expected to be significantly compromised when multiple generations are involved. This is mainly due to complexity of family relationships in terms of family conflicts, divergent interests (e.g., Eddleston & Kellermanns, 2007; Kellermanns & Eddleston, 2004), and lack of altruism (Lubakin et al., 2005) that could counteract to reach a shared vision and to achieve a mutual consensus on entrepreneurial decision making (Eddleston & Kellermanns, 2007; Kellermanns & Eddleston, 2004). Consequently, the involvement of multiple generations might hinder a clan culture benefits over time, and thus, weaken its effect on the family firm's entrepreneurial orientation.

In addition, clan family firms have a strong loyalty to traditions (Cameron & Quinn, 2006). They uphold traditional values and stick to their old principles by endorsing and legitimizing them across generations. The involvement of multiple family generations is likely to intensify these traditional values which may inhibit entrepreneurial activities (Jaskiewicz et al., 2015). These arguments lead to the following hypothesis:

Hypothesis 2a. *Generational involvement negatively moderates the relationship between a family firm's clan culture and its EO. The positive relationship between clan culture and EO is reduced when multiple generations become involved in family firm management.*

5.2. Hierarchical culture, entrepreneurial orientation and generational involvement

When multiple generations lead a family firm, it becomes more socially and politically complex (Cruz & Nordqvist, 2012). One of the main causes of this complex situation are lack of formalized systems and structures to deal with such a situation (Harvey & Evans, 1994). To overcome increased complexity, it is recommended that such a family firm moves to professional management style and adopts formal and governance mechanisms (Jaffe & Lane, 2004; Levinson, 1971; O'Boyle et al., 2012; Suess, 2014). Previous research has argued that successful multi-generational family firm is likely to be associated with higher levels of formalization and professionalization (Aronoff, 1998; Dyer, 1989, 2006; Lubakin et al., 2005; Sonfield & Lussier, 2004), and with better use of formal control systems. The latter can, in turn, have benefits for the efficiency of the innovation process (Duran et al., 2015), and for the quality of decisions that lead to the pursuit of entrepreneurial activities (Jansen, Van den Bosch, & Volberda, 2006; Martin, McKelvie, & Lumpkin, 2016).

However, professionalization in family firm involves changes in the firm's authority relationships, governance and norms which are generally widely diffused across a managerial hierarchy (Gedajlovic, Lubatkin, & Schulze, 2004). Further research argues that family governance mechanisms provide clear authority structures, rules and values that help to align family's preferences and goals; thereby, fostering trust and strengthening shared vision of its members (e.g., Suess, 2014). Therefore, when multiple generations are involved, a family firm is more likely to adopt a hierarchical culture in order to institute control systems needed to professionalize the firm and to ensure the alignment of manager's behaviors, family preferences and firm goals achievement (Chua, Chrisman, & Bergiel, 2009).

Generational involvement makes control systems of the firm more attractive (Chrisman et al., 2012), so it is likely to promote the use of hierarchical culture to attenuate potential issues caused, for instance, by opportunism (that would siphon resources away), by nepotism (that can limit the presence of competent employees) or by asymmetric altruism (that can cause divergent interests). The attenuation of these issues increase the quality of relationship between different generations, and thus successfully convert interests and visions of multiple generations involved into innovation pursuits (De Clercq & Belausteguigoitia, 2015).

Accordingly, in the case of multiple generations involved, a family firm might use hierarchical culture to buffer family conflicts and dysfunctions (Blanco-Mazagatos, de Quevedo-Puente, & Delgado-García, 2016) and to provide a roadmap of the tasks needed to successfully exploit entrepreneurial opportunities (Foss, Lyngsie, & Zahra, 2015). The transformation of conflicts into manageable task conflicts (Chirico et al., 2011; Stewart & Hitt, 2012) is likely to foster innovation (Chirico & Salvato, 2016). Stated formally, the hypothesis is as follows:

Hypothesis 2b. *Generational involvement positively moderates the relationship between a family firm's hierarchical culture and its EO. The negative relationship between hierarchical culture and EO is improved when multiple generations become involved in family firm management.*

6. Methods

6.1. Sample frame

In the current research, a sample of 373 family owned and controlled SMEs was identified from a Chamber of Commerce and Industry in France. The sample frame was restricted to family firms, which are consistent with prior conceptualization of Chua et al. (1999); thus, it was verified that each family firm in the sampling frame matched the criterion that one or more family member(s) own more than 50% of the firm's equity.

Having established the sampling frame's validity, the author contacted by telephone the founder or active successor(s) of each family firm to give them an overview of the research and invite them to take part in the study. The invitation protocol explicitly informed potential respondents that the survey would be administered through a face-to-face interview or via video conference. The survey was relied on the president, vice-president or CEO as a key informant for the study (Kumar, Stern, & Anderson, 1993), since individuals in these high positions are often those who establish the organizational culture, diffuse its values within the firm, and make a strategic-decision toward the entrepreneurial activities. Hence, they are most likely to be best informed about the family firm.

Overall, 125 invitees agreed to participate (a 33.5% response rate). Two hundred and forty-eight firms declined to participate due to a lack of time or interest in participating in research studies. Because 19 participants who agreed did not complete the full questionnaire, my useable sample decreased to 106 valid sets of responses, among which 96 were men and 10 were women. Educational profiles included Bachelor's and Master's degrees in various fields including engineering. Working experience varied between 15 years (minimum) and 38 years (maximum). Firms' ages averaged 41 years. The average number of employees was 91. Industries represented in the sample included manufacturing, energy, agrifood, medical and information technology. These statistics are largely consistent with the typical small and medium sized family firms operating in France, as reported by the French Chamber of Commerce and Industry.

6.2. Data collection

Building on Podsakoff, MacKenzie, & Podsakoff's (2003) recommendations, an extensive pre-test of the questionnaire was conducted with five owner-managers of family firms and four experienced researchers. This pre-test process helped to improve the clarity and wording of my instructions, questions and items. Following Podsakoff et al. (2003), the questionnaire was structured to minimize acquiescence biases, habitual effects, consistency motifs and social desirability issues – notably by counterbalancing the question format, randomizing the question order, and varying the directionality of certain items (reverse coding). All Cronbach's alphas exceed 0.75, thus indicating a very good reliability of all the study's variables (Hair, Black, Babin, Anderson, & Tatham, 2010).

The data were collected using a structured questionnaire. The questionnaire consisted of close-ended questions that participants answered on a seven-point Likert scale anchored 1 = 'Totally disagree'; 4 = 'Partly agree'; and 7 = 'Totally agree'. The study used validated measures reported in the literature. Appendix A presents the instructions, questions and items of the study's variables, which are described below.

6.2.1. Dependent variable

EO was measured using the eight-item instrument originally developed by Miller (1983) and further validated by Knight (1997). The eight-item instrument captured the innovation, proactiveness, and risk-taking activities typically associated with EO. This variable is considered as a unidimensional construct as it is defined by the most studies on EO (Covin & Wales, 2012; Miller, 1983, 2011). Consistent with prior studies (Green, Covin, & Slevin, 2008), the average of the respondents' answers was used to obtain a measure of their firm's EO. Although the sample remains small for such tests, results of the confirmatory factor analyses indicate that the kind of reflective second-order model advocated by Covin and Wales (2012) and George (2011) forms an adequate representation of participants' assessment of their firm's EO (X2/df = 0.87; CFI = 1.0; GFI = 0.97; RMSEA = 00).

