

DAUGHTERS' CAREERS IN FAMILY BUSINESS: MOTIVATION TYPES AND FAMILY-SPECIFIC BARRIERS

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Abstract

The underrepresentation of women in high-level management positions in family firms has been traditionally imputed to gender barriers, which might be specific or non-specific to family firms. Leveraging the complementarity between qualitative and quantitative data and applying Qualitative Comparative Analysis (QCA), we find that family-specific barriers are intertwined with three types of motivation, i.e., extrinsic, intrinsic, and ethical, to predict the presence of daughters in high positions in family businesses. Three clusters have been accordingly identified, namely “no barriers”, “challengers”, and “rational”, offering alternative configurations of anthropological motivations and perceived family-specific barriers leading daughters to high positions.

KEY WORDS: careers in family business, succession, gender, motivation, barriers, ethics

Introduction

Roles and leadership responsibilities of women in family business has been an increasingly debated topic among academics (e.g., Campopiano et al., 2017) and practitioners (e.g., <http://www.womeninfamilybusiness.org/>). The debate in different circles converges towards the notion that women play an important role in family businesses (Worstal, 2015; Chadwick & Dawson, 2018), which is not reflected in the top management team of family firms, as we look, for instance, at gender quotas (Casillas Bueno, 2016; Englisch et al., 2015; Steinbrecher et al., 2016).

Women's underrepresentation has been traditionally explained by highlighting that male successors are preferred over female successors due to *primogeniture* (Ahrens, Landman & Woywode, 2015; Dumas, 1989; Hollander & Bukowitz, 1990), *daughter-invisibility* (Cole, 1997; Karataş-Özkan, Erdoğan, & Nicolopoulou, 2011) and women's *role incongruity* between a leader role, family role and gender role (Eagly, 2003; Ely, Ibarra & Kolb 2011; Hytti, Alsos, Heinonen, & Ljunggren, 2017). This research stream has advanced our understanding of gender barriers specific to family firms, which has contributed to mainstream managerial barriers, summarized

under the label “glass ceiling” (e.g., Joshi, Neely, Emrich, Griffiths & George, 2015; Songini & Gnan, 2009). However, several authors have expressed significant concerns about whether the incidence of discriminant practices can still explain the huge gap between female and male presence in high positions, e.g., top management team and board of directors, in family firms (e.g. Pascual Garcia, 2012). While there has been a change of perspectives, and academics are increasingly focused on the pathways to achieving leadership (Gupta & Levenburg, 2013; Martinez Jimenez, 2009), this stream of literature still presents several gaps and overlooks the rich body of previous findings related to perceived barriers.

Despite the fact that it has been generally demonstrated that (1) career outcomes are linked with motivation (i.e. Quigley and Tymon, 2006; Ryan and Deci, 2000); (2) perception of barriers may depend on gender, with women perceiving them as being higher (Luzzo, 1996); and (3) gender is linked to the motivation, own self-perception, and psychological maturity, jointly affecting career aspirations (e.g. Bandura, 1997; Cardoso and Moreira, 2009; Luzzo, 1995; Luzzo and McWhirter, 2001), the relationship between motivation of daughters, barriers and career outcomes within the family business has not been studied yet.

This article intends to close this gap by jointly looking at daughters’ motivation and perception of barriers. In particular, we argue that the family business context not only generates *specific* gender barriers, but might also reinforce some *specific* forms of career motivation. Further, building on the configurational approach and evidence from a sample of 66 daughters, we suggest that motivations and barriers systematically cluster due to different forces, and that certain configurations of motivations and barriers are related to daughters occupying a high position.

Contributions are three-fold. First, we contribute to the family business literature, suggesting that career outcomes of daughters in family business seem to be explained by how the perception of barriers and motivations are combined. Second, three types of motivation, namely, extrinsic, intrinsic, and ethical, jointly coexist, affecting career outcomes of daughters. Finally, we contribute to the career literature in mainstream management, considering the importance of barriers and motivations that are specific to family business.