6.2.2. Independent variables

Organizational culture was measured using the *Organization Culture Assessment Instrument* (OCAI) developed by Cameron and Quinn (2006) from the Competing Values Framework. The instrument assesses clan and hierarchical culture, with six questions targeting a set of organizational dimensions: founding values, dominant characteristics, leadership style, strategic orientation, management style and criteria of success (Cameron & Quinn, 2006).

Generational involvement refers to the number of family generations simultaneously involved in the management and strategic decision-making of their family firm (Kellermanns & Eddleston, 2006; Zahra, 2005). Consistent with these studies, this variable was measured by posing a direct non-ambiguous question to each participant: How many generations are currently involved in managing the business and making strategic decisions? The respondents could answer only one single generation, two generations, or multiple generations (three or more). Among 106 responding firms in the sample, 38 (35.8 %) firms were counted when one single generation was in control, 38 (35.8 %) when two generations were simultaneously involved in control, and 30 (28.3 %) when multiple generations were simultaneously involved at the helm.

6.2.3. Control variables

Five control variables that could explain EO were included. First, *Firm size*, the number of employees for each firm was controlled because prior studies demonstrated that larger firms tend to exhibit higher levels of entrepreneurial activities (Kellermanns & Eddleston, 2006). This information was extracted from the Chamber of Commerce file. A natural logarithmic transformation was used to correct for the non-normal/left-censored nature of these data. Second, *Industry sector,* to measure this variable two broad categories of family firm industry were used i.e. manufacturing sector = 1; service sector = 0 (Gomez-Mejia, Makri, & Larraza-Kintana, 2010). Third, *Past performance* was shown to be a trigger of EO, knowing that weak performance may present an obstacle to engage in entrepreneurial activities and to increase future performance (Kellermanns & Eddleston, 2006). Objective measures are often difficult to obtain from SMEs; however, several studies have shown that subjective measures of firm performance correlate highly with objective data of performance (Love, Priem, & Lumpkin, 2002). Respondents were asked to indicate the evolution rate of growth in sales, in profitability, in market share and in number of employees, during the last three years on the scale of: −15% (strongly decrease), − [1% − 14%] (decrease), 0% stagnate, +[1% − 14%] (increase) and +15% (highly increase). Finally, the study controls for *environment hostility* and *environment dynamism*; several research studies have shown that the type of environment a firm faces influences the extent of its entrepreneurial orientation (Wiklund & Shepherd, 2005). Hostility environment pushes firm to diversify into new products and markets to avoid competition (Miller & Friesen, 1982). While dynamism is characterized by continuous change that can offer new opportunities to the firm (Miller & Friesen, 1982); further evidence shows that generational involvement promotes EO when the family firm has a perception to be in a dynamic environment (Casillas, Moreno, & Barbero, 2011). The study adopts the scale of Green et al. (2008) to measure respondents' perceptions of their firm's environment as *environment hostility* and *environment dynamism.*

6.3. Tests of robustness

In order to address potential biases in this study and strengthen the results, several tests of robustness were run by using the Stata 14. First, to address potential concerns of the key-informant approach and increase consistency and reliability of the measures, information was collected from a subset of 30 second respondents (CEO, Human Resources Management responsible or person in charge of Human Resources). The correlation coefficient between the first respondent and the second respondent was calculated, and the r shows a high level of similarity between the perceptions of the two respondents, either for EO ($r = 0.84$) or for the type of organizational culture adopted by the firm ($r = 0.89$ for clan culture, $r = 0.87$ for hierarchical culture). Therefore, my focus on a key informant does not appear to cause bias (Eddleston, Kellermanns, & Sarathy, 2008). Second, the study verified for a potential nonresponse bias by assessing the T-test of respondents and non-respondents, whether in terms of the number of employees, industry sector (manufacturing sector or service sector) or the degree of generational involvement. No significant differences between the two groups were observed, indicating that non-response bias is not a concern in my study. Finally, to address the potential issue of endogeneity, the Breusch-Godfrey test was used to examine the relationship between the residuals and predicted values of the model. The statistic estimated χ^2 ($N_{observations}*R^2_{auxiliaryregression}$) = 67.70. From the Chi-Square Distribution Table, the $\chi2$ critical at 5% level = 3.84, so it is estimated that $\chi2 > \chi2$ critical value; thus, the results strongly rejected the endogeneity concern.

7. Results

Hypotheses were tested using the hierarchical regression analysis with Stata 14. In order to prevent multicollinearity to bias results, variables were mean-centred prior to running the analyses, and interaction terms were calculated (Aiken, West, & Reno, 1991). To check for potential multicollinearity problems, variance inflation factor (VIF) was calculated for all variables. The highest VIF in the full model was 1.97 (mean VIF value was 1.36) which is well below commonly accepted thresholds (Hair et al., 2010), so multicollinearity is not a concern in this study.

Table 1 reports the Cronbach's Alpha values, means, standard deviations and correlation coefficients for all variables. The descriptive statistics show some moderate correlations and did not indicate serious multicollinearity issues in the sample. For instance, the sample is mostly composed of manufacturing family firms (mean = 0.638). Performance is significantly and positively associated with EO ($p < 0.001$). This fact confirms what was widely found in previous empirical research on the strong positive correlation between these two variables (see Rauch et al., 2009). Environment dynamism is found to be significantly and positively correlated with performance ($p < 0.01$). Environment dynamism is significantly and negatively correlated with hostility (Green et al., 2008). Finally, descriptive statistics show that clan culture and hierarchical culture are positively correlated ($p < 0.01$). My results are consistent with Cameron and Quinn's (2006) competing values theory asserting that the two different cultures can co-exist simultaneously in the organization but with the predominance of one culture over the other at different points in time.

Table 2 presents the results of the hierarchical regression analyses for EO. In Model 1, the five control variables were entered. In Model 2, the independent variables of clan culture and hierarchical culture were entered. The comparison between Model 1 and Model 2 revealed that the addition of independent variables increased R^2 significantly ($R^2 = 0.178$, $p < 0.01$). In Model 3, the moderating variable of

Table 1
Descriptive statistics and correlations.

Variables	Alpha	Mean	SD	1	2	3	4	5	6	7	8
1. *EO*	0.75	4.662	0.990	1.000							
2. *ln_Size*[a]	–	3.729	1.155	0.117	1.000						
3. *Industry sector*	–	0.639	0.481	0.020	−0.155	1.000					
4. *Past performance*	0.89	3.061	1.059	0.429***	0.236*	0.032	1.000				
5. *Env_hostility*	0.84	4.698	1.328	−0.030	0.153	−0.020	−0.220*	1.000			
6. *Env_dynamism*	0.87	3.811	1.249	0.059	0.064	−0.044	0.272**	−0.646***	1.000		
7. *Clan culture*	0.85	4.981	1.000	0.139	0.012	0.037	0.215*	−0.074	0.004	1.000	
8. *Hierarchical culture*	0.84	4.715	1.004	−0.066	−0.132	0.082	−0.059	0.079	−0.134	0.259**	1.000
9. *Linear generation*	–	−0.110	0.795	0.010	0.198*	0.011	−0.036	0.020	0.057	−0.091	0.023

N = 106. [a] Logarithmic transformation of the size of the firm. Significance levels *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.
The values of the mean and standard deviation of size before the transformation are 91.79 and 97.08, respectively.

Table 2
Results of regression analysis.

Variables EO	Model 1 Control variables	Model 2 Independent variables	Model 3 Moderating variable	Model 4 Interactions
ln_size	0.013 (0.084)[a]	0.000 (0.084)	−0.008 (0.087)	0.026 (0.079)
Industry sector	0.004 (0.191)	0.013 (0.190)	0.001 (0.193)	0.060 (0.174)
Environment hostility	0.039 (0.093)	0.055 (0.092)	0.054 (0.092)	0.044 (0.085)
Environment dynamism	−0.008 (0.097)	−0.004 (0.096)	−0.007 (0.097)	0.004 (0.087)
Past performance	0.332****(0.085)	0.307****(086)	0.310****(0.086)	0.263****(0.078)
Clan culture		0.145*(0.086)	0.148*(0.086)	0.295****(0.083)
Hierarchical culture		−0.123 (0.092)	−0.124 (0.093)	−0.212**(0.090)
Generational involvement (GI) − linear effects			0.056 (0.115)	−0.012 (0.105)
*Clan culture * GI linear*				−0.320***(0.105)
*Hierarchical culture * GI linear*				0.438****(0.096)
R^2	0.147	0.178	0.180	0.348
Adjusted R^2	0.104	0.119	0.112	0.279
F	3.46***	3.03***	2.66***	5.08****

N = 106. All control, dependent and independent variables were mean-centred prior to analyses. [a] Standard errors are presented in brackets.
Significance levels: *$p < 0.10$; **$p < 0.05$; ***$p < 0.01$; ****$p < 0.001$.

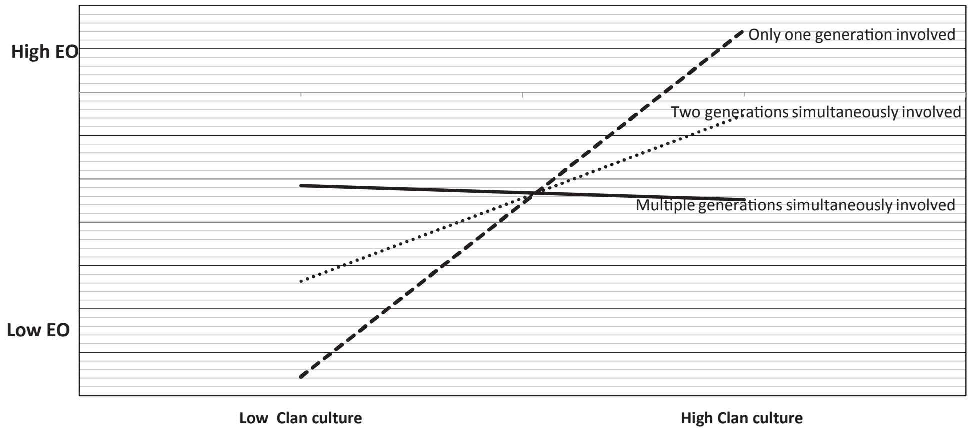

Fig. 2. Interaction between clan culture and generational involvement.

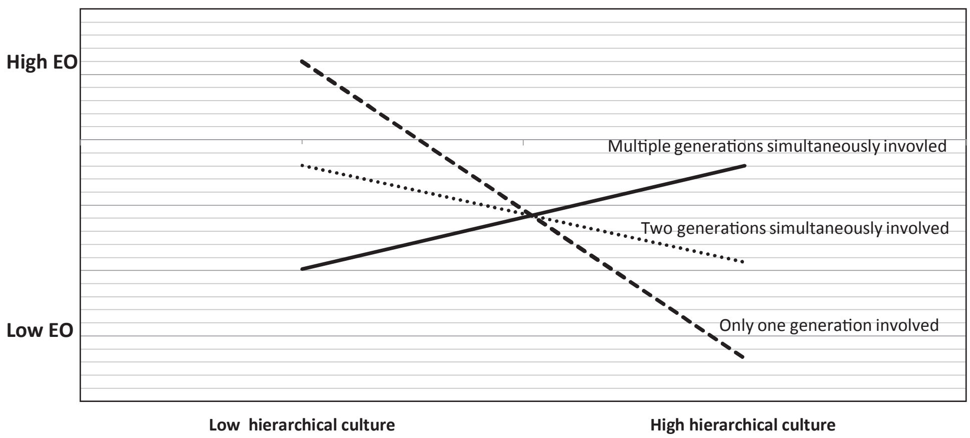

Fig. 3. Interaction between hierarchical culture and generational involvement.

generational involvement was added ($R^2 = 0.180$, $p < 0.01$). Finally, in model 4, all interactions terms between the independent and moderating variables were run. The comparison between Model 3 and Model 4 also revealed that the addition of interaction terms increased significantly the R^2 of the full model ($R^2 = 0.348$, $p < 0.001$).

According to the recommendations of Echambadi, Campbell, and Agarwal (2006) that propose to estimate simple effects and interaction effects, simultaneously in a full model, the study refers to the results of Model 4 (full model) to report my findings. Therefore, consistent with H1a, the results provide significant evidence in support of the positive effect of the firm's clan culture on EO ($\beta = 0.295$; $p < 0.001$). In similar fashion, the results indicate significant evidence in support of the negative effect of firm's hierarchical culture on EO ($\beta = -0.212$; $p < 0.05$). Hence, hypotheses H1a and H1b are fully supported.

For the moderating effect, Hypothesis H2a, which argued that the positive relationship between clan culture and EO is expected to be reduced with the involvement of multiple generations in the family firm management, was observed in support of the negative moderating effect of generational involvement on the relationship between clan culture and EO; thus, the interaction term is significantly negative ($\beta = -0.322$; $p < 0.01$). Also, Hypothesis H2b, which argued that the relationship between hierarchical culture and EO is expected to be improved with the involvement of multiple generations in the family firm management, was observed in support of the positive moderating effect of generational involvement on the relationship between hierarchical culture and EO; thus, the interaction term is significantly positive ($\beta = 0.438$; $p < 0.001$). To fully understand the nature of these moderated relationships, the results were plotted the linear moderating effects of generational involvement in Fig. 2 (H2a) and Fig. 3 (H2b), consistent with the technique recommended by Cohen, Cohen, West, & Aiken (2013).

According to Fig. 2, clan culture leads to high levels of EO when only one generation is involved in the management. However, the interaction between multiple generations involved and clan culture is found to be associated with lower and negative levels of EO.

In Fig. 3, as predicted, the hierarchical culture leads to lower levels of EO when only one generation is involved in the management. However, the interaction between multiple generations involved and hierarchical culture is found to be associated with higher and positive levels of EO. These findings are explained in more detail in the following discussion section.