The article is structured as follows. We start revising the link between motivation, challenges, and career outcomes of daughters. We present theoretical lenses and stages of empirical investigation. We conclude with presentation of findings and main contributions.

What furthers and what draws back daughters’ careers in family business

Jimenez (2009), Gupta and Levenburg (2013) and Campopiano et al. (2017) provide notable literature reviews of a general topic: “women in family business”. They agree that first contributions in this field centred predominately on obstacles and barriers to leadership, while

further research embraced a different viewpoint and the focus changed to the rise of women's careers and leadership. Nevertheless, many factors related to women's careers in family business remain obscure and the topic of barriers has not been actualized for several decades. Therefore, the following sections will respectively focus on motivations and barriers.

The Role of Motivation in Shaping Career Scenarios for Daughters in Family Business

The anthropological theory (Perez López, 1991) is the theoretical base for conception of motivation adopted in this study. Anthropological theory is an organization theory that integrates anthropological conception underlying the ethics of Aristotle and Thomas Aquinas to build a base of decision-making in the organization (Argandoña, 2008). The theory's basic assumption is that there are three types of motivation that underlie human decision-making and consequently, human action. While the conception of extrinsic and intrinsic motivation generally coincides with that of other motivational theories (i.e. self-determination theory, Deci and Ryan, 1985), ethical motivation is a rather different one, conceptually close to: (1) prosocial motivation (Grant, 2008); (2) integrated regulation within the self-determination theory (Deci & Ryan, 2002); (3) pro-stakeholder motivation (Bastons, Mas & Rey, 2017). According to the anthropological theory of motivation, ethics does not consist of a set of rules that must be met, but rather of a process of development of a moral quality of a decision-maker, which takes place when she acts in the best interest of others (Argandoña, 2008, p. 439).

While family business scholars tend to not label different types of motivation explicitly, many examples implicitly demonstrate that psychological processes are related to career outcomes and, in some cases, are responsible for gender disparity in high-level management positions in family business. Depending on how different types of motivation combine with other factors, the following *career scenarios* for daughters can be outlined.

First, several scenarios are based on the intrinsic-extrinsic motivational divide. Thus, on the one hand, because of the desire of the incumbent generation to leave the business to the next generation and see it growing and developing (García-Álvarez, López-Sintas & Saldaña Gonzalvo, 2002; Jaskiewicz, Combs, & Rau, 2015), daughters who are intrinsically motivated enjoy working with family (Cole, 1997; Constantinidis & Nelson, 2009; Jaffe, 1990), are professionally proactive (Dumas, 1998; Dumas, Dupuis, Richer & St.-Cyr, 1995), and have a better chance of being recognized and promoted than daughters with reactive vision, who see family business only in utilitarian terms (Dumas 1998; Dumas et al. 1995), and without any intention of contributing to its growth (Overbeke, Bilimoria & Perelli, 2013). This is consistent with the career literature, according to which similar individual characteristics are related with both objective and subjective career outcomes (Bell & Staw, 1989; Boudreau, Boswell & Judge,

2001; Bretz & Judge, 1994; Day & Allen, 2004; Judge, Cable, Boudreau, & Bretz, 1994; Quigley & Tymon, 2006; Seibert, Crant, & Kraimer, 1999; Seibert, Kraimer, & Crant, 2001; Wayne, Liden, Kraimer, & Graf, 1999).

On the other hand, due to asymmetric altruism, the next generation in general, and daughters specifically, might manipulate their parents, who want to keep the business within the family, to obtain a position or role for which they do not have enough skills or knowledge, enjoying extrinsic outcomes: a higher salary or other privileges (Schulze, Lubatkin, Dino & Buchholtz, 2001). Further, this adverse selection problem might lead intrinsically-driven and proactive daughters with marketable skills to leave the company (Van den Berghe & Carchon, 2003), in cases where parents do not promote on merit-based grounds (Ahrens et al., 2015).