8. Discussion

This study aims to improve our understanding of why some family firms are more entrepreneurial across generations than others. Drawing on the Competing Values Framework, generational involvement, and entrepreneurial orientation, the results show that it is important to take generational involvement into consideration when examining the nexus between family organizational culture and long-term entrepreneurial orientation. The study results further show that the nature and strength of this relationship vary, depending on whether a single or multiple generations are involved.

The study results support the theorized model, thereby enriching the literature on the relationship between family organizational culture and EO across generations. In this study, I found significant support for a positive relationship between clan culture and EO (H1a), and for a negative relationship between hierarchical culture and EO (H1b). In addition, I found that generational involvement negatively moderates the impact of clan culture on EO (H2a), and positively moderates the impact of hierarchical culture on EO (H2b).

As such, this study makes three primary contributions. First, proposed theory and empirical evidence confirm that generational involvement is an important contingent factor that explains whether and to what extent clan versus hierarchical culture affect long-term entrepreneurial orientation. While clan culture fosters higher levels of EO when only one generation is involved, it is hierarchical culture that fosters higher EO when multiple generations are simultaneously involved. In so doing, proposed theory and findings offer a deeper understanding of the influences of two different organizational cultures on family firms' EO, and show that there is no single path for developing and maintaining long-term family entrepreneurial orientation. In addition, the study results reinforce the research stream claiming that some family firms can remain entrepreneurial across generations (e.g., Jaskiewicz et al., 2015; Kellermanns & Eddleston, 2006). This research findings further refine prior works, for instance, Le Breton-Miller et al. (2015) who proposed that, in family firms, EO will be positively related to presence of a founder but negatively related to involvement of later family generations in management.

Second, although previous research has argued that organizational culture oriented toward centralized decision making and authority is considered a perpetual hindrance to family firms' entrepreneurship (see Hall et al., 2001; Zahra et al., 2004), this study challenges this argument. Concretely, the research evidence indicates that hierarchical culture can influence positively EO when multiple generations are involved. These empirical findings enrich recent research stream that emphasizes the importance of control and authority structures through values and culture for the efficiency of the innovation process (Duran et al., 2015), and the importance of hierarchy and formal control systems for the quality of decisions regarding the pursuit of entrepreneurial opportunities (Jansen et al., 2006; Martin et al., 2016).

Furthermore, by examining the role that hierarchical culture plays when multiple generations are involved, this study contributes to the literature on professionalization of family firms and family governance − i.e., direct control, formalization, process and systems – and relates these aspects to EO. Such a culture may regulate complexities and help efficiently manage coordination and collaboration between multiple generations involved, and thus fostering family firm's EO. As previously argued by Nordqvist and Melin (2010), family organizational culture is a key component of family governance. Considering that multi-generational involved family firms need to create a *governance infrastructure* to manage people inter-relationships, business and investments (Jaffe & Lane, 2004), this research suggests that the involvement of multiple generations lead hierarchical culture to provide a structured framework that could facilitate, legitimize and endorse establishment of professional management and governance mechanisms. As such, hierarchical culture might regulate complexities and family conflicts, ensure a shared vision, and direct valuable firm resources towards entrepreneurial activities, rather than individual family members' needs.

Finally, this study represents an early effort to use the Competing Values Framework and its Organizational Culture Assessment Instrument (Cameron & Quinn, 2006) to examine and measure organizational culture in the family firm context. This point is important because majority of previous works on family firms and organizational culture have used the Hofstede approach (Duh, Belak, & Milfelner, 2010). While greatly valued, Hofstede's approach has been specifically critiqued regarding the inherent limitations of a binary model of culture dimensions (Gupta et al., 2008). As such, the present study illustrates that the Competing Values Framework contributes to enrich the seminal Dyer's (1988) configuration of family organizational culture. In so doing, the combined insights from multiple approaches such as family firm, EO, Competing Values Framework and generational involvement lens, create a unique contribution to my research and allow me to address new questions and new insights into the topic of entrepreneurial family firm.

8.1. Limitations and implications for future research

This study has a few limitations that should be considered. First, data were collected cross-sectionally and may thus be subject to common method bias. However, the empirical design and statistical tests did not show any related concern. Second, the small sample size could limit the results generalizability. Future research could further investigate these ideas and adopt a longitudinal perspective, using a larger database, since the study showed the importance of understanding changes in family organizational cultures when a new generation gets involved in the family firm management. As changes in culture take time to occur, access to longitudinal information may further clarify the dynamic process of family organizational culture re-production via intergenerational interaction. Third, this study did not measure additional control variables pertinent to family firm aspects that might provide important theoretical and empirical insights. Testing the potential role of more contextual family variables is a primary recommendation for future research on the generational involvement and long-term EO relationship. For instance, it would be interesting to examine a few salient family variables such as CEO tenure[1] and generational involvement in ownership. On the one hand, CEO tenure is considered to have a salient influence to foster and sustain EO; more specifically, CEO tenure and EO were found to exhibit an inverse U-shaped relationship (Boling, Pieper, & Covin, 2016). On the other hand, family ownership is assumed to promote a long-term planning perspective that is beneficial to sustainable success across multiple generations of the family firm (Kellermanns et al., 2008). Indeed, the more concentrated it is, the more beneficial to the performance it becomes (Miller, Minichilli, & Corbetta, 2013). It remains thus interesting to know what is the specific threshold for these variables to maintain a strong level of EO. To gain further insights into this question, future research could focus on such question: What is the threshold at which family firms are inclined to realize a higher level of EO, in terms of hierarchical culture, number of generations involved in Top Management Team, number of generations involved in ownership, and years of CEO tenure? By attempting to answer this question, scholars could come to a deeper understanding and an improved picture of key determinants for a long-term family firm's entrepreneurial orientation. Furthermore, given that family firms are heterogeneous, testing these family variables allows to reinforce the comprehension of family firm's heterogeneity.

Finally, this study empirical setup is country context-specific. It is focused on French small and medium-sized family firms and therefore, this could be another limiting factor for results generalizability. According to Hofstede (2001), France represents an idiosyncratic hierarchical culture, where power is centralized in companies and institutions. Hofstede also showed that French companies normally have one or two more hierarchical levels than comparable companies in other Europeans countries such as Germany or the UK. Therefore, it could be interesting to verify the model of this study across different countries to confirm, or not, the extent of results indicated herein. Also, a comparative study with a cross-country analysis could show if and how national cultural issues may affect the model. Toward this end, future studies could test more complex models that contrast external and internal moderating variables, and apply more sophisticated quantitative and qualitative research designs.

Despite these limitations, this study has important implications for academics. From a research perspective, it provides an empirical evidence that family firms can maintain and develop a long-term entrepreneurial orientation by considering their unique characteristics regarding the configuration of organization culture type and generational involvement degree. At the same time, further research is needed to examine whether or not there are other additional family firm moderators to influence this configuration. For instance, it would be interesting to examine familiness as a moderating variable since the family organizational culture is

[1] I thank one anonymous reviewer for this insight.

embedded *in* and nurtured *by* family and business.

Family governance mechanisms improve strategic decision quality and thus influence EO (Blanco-Mazagatos et al., 2016; Le Breton-Miller et al., 2015; Mustakallio et al., 2002; Suess, 2014). This study reinforces this stream of research and argues that hierarchical culture is likely to be a critical intervening factor in relating professional management and family governance to EO. This argument calls for further empirical research on the potential role of hierarchical culture in setting up family governance mechanisms, and to explore how universal forms of governance affect family firm's EO.