Additionally, the long socialization process provides children within a family business with motives to enter the family firm, which are not limited to extrinsic and intrinsic motivation. Several attempts have been made to explain and label this form of motivation, such as “helping family” (Murphy and Lambrechts, 2015, p. 33) or “emotional ownership” (Björnberg & Nicholson, 2012, p. 374). In a similar vein, Daspit, Holt, Christman, and Long (2010) suggested that being proud of the family business, feeling loyalty, and agreeing on business goals, plans, and policies increases the commitment of the next generation and the desire of the senior generation to keep the business in the family. Khanin, Turel, and Mahto (2012) found that family-business embeddedness increases family employees’ job satisfaction; and, Peters, Raich, Märk, and Pichler (2012) suggested that successors’ perceptions of the business as being the home where they have grown up is an important reason for running a family business.

Daughters might be specifically drawn to the business by a desire to help the family, continue the family tradition, or give back to the family (Dumas, 1998; Salganicoff, 1990; Song, 1995; Vera & Dean, 2005); and may have this motivation slightly more than sons would (Akhmedova, Cavallotti, & Marimon, 2015). Daughters are also reported to have “family pride” in the product or service, or relations with employees (Barach & Ganitsky, 1995; Brockhaus, 2004; Dumas et al., 1995; Sharma & Irwing, 2005), suggesting that their non-economic motivation might transcend from the immediate family circle. Daughters who are unselfishly motivated may come to play a more indispensable role in the family firm by balancing the interests of the business, employees, clients, and partners, and thus developing professional skills and contacts. Additionally, their motivation to work in the family business might be stronger than for other career opportunities. Thus, such daughters might have all desirable successor attributes (Sharma, 2004) representing leaders who are oriented towards growth (Ward, 1997). Having a leadership style of the “steward” who tends to watch over a family business might create a better chance for a smooth succession (Kubicek & Machek, 2018). However, the link between this motivation and career outcomes has not yet been empirically studied.

The Role of Barriers in Shaping Career Scenarios for Daughters in Family Business

The interplay between barriers and motivation has long been studied within cognitive theories of motivation. Thus, expectation of success, viability of options, opportunity costs, and self-beliefs all come into play when a decision is being made (Bandura, 1997). The expectation that their career might be hindered due to primogeniture, invisibility or role incongruity in the family business might lead women to sometimes “exclude themselves” from being potential successors (Gherardi & Perrotta, 2016; Overbeke et al., 2013) or justify gender inequality (Gherardi & Perrotti, 2016). In case of daughters in family business, barriers to leadership vary according to the actors involved. The following three types of interactions are the most common for family business: (a) daughter–non-family employees and external stakeholders; (b) daughter–incumbents; (c) daughter–other siblings. The result of each type of interaction would depend on the number of factors that might increase or lower the barriers.

First, the interaction with non-family employees, clients, and partners might entail for the next generation the need to prove their legitimacy as a manager or as a successor. Although both genders might face this situation (Dalpiaz, Tracey, & Phillips, 2014), for daughters it might be even a more challenging issue because non-family employees and clients might be ignoring them (Cole, 1997) and because they have a need to establish their own identities (Barnes, 1988; Deng, 2015; Hytti et al., 2017; Welter, Haag & Achtenhagen, 2017; Mussolino, Cicellin, Iacono, Consiglio & Martinez, 2019). Socialization naturally equips the next generation with tacit knowledge, specific skills, and a contacts network. The considerable advantages in terms of training and learning (Dumas, 1998) might be helpful for daughters to establish their managerial legitimacy in their interactions with non-family employees, partners, and clients, if daughters are able to overcome their invisibility (Salganicoff, 1990). However, daughters might not always benefit from socialization. As revealed by Overbeke and colleagues (2013), sons might enter the family business earlier in life and receive better preparation than daughters. Additionally, daughters might not be encouraged and supported in the same way as sons (Iannarelli, 1992; Rosenblatt, De Mik, Anderson, & Johnson, 1985). Thus, daughters who do not show a proactive approach to the business, might lose the many benefits of having a family business background.