8.2. Practical implications

This study has also implications for allowing family firm leaders to understand the specific role of organizational culture in developing sustainable entrepreneurial family firm. Long-term entrepreneurial orientation is a more complex phenomenon than the sum of multiple generations' efforts and perspectives under the umbrella of clan culture. It is a matter of synergy of perspectives between old and young generations. It is also a matter of how to effectively and efficiently manage coordination and collaboration among different generations within the same firm. Previous studies have asserted that the involvement of a young generation on the company's board and its collaboration with the older generation is expected to be a source of open-minded initiatives, creativity and innovation (e.g., Bannò & Sgobbi, 2016; Litz & Kleysen, 2001). Yet, the latter studies argue that in these multi-generational involved family firm, clan family firms, more connected to traditions and loyalty, have more difficulties pulling themselves out of their comfort zones and embracing dynamic activities such as innovation, risk taking and proactiveness. In other words, younger generations involved in family firms need to push for new ways to do things (Kepner, 1991), to help the firm rejuvenate and reinvent itself, thus ensuring sustainable growth (Jaffe & Lane, 2004). But the family firms which are imbued with clan culture over several generations could become highly associated with traditions, and as a consequence, young generation involved might be inclined to reject traditional ways of pursuing entrepreneurial activities as compared to those of older generations.

Furthermore, maintaining family clan culture when multiple generations are involved might lead to resistance towards professionalization and nonfamily managers (Sanchez-Famoso, Maseda, & Iturralde, 2017). However, entrepreneurial activities require a greater involvement of specialised managers who possess technical backgrounds and entrepreneurial experience (Chrisman & Patel, 2012) that are not all available within family members. Therefore, the interaction between clan culture and multiple family generations could entail a weak collective cognition (Sanchez-Famoso et al., 2017), that in turn affect capacity of opportunity recognition and efficient pursuit of entrepreneurial activities.

Accordingly, family leaders need to continuously question and change their *old* cultural patterns and adapt them to the environment (Hall et al., 2001). Since family organizational culture is re-produced by intergenerational interaction, the involved generations should understand the importance to create and foster cultural patterns that effect positively a long-term entrepreneurial orientation. As such, multiple generations involved have the unique opportunity to evaluate artifacts, perspectives, values, and assumptions to change the family organizational culture and make it more effective (Dyer, 1988). As consequence, it is important for family leaders who wish to ensure the long-term entrepreneurial orientation of their firms to pay attention to strategic alignment between the degree of generational involvement and the type of family organizational culture, both considered important attributes for sustainable entrepreneurial family firms.

9. Conclusion

It is important to answer the initial question: does generational involvement matter? The answer is: *yes, generational involvement matters*. The key message of this study is that generational involvement changes the nature and the strength of family organizational culture-EO relationship. This research is one of the first studies that distinguishes generational and cultural variables in family firms to better understand the phenomenon of sustainable entrepreneurial family firms. Also, it pinpoints the importance of family firms' willingness to pursue long-term EO by including changes in their cultural pattern when multiple generations are involved. These changes can set the stage for the formal recognition of entrepreneurship as a means of organizational renewal and sustainability.

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Appendix: Questionnaire

Please circle the numbers in the following scales which best describe your situation. Circle "1" if you Totally disagree; "4" if you Partly agree; and "7" if you Totally agree with the item. These instructions are applied to all items.

Appendix A. The EO scale

How many new lines of products or services has your firm marketed ?		
No new lines of products or services.	1 2 3 4 5 6 7	Very many new lines of products or services.
Changes in product or service lines have been mostly of a minor nature.	1 2 3 4 5 6 7	Changes in product or service lines have usually been quite dramatic.
In general, top managers in my firm favor....		
A strong emphasis on the marketing of tried and true products or services.	1 2 3 4 5 6 7	A strong emphasis on R & D, technological leadership, and innovations.
In dealing with competitors, my firm ...		
Is very seldom the first business to	1 2 3 4 5 6 7	Is very often the first business to introduce new products/services, administrative

introduce new products/services, administrative techniques, operating technologies, etc.		techniques. operating technologies. etc.
In dealing with competitors, my firm ...		
Typically seeks to avoid competitive clashes, preferring a "live-and-let-live" posture.	1 2 3 4 5 6 7	Typically adopts a very competitive, "undo-the-competitors" posture.
In general, the top managers at my firm...		
Have a strong proclivity for low-risk projects (with normal and certain rates of return).	1 2 3 4 5 6 7	Have a strong proclivity for high- risk projects (with chances of very high returns).
In general, the top managers at my firm...		
Believe that owing to the nature of the environment, it's best to explore it gradually via careful incremental behavior.	1 2 3 4 5 6 7	Believe that owing to the nature of the environment, bold wide-ranging acts are necessary to achieve the firm's objectives.
When confronted with decision-making situations involving uncertainty, my firm...		
Typically adopts a cautious "wait-and-see" posture in order to minimize the probability of making costly decisions.	1 2 3 4 5 6 7	Typically adopts a bold aggressive posture in order to maximize the probability of exploiting potential opportunities.

Appendix B. The organizational culture scale

Clan culture

In general…	
The organization is a very personal place. It is like an extended family. People seem to share a lot of themselves.	1 2 3 4 5 6 7
The leadership in the organization is generally considered to exemplify mentoring, facilitating or nurturing.	1 2 3 4 5 6 7
The management style in the organization is characterized by teamwork, consensus and participation.	1 2 3 4 5 6 7
The glue that holds the organization together is loyalty and mutual trust. Commitment to this organization runs high.	1 2 3 4 5 6 7
The organization emphasizes human development. High trust, openness, and participation persist.	1 2 3 4 5 6 7
The organization defines success on the basis of the development of human resources, teamwork, employee commitment, and concern for people.	1 2 3 4 5 6 7

Hierarchical culture

In general…	
The organization is a very controlled and structured place. Formal procedures generally govern what people do.	1 2 3 4 5 6 7
The leadership in the organization is generally considered to exemplify coordinating, organizing or smooth - running and efficiency.	1 2 3 4 5 6 7
The management style in the organization is characterized by security of employment, conformity, predictability, and stability in relationships.	1 2 3 4 5 6 7
The glue that holds the organization together is formal rules and policies. Maintaining a smoothly running organization is important.	1 2 3 4 5 6 7
The organization emphasizes permanence and stability. Efficiency, control, and smooth operations are important.	1 2 3 4 5 6 7
The organization defines success on the basis of efficiency. Dependable delivery, smooth scheduling and low-cost production are critical.	1 2 3 4 5 6 7

Appendix C. The environment scale

Environmental hostility	
The failure rate of firms in my industry is high.	1 2 3 4 5 6 7
My industry is very risky, such that one bad decision could easily threaten the viability of my business unit.	1 2 3 4 5 6 7
Competitive intensity is high in my industry.	1 2 3 4 5 6 7
Customer loyalty is low in my industry.	1 2 3 4 5 6 7
Severe price wars are characteristic of my industry.	1 2 3 4 5 6 7
Low profit margins are characteristic of my industry.	1 2 3 4 5 6 7
Environmental dynamism *(Note: All items are reverse-coded.)*	1 2 3 4 5 6 7
Actions of competitors are generally quite easy to predict.	1 2 3 4 5 6 7

The set of competitors in my industry has remained relatively constant over the last 3 years.	1 2 3 4 5 6 7
Product demand is easy to forecast.	1 2 3 4 5 6 7
Customer requirements / preferences are easy to forecast.	1 2 3 4 5 6 7
My industry is very stable with very little change resulting from major economic, technological, social or political forces.	1 2 3 4 5 6 7

References

Adiguna, R. (2015). Organisational culture and the family business. In M. Nordqvist, L. Melin, M. Waldkirch, & G. Kumeto (Eds.), *Theoretical perspectives on family businesses*. Edward Elgar.

Aiken, L. S., West, S. G., & Reno, R. R. (1991). *Multiple regression: Testing and interpreting interactions*. Sage.

Aronoff, C. (1998). Megatrends in family business. *Family Business Review*, *11*(3), 181–185.

Astrachan, J. H., Klein, S. B., & Smyrnios, K. X. (2002). The F-PEC scale of family influence: A proposal for solving the family business definition problem. *Family Business Review*, *15*(1), 45–58.

Bannò, M., & Sgobbi, F. (2016). Family business characteristics and the approach to HRM in overseas ventures. *Journal of Small Business Management*, *54*(2), 640–658.

Barney, J. B. (1986). Organizational Culture: Can it be a source of sustained competitive advantage. *Academy of Management Review*, *11*(3), 656–665.

Blanco-Mazagatos, V., de Quevedo-Puente, E., & Delgado-García, J. B. (2016). How agency conflict between family managers and family owners affects performance in wholly family-owned firms: A generational perspective. *Journal of Family Business Strategy*, *7*(3), 167–177.

Boling, J. R., Pieper, T. M., & Covin, J. G. (2016). CEO tenure and entrepreneurial orientation within family and nonfamily firms. *Entrepreneurship Theory and Practice*, *40*(4), 891–913.

Brannon, D. L., Wiklund, J., & Haynie, J. M. (2013). The varying effects of family relationships in entrepreneurial teams. *Entrepreneurship Theory and Practice*, *37*(1), 107–132.

Cameron, K. S., & Quinn, R. E. (2006). *Diagnosing and changing organizational culture: Based on the competing values framework* (2nd ed.). Jossey-Bass.

Casillas, J. C., Moreno, A. M., & Barbero, J. L. (2011). Entrepreneurial orientation of family firms: Family and environmental dimensions. *Journal of Family Business Strategy*, *2*(2), 90–100.

Chirico, F., & Nordqvist, M. (2010). Dynamic capabilities and transgenerational value creation in family firms: The role of organizational culture. *International Small Business Journal*, *28*(5), 487–504.

Chirico, F., & Salvato, C. (2016). Knowledge internalization and product development in family firms: When relational and affective factors matter. *Entrepreneurship Theory and Practice*, *40*(1), 201–229.

Chirico, F., Sirmon, D., Sciascia, S., & Mazzola, P. (2011). Resource orchestration in family firms: Investigating how entrepreneurial orientation, generational involvement, and participative strategy affect performance. *Strategic Entrepreneurship Journal*, *5*(4), 307–326.

Chrisman, J. J., & Patel, P. J. (2012). Variations in R & D investments of family and non-family firms: Behavioral agency and myopic loss aversion perspectives. *Academy of Management Journal*, *55*, 976–997.

Chrisman, J. J., Chua, J. H., Pearson, A. W., & Barnett, T. (2012). Family involvement, family influence, and family-centered non-economic goals in small firms. *Entrepreneurship Theory Practice*, *36*(2), 267–293.

Chua, J. H., Chrisman, J. J., & Sharma, P. (1999). Defining the family business by behavior. *Entrepreneurship Theory and Practice*, *23*(4), 19–39.

Chua, J. H., Chrisman, J. J., & Bergiel, E. B. (2009). An agency theoretic analysis of the professionalized family firm. *Entrepreneurship Theory and Practice*, *33*(2), 355–372.

Chua, J. H., Chrisman, J. J., Steier, L. P., & Rau, S. B. (2012). Sources of heterogeneity in family firms: An introduction. *Entrepreneurship Theory and Practice*, *36*(6), 1103–1113.

Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2013). *Applied multiple regression/correlation analysis for the behavioral sciences*. Routledge.

Covin, J. G., & Slevin, D. P. (1988). The influence of organization structure on the utility of an entrepreneurial top management style. *Journal of Management Studies*, *25*(3), 217–234.

Covin, J. G., & Slevin, D. P. (1991). A conceptual model of entrepreneurship as firm behavior. *Entrepreneurship Theory and Practice*, *16*(1), 7–25.

Covin, J. G., & Wales, W. J. (2012). The measurement of entrepreneurial orientation. *Entrepreneurship Theory and Practice*, *36*(4), 677–702.

Craig, J. B., Dibrell, C., & Garrett, R. (2014). Examining relationships among family influence, family culture, flexible planning systems, innovativeness and firm performance. *Journal of Family Business Strategy*, *5*(3), 229–238.

Cruz, C., & Nordqvist, M. (2012). Entrepreneurial orientation in family firms: A generational perspective. *Small Business Economics*, *38*(1), 33–49.

De Clercq, D., & Belausteguigoitia, I. (2015). Intergenerational strategy involvement and family firms' innovation pursuits: The critical roles of conflict management and social capital. *Journal of Family Business Strategy*, *6*(3), 178–189.

De Massis, A., Kotlar, J., Frattini, F., Chrisman, J. J., & Nordqvist, M. (2016). Family governance at work: Organizing for new product development in family SMEs. *Family Business Review*, *29*(2), 189–213.

DeLong, D. W., & Fahey, L. (2000). Diagnosing cultural barriers to knowledge management. *Academy of Management Executive*, *14*(4), 113–127.

Dension, D. R. (1990). *Corporate culture and organizational effectiveness*. Wiley.

Discua Cruz, A., Howorth, C., & Hamilton, E. (2013). Intrafamily entrepreneurship: The formation and membership of family entrepreneurial teams. *Entrepreneurship Theory and Practice*, *37*(1), 17–46.

Duh, M., Belak, J., & Milfelner, B. (2010). Core values, culture and ethical climate as constitutional elements of ethical behaviour: Exploring differences between family and non-family enterprises. *Journal of Business Ethics*, *97*(3), 473–489.

Duran, P., Kammerlander, N., Van Essen, M., & Zellweger, T. (2015). Doing more with less: Innovation input and output in family firms. *Academy of Management Journal*, *59*(4), 1224–1264.

Dyer, W. G. (1986). *Cultural change in family firms: Anticipating and managing business and family transitions*. Jossey-Bass.

Dyer, W. G. (1988). Culture and continuity in family firms. *Family Business Review*, *1*, 37–50.

Dyer, W. G. (1989). Integrating professional management into a family owned business. *Family Business Review*, *2*(3), 221–235.

Dyer, W. G. (2006). Examining the family effect on firm performance. *Family Business Review*, *19*, 253–273.