Second, the interaction with incumbents is even a more complex issue. Several studies investigate father–daughter, father–son, mother–daughter, and mother–son dyads (Dumas, 1990; Halkias et al., 2010; Harveston, Davis, & Lynden, 1997), finding that father–daughter succession is marked by “complementarity” and is potentially beneficial for various stakeholders (Haberman & Danes, 2007; Wang, 2010), though not always, as a father’s favouritism of male employees (Glover, 2014) or maintaining a father’s networks (Deng, 2015) might present a daughter with additional challenges. Further, the succession from mother to daughter might be potentially difficult (Vera

& Dean, 2005). However, according to Hisrich and Fülöp (1997), women are twice as likely as men to envision their daughters taking over the business. However, irrespective of the incumbent's gender, daughters might not be considered as viable successors (Vera & Dean, 2005), especially if they do not make any explicit requests to do so (Haberman & Danes, 2007). Indeed, a strong willingness to undertake leadership and a growth orientation (Mathew, 2016), as well as confidence in their business skills (Overbeke et al., 2013) may increase a daughter's likelihood of being selected as successor.

Finally, daughter–other siblings collaboration might be problematic, especially for the third generation and higher (Ward, 2016). Indeed, daughters from families with few males are more likely to become successors (Ahrens et al., 2015; Curimbaba, 2002; Haberman & Danes, 2007). In general, the existence of multiple successors might further complicate the dynamics of succession, in the extreme case leading to significant emotional and economic losses (Cater & Kidwell, 2014; Cater, Kidwell, & Camp, 2016; Jayantilal, Jorge, & Palacios, 2016). However, this does not mean that a daughter from a family with several males might not become a successor if she has better successor attributes than her brothers, and if her parents promote based on merits.

Method

On the one hand, consistent with literature on daughters, there are at least three types of motives related to daughter involvement into the family firm, and at the first glance, it might be difficult to predict the net effect on daughters' careers from the combination of these motives, specifically taking into account that the direct effects have been understudied to date. Further complexity in predicting daughter career outcomes is added when considering motivations of other actors: incumbents, non-family stakeholders, and other siblings.

On the other hand, consistent with empirical findings on motivation, many forces may cause motivation to cluster systematically (Pieper, 2010), but these processes have been studied and some of them might be predicted. Thus, intrinsic motivation might be crowded-in and crowded-out by extrinsic motivation, depending on how the rewards are perceived (Frey & Jegen, 2001; Frey, 2012) due to inadequate or adequate management systems (Chrisman, Chua, Kellermans & Chang, 2007). Further, according to Grant (2008) intrinsic motivation might be further increased with prosocial motivation, resulting in an increase in persistence, performance, and productivity. The viability of other options, opportunity costs, and self-beliefs (Bandura, 1997) might have an effect on career aspirations.

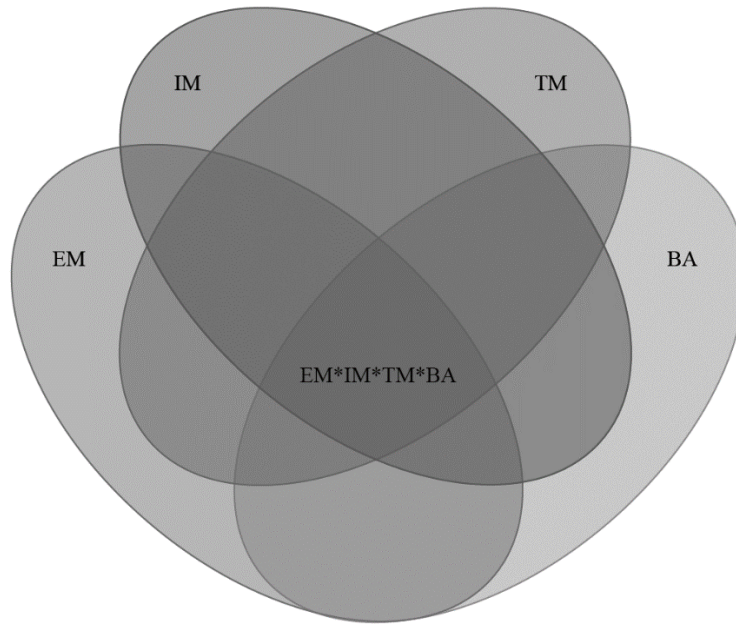
Consequently, quite a few career scenarios can be outlined with respect to daughters' motivations and perception of barriers. The fact that the same motivation might or might not lead to a high position, and that barriers vary depending on other actors involved, might downplay the role of these factors at a first glance. However, in many cases, the strength of daughter motivation and

her willingness to contribute a good level of professional skills, might significantly change her career outcomes. Thus, assuming that there is a finite number of scenarios, knowing them and their antecedents would be useful for both academics and practitioners.

This is consistent with the configurational theory (Fiss, Marx, & Cambré, 2013), which assumes that just a fraction of the theoretically conceivable configurations is viable because attributes of configurations (in this case three types of motivation and barriers) are, in fact, interdependent and often can change only discretely or intermittently (Meyer, Tsui, & Hinings, 1993; Kan, Adegbite, Omari & Abdellatif, 2016).

As Fiss et al. (2013) notice, the concept of configuration became a central feature of organization theory during the 1970s and 1980s (e.g., Child, 1972; Miles, Snow, Meyer & Coleman Jr, 1978; Mintzberg, 1983), and later in the 1990s and early 2000s (e.g., Child, 2002; Doty, Glick, & Huber, 1993; Ketchen, Thomas, & Snow, 1993). The development of the configurational approach appears to have stalled due to absence of methodological support. QCA is an analytical approach that offers advantages when there is a need to take a holistic view of a complex phenomenon. QCA uses Boolean algebra and set theory logic to find logical conclusions that a dataset can support. QCA is different from cluster analysis: while both assume the existence of configurations, the latter has severe deficiencies in its ability to disentangle the complex causal processes (Fiss, 2007). QCA is also different from fuzzy-set regressions, which do not support the configurational approach (Fiss et al., 2013). The “interaction logic” is different in QCA compared to Multiple Regression Analysis (MRA) or Structural Equation Modelling (SEM). QCA studies causal complexity by assuming that cases represent some mix of causes and conditions (not “independent variables”) that correspond to the outcome (not “dependent variable”). This method has been successfully implemented by several studies in the area of family business research (Garcia-Castro & Casasola, 2011; Garcia-Castro & Aguilera, 2014; Kraus et al., 2016). Based on the literature review, the proposed model can be seen in Figure 1. As is recommended by Schneider and Grofman (2006), a Venn diagram was used to create a visual representation of theoretical propositions.

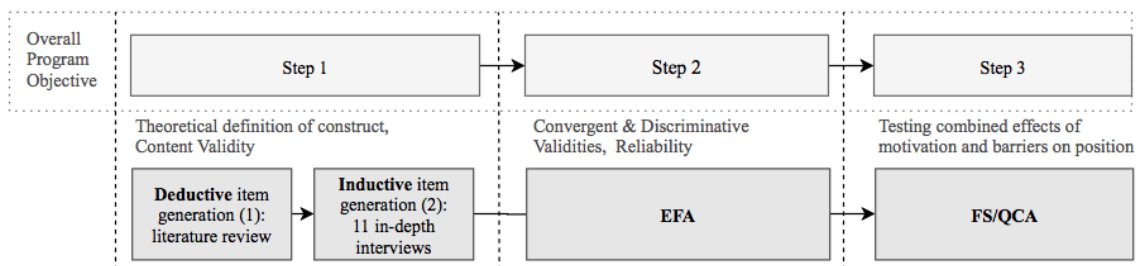
Figure 1. Integrative model for assessing combined effects of motivation



EM – Extrinsic motivation, IM – Intrinsic motivation, TM – Ethical motivation, BA – Barriers, “” logical AND*

The challenge of the current research was the fact that there is no ready-validated tool with which to measure the three types of motivations and barriers. To be able to proceed, the validation of measurement tools was needed. Before being able to test the final model presented above, we needed to go through several preparatory stages.