Echambadi, R., Campbell, B., & Agarwal, R. (2006). Encouraging best practice in quantitative management research: An incomplete list of opportunities. *Journal of Management Studies*, *43*(8), 1801–1820.

Eddleston, K. A., & Kellermanns, F. W. (2007). Destructive and productive family relationships: A stewardship theory perspective. *Journal of Business Venturing*, *22*(4), 545–565.

Eddleston, K. A., Kellermanns, F. W., & Sarathy, R. (2008). Resource configuration in family firms: Linking resources, strategic planning and technological opportunities to performance. *Journal of Management Studies*, *45*(1), 26–50.

Fiol, C. M. (1991). Managing culture as a competitive resource: An identity-based view of sustainable competitive advantage. *Journal of Management*, *17*(1), 191–211.

Fletcher, D., Melin, L., & Gimeno, A. (2012). Culture and values in family business: A review and suggestions for future research. *Journal of Family Business Strategy*, *3*(3), 127–131.

Foss, N. J., Lyngsie, J., & Zahra, S. A. (2015). Organizational design correlates of entrepreneurship: The roles of decentralization and formalization for opportunity discovery and realization. *Strategic Organization*, *13*(1), 32–60.

Gedajlovic, E., Lubatkin, M. H., & Schulze, W. S. (2004). Crossing the threshold from founder management to professional management: A governance perspective. *Journal of Management Studies*, *41*(5), 899–912.

George, B. A. (2011). Entrepreneurial orientation: A theoretical and empirical examination of the consequences of differing construct representations. *Journal of Management Studies*, *48*(6), 1291–1313.

Gersick, K. E., Davis, J. A., Hampton, M. M., & Lansberg, I. (1997). *Generation to generation: Life cycles of the family business*. Harvard Business School Press.

Goel, S., & Jones, R. J. (2016). Entrepreneurial exploration and exploitation in family business a systematic review and future directions. *Family Business Review*, *29*(1), 94–120.

Gomez-Mejia, L. R., Makri, M., & Larraza-Kintana, M. (2010). Diversification decisions in family controlled firms. *Journal of Management Studies*, *47*(2), 223–252.

Green, K. M., Covin, J. G., & Slevin, D. P. (2008). Exploring the relationship between strategic reactiveness and entrepreneurial orientation: The role of structure-style fit. *Journal of Business Venturing*, *23*(3), 356–383.

Gupta, V., Levenburg, N., Moore, L. L., Motwani, J., & Schwarz, T. V. (2008). Exploring the construct of family business in the emerging markets. *International Journal of Business and Emerging Markets*, *1*(2), 189–208.

Habbershon, T. G., & Williams, M. L. (1999). A resource-based framework for assessing the strategic advantages of family firms. *Family Business Review*, *12*(1), 1–25.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2010). *Multivariate data analysis* (7th ed.). Pearson.

Hall, A., Melin, L., & Nordqvist, M. (2001). Entrepreneurship as a radical change in family business: Exploring the role of cultural patterns. *Family Business Review*, *14*(3), 193–208.

Harrington, S. J., & Guimaraes, T. (2005). Corporate culture, absorptive capacity and IT success. *Information and Organization*, *15*(1), 39–63.

Harvey, M., & Evans, R. E. (1994). Family business and multiple levels of conflict. *Family Business Review*, *7*(4), 331–348.

Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions and organizations across nations* (2nd ed.). Sage Publications.

Jaffe, D. T., & Lane, S. H. (2004). Sustaining a family dynasty: Key issues facing complex multigenerational business-and investment-owning families. *Family Business Review*, *17*(1), 81–98.

Jansen, J. J. P., Van den Bosch, F. A. J., & Volberda, H. W. (2006). Exploratory innovation, exploitative innovation, and performance: Effects of organizational antecedents and environmental moderators. *Management Science*, *52*(11), 1661–1674.

Jaskiewicz, P., Combs, J. G., & Rau, S. B. (2015). Entrepreneurial legacy: Toward a theory of how some family firms nurture transgenerational entrepreneurship. *Journal of Business Venturing*, *30*(1), 29–49.

Jones, C. D., Makri, M., & Gomez-Mejia, L. R. (2008). Affiliate directors and perceived risk