Figure 2. Research stages



A pragmatist approach to research (Cherryholmes, 1992; Murphy & Rorty, 1990; Teddlie & Tashakkori, 2003) has been adopted as the epistemological base of the multiphase design of this research (Creswell & Plano Clark, 2011). A sequential design of qualitative, quantitative, and mixed methods to data analysis, where studies have equal weight (Creswell & Plano Clark, 2003; Creswell & Plano Clark, 2011), and where results of the first method help to develop or inform the second stage (Greene, Caracelli, & Graham, 1989) in order to advance one programmatic research objective (Creswell & Plano Clark, 2011).

Step 1

Well-established methodologies to development measurement tools in social sciences suggest following specific steps: specification of domain of the construct, generation of items, and validation of scale through assessing reliability, discriminant validity, and unidimensionality (Churchill, 1979, DeVellis, 2016, Rossiter, 2011). In the first study, two complementary qualitative data analysis approaches: deductive and inductive, were used to generate items.

Specification of domain of construct

All definitions of motivation were taken from the anthropological theory (Perez López, 1991), because this theory combines the three types of motivation and takes into account the interactions among agents. Within this theory, extrinsic motivation represents external rewards that can be economic (salary or a bonus) or non-economic (prestige or social recognition); intrinsic motivation is understood as all types of inherent satisfactions that accompany realization of work. Thus, this motivation covers a broad field of human needs (enjoyment, achievement, learning, autonomy). Finally, ethical motivation towards different stakeholders (ethical motivation) is defined as motivation that initiates and sustains an activity that is done, anticipating the reaction of another person, who is related to the company directly or indirectly. This motivation includes a wide area of motives, such as a desire to help family, improve the business (e.g. improve the situation of employees or help colleagues), or make a social contribution (e.g. improve the situation of final customers).

Generation of items: Deductive and inductive approach

First, following prescriptions of deductive item generation approach (Hinkin, 1995, 1998), an exhaustive literature review about daughters in family business was performed with the goal of capturing the different facets of extrinsic, intrinsic, and ethical motivation, as well as barriers to leadership (Appendices D & E).

Second, inductive conceptualization techniques were used to increase the content validity of the measurements (Hinkin, 1995).

A purposefully formed sample consisting of eleven daughters in family business was used in order to refine, reduce, and transform the items. The sample was heterogeneous and included three types of women: (1) daughters in family business who took over the whole family company from their fathers and who are actually in charge of the whole business; (2) daughters in family business who are in charge of a department (with the succession already in place or not); and (3) daughters in family business who left the family business (see Appendix C for descriptive statistics). The

interviews lasted between one hour and two hours and were transcribed and analysed in NVivo™. We contrasted the themes that appeared in the literature review with themes that appeared during the interviews. Special attention was paid towards specific expressions. For instance, the original item “help employees” was transformed into “mentor employees”, as this was a specific issue that the majority of interviewees mentioned. While it was possible to reduce the number of items measuring motivation from 36 to 21, because we had enough material on motivation that was consistent, the number of items measuring barriers remained the same. Only daughters who left their family business explained the barriers that they faced. Because we wanted to explore this topic further, we decided not to reduce the initial number of items. In order to validate the measurement tools, exploratory factor analysis (EFA) was implemented. Obtained constructs were adapted for QCA and the analysis was performed.

Step 2

Validation of dimensions proposed theoretically and assessing reliability and validity was performed in the second study.

Data collection

Non-probability sampling—a convenience sample from the SABI (Sistema de Análisis de Balances Ibéricos)—was used. We followed prior literature to impose certain restrictions to reach a set that would serve the goals of the study and allow generalizing the results (Arosa, Iturralde & Maseda, 2010; Cabrera-Suárez, Déniz-Déniz & Martín-Santana, 2014; Diéguez-Soto, López-Delgado & Rojo-Ramírez, 2015; Vandemaele and Vancauteran, 2015). For the purposes of this research, the family firm in this study needed to be (or have been) managed and owned by at least two generations of family (Astrachan & Shanker, 2003; Kellermanns, Eddleston, Sarathy & Murphy, 2012). The database was searched by “region” (i.e. Catalonia and Madrid), as these regions had the major number of family businesses and the academic institution of reference was well-known in these regions; “year of creation” (before 1965), because we wanted to ensure at least two generations with both being socialized with the business; and “gender” (directors, shareholder, female). Thus, the preliminary number of companies obtained from the database was 2,172 (1,142 companies from Catalonia and 1,030 from Madrid). We did not determine any specific economic activity in order to have industry-heterogeneous sample. The pre-selected sample was further screened several times in order to delete those that were in the process of liquidation, as well as the outliers in terms of size (turnover more than 100 million or less than 200 thousand). Additionally, we conducted an exhaustive review of the shareholding structures (percentage of common stock) and composition (name and surnames of shareholders), and examined the composition of the board of directors of each of the selected companies in the

database (Garcia-Castro & Casasola, 2011). Finally, 397 daughters in family business were approached by phone and were asked to respond the survey. During the telephone conversation, the aim of the study was explained, so those who agreed to participate also identified themselves as being in a family business (Astrachan, Klein, & Smyrnios, 2002; Westhead & Cowling, 1998; Westhead, Cowling & Howorth, 2001) and agreed with the fact that at least two generations work in family business (Astrachan & Shanker, 2003; Kellermanns et al., 2012). The survey collected information about the number of generations, family members, and employees, position of the daughter, and her level of education and work experience. It was obligatory to name the company. After two months, a total of 66 responses were collected. For companies, the mean for turnover was 11 Million Euros; 57 for the number of employees; 4.4 for ROA, and 1944 for the year of foundation. Descriptive statistics can be found in Appendices A and B.

Validation of scales

In order to validate the measurement tools, exploratory factor analysis (EFA) was implemented in SPSS. Data for motivation and for barriers were computed separately. The sample size was obviously a limitation when conducting EFA. However, for motivation, the item to response ratio was 1:3.14, which was a little bit smaller than recommended 1:4 (Rummel, 1988). For barriers, the item to response ratio was 1:5.5, which can be considered a good score even by a stricter criterion (ratio 1:5) recommended by Hair and colleagues (2017).

A principal components analysis with varimax rotation was performed in SPSS. Both the Kaiser Meyer Olkin (KMO) index (0.760) and Bartlett's test (X^2 1272.422; d.f. 210; Sig. 0.000) indicated that factor analysis was appropriate for these data (Hair et al, 2017). Five factors appeared as a result of analysis but only three explained more than 10% of variation; for this reason EFA was forced to three factors. Jointly, the three factors explained major variation in the sample's motivation, accounting for 69.5%. Factors were labelled "intrinsic motivation", "ethical motivation", and "extrinsic motivation" (Table 1), as the items scored in a factor in a way as it was predicted.

Table 1. Exploratory factor analysis of motivations for joining the family business.

Item code	Item	Factors		
		IM	TM	EM
MI3	Do interesting tasks	.915		
MI1	Do challenging tasks	.904		
MI4	Align career interests	.884		
MI6	Develop professionally	.877		
MI11	Do the work that I enjoy	.820		
MI8	Enjoy the working atmosphere	.681	.384	
MI2	Be independent at work	.427		
MT5	Help family		.896	
MT6	Work for family		.866	
MT9	Provide benefit to others		.827	
MT1	Mentor employees		.792	
MT7	Continue family tradition		.777	
MT8	Influence the future of bus.	.324	.770	
MT