bearing in publicly traded, family-controlled firms: The case of diversification. *Entrepreneurship Theory and Practice*, *32*(6), 1007–1026.
Kellermanns, F. W., & Eddleston, K. A. (2004). Feuding families: When conflict does a family firm good. *Entrepreneurship Theory and Practice*, *28*(3), 209–228.
Kellermanns, F. W., & Eddleston, K. A. (2006). Corporate venturing in family firms: Does the family matter? *Entrepreneurship Theory and Practice*, *30*(6), 837–854.
Kellermanns, F. W., Eddleston, K. A., Barnett, T., & Pearson, A. (2008). An exploratory study of family member characteristics and involvement: Effects on entrepreneurial behavior in the family firm. *Family Business Review*, *21*(1), 1–14.
Kellermanns, F. W., Eddleston, K. A., Sarathy, R., & Murphy, F. (2012). Innovativeness in family firms: A family influence perspective. *Small Business Economics*, *38*(1), 85–101.
Kepner, E. (1991). The family and the firm: A coevolutionary perspective. *Family Business Review*, *4*(4), 445–461.
Knight, G. (1997). Cross-cultural reliability and validity of a scale to measure firm entrepreneurial orientation. *Journal of Business Venturing*, *12*(3), 213–225.
Kumar, N., Stern, L. W., & Anderson, J. C. (1993). Conducting interorganizational research using key informants. *Academy of Management Journal*, *36*(6), 1633–1651.
Le Breton-Miller, I., Miller, D., & Bares, F. (2015). Governance and entrepreneurship in family firms: Agency, behavioral agency and resource-based comparisons. *Journal of Family Business Strategy*, *6*(1), 58–62.
Levinson, H. (1971). Conflicts that plague the family business. *Harvard Business Review*, 90–95.
Ling, Y., & Kellermanns, F. W. (2010). The effects of family firm specific sources of TMT diversity: The moderating role of information exchange frequency. *Journal of Management Studies*, *47*(2), 322–344.
Litz, R. A., & Kleysen, R. F. (2001). Your old men shall dream dreams, your young men shall see visions: Toward a theory of family firm innovation with help from the Brubeck family. *Family Business Review*, *14*(4), 335–351.
López-Fernández, M. C., Serrano-Bedia, A. M., & Pérez-Pérez, M. (2016). Entrepreneurship and family firm research: A bibliometric analysis of an emerging field. *Journal of Small Business Management*, *54*(2), 622–639.
Love, L. G., Priem, R. L., & Lumpkin, G. T. (2002). Explicitly articulated strategy and firm performance under alternative levels of centralization. *Journal of Management*, *28*(5), 611–627.
Lubatkin, M. H., Schulze, W. S., Ling, Y., & Dino, R. N. (2005). The effects of parental altruism on the governance of family-managed firms. *Journal of Organizational Behavior*, *26*(3), 313–330.
Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management*, *21*(1), 135–173.
Lumpkin, G. T., Brigham, K., & Moss, T. (2010). Long-term orientation: Implications for the entrepreneurial orientation and performance of family businesses. *Entrepreneurship and Regional Development*, *22*(3/4), 241–264.
Lumpkin, G. T., Steier, L., & Wright, M. (2011). Strategic entrepreneurship in family business. *Strategic Entrepreneurship Journal*, *5*(4), 285–306.
Martin, W. L., McKelvie, A., & Lumpkin, G. T. (2016). Centralization and delegation practices in family versus non-family SMEs: A Rasch analysis. *Small Business Economics*, *47*(3), 755–769.
Melin, L., & Nordqvist, M. (2007). The reflexive dynamics of institutionalization: The case of the family business. *Strategic Organization*, *5*(3), 321–333.
Miller, D., & Friesen, P. H. (1982). Innovation in conservative and entrepreneurial firms: Two models of strategic momentum. *Strategic Management Journal*, *3*(1), 1–25.
Miller, D., & Le Breton-Miller, I. (2005). *Managing for the long run*. Boston: Harvard Business School Press.
Miller, D., Le Breton-Miller, I., & Lester, R. H. (2011). Family and lone founder ownership and strategic behaviour: Social context, identity, and institutional logics. *Journal of Management Studies*, *48*(1), 1–25.
Miller, D., Minichilli, A., & Corbetta, G. (2013). Is family leadership always beneficial? *Strategic Management Journal*, *34*(5), 553–571.
Miller, D. (1983). The correlates of entrepreneurship in three types of firms. *Management Science*, *29*(7), 770–791.
Miller, D. (2011). Miller (1983) revisited: A reflection on EO research and some suggestions for the future. *Entrepreneurship Theory and Practice*, *35*(5), 873–894.
Moores, K., & Mula, J. (2000). The salience of market, bureaucratic, and clan controls in the management of family firm transitions: Some tentative Australian evidence. *Family Business Review*, *13*(2), 91–106.
Mustakallio, M., Autio, E., & Zahra, S. A. (2002). Relational and contractual governance in family firms: Effects on strategic decision making. *Family Business Review*, *15*(3), 205–222.
Naldi, L., Nordqvist, M., Sjöberg, K., & Wiklund, J. (2007). Entrepreneurial orientation, risk-taking, and performance in family firms. *Family Business Review*, *20*(1), 33–47.
Naranjo-Valencia, J. C., Jiménez-Jiménez, D., & Sanz-Valle, R. (2011). Innovation or imitation? The role of organizational culture. *Management Decision*, *49*(1), 55–72.
Nordqvist, M., & Melin, L. (2010). Entrepreneurial families and family firms. *Entrepreneurship and Regional Development*, *22*(3/4), 211–239.
Nordqvist, M., Habbershon, T. G., & Melin, L. (2008). Transgenerational entrepreneurship: Exploring entrepreneurial orientation in family firms. In H. Landström, D. Smallbone, H. Crijns, & E. Laveren (Eds.), *Entrepreneurship, sustainable growth and performance: Frontiers in European entrepreneurship research* (pp. 93–116). .
O'Boyle, E. H., Pollack, J. M., & Rutherford, M. W. (2012). Exploring the relation between family involvement and firms' financial performance: A meta-analysis of main and moderator effects. *Journal of Business Venturing*, *27*(1), 1–18.
Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*(5), 879–903.
Poza, E. J. (1989). Managerial practices that support entrepreneurship and continued growth. *Family Business Review*, *1*(4), 339–359.
Quinn, R. E., & Rohrbaugh, P. (1983). A spatial model of effectiveness criteria: Toward a competing value approach to organizational analysis. *Management Science*, *29*(3), 363–377.
Röd, I. (2016). Disentangling the family firm's innovation process: A systematic review. *Journal of Family Business Strategy*, *7*(3), 185–201.
Rauch, A., Wiklund, J., Lumpkin, G. T., & Frese, M. (2009). Entrepreneurial orientation and business performance: An assessment of past research and suggestions for the future. *Entrepreneurship Theory and Practice*, *33*(3), 761–787.
Rogoff, E. G., & Heck, R. K. Z. (2003). Evolving research in entrepreneurship and family business: Recognizing family as the oxygen that feeds the fire of entrepreneurship. *Journal of Business Venturing*, *18*(5), 559–566.
Salvato, C. (2004). Predictors of entrepreneurship in family firms. *Journal of Private Equity*, *27*(3), 68–76.
Sanchez-Famoso, V., Maseda, A., & Iturralde, T. (2017). Family involvement in top management team: Impact on relationships between internal social capital and innovation. *Journal of Management & Organization*, *23*(1), 136–162.
Sciascia, S., Mazzola, P., & Chirico, F. (2013). Generational involvement in the top management team of family firms: Exploring nonlinear effects on entrepreneurial orientation. *Entrepreneurship Theory and Practice*, *37*(1), 69–85.
Short, J. C., Payne, G. T., Brigham, K. H., Lumpkin, G. T., & Broberg, J. C. (2009). Family firms and entrepreneurial orientation in publicly traded firms A comparative analysis of the S & P 500. *Family Business Review*, *22*(1), 9–24.
Sirmon, D. G., & Hitt, M. A. (2003). Managing resources: Linking unique resources, management and wealth creation in family firms. *Entrepreneurship Theory and Practice*, *27*(4), 339–358.
Sonfield, M. C., & Lussier, R. N. (2004). First, second, and third generation family firms: A comparison. *Family Business Review*, *17*(3), 189–202.
Steier, L. P., Chrisman, J. J., & Chua, J. H. (2015). Governance challenges in family businesses and business families. *Entrepreneurship Theory and Practice*, *39*(6), 1265–1280.
Stewart, A., & Hitt, M. A. (2012). Why can't a family business be more like a nonfamily business? Modes of professionalization in family firms. *Family Business Review*, *25*(1), 58–86.
Suess, J. (2014). Family governance–Literature review and the development of a conceptual model. *Journal of Family Business Strategy*, *5*(2), 138–155.
Ward, J. L. (1997). Growing the family business: Special challenges and best practices. *Family Business Review*, *10*(4), 323–337.
Wiklund, J., & Shepherd, D. (2005). Entrepreneurial orientation and small business performance: A configurational approach. *Journal of Business Venturing*, *20*(1), 71–91.
Wilkins, A. L., & Ouchi, W. G. (1983). Efficient cultures: Exploring the relationship between culture and organizational performance. *Administrative Science Quarterly*, *28*(3), 468–481.
Zahra, S. A., Hayton, J. C., & Salvato, C. (2004). Entrepreneurship in family vs. non-family firms: A resource-based analysis of the effect of organizational culture. *Entrepreneurship Theory and Practice*, *28*(4), 363–381.
Zahra, S. A., Hayton, J. C., Neubaum, D. O., Dibrell, C., & Craig, J. (2008). Culture of family commitment and strategic flexibility: The moderating effect of stewardship. *Entrepreneurship Theory and Practice*, *32*(6), 1035–1054.
Zahra, S. A. (2005). Entrepreneurial risk-taking in family firms. *Family Business Review*, *18*(1), 23–40.
Zellweger, T. M., Nason, R. S., & Nordqvist, M. (2012). From longevity of firms to transgenerational entrepreneurship of families introducing family entrepreneurial orientation. *Family Business Review*, *25*(2), 136–155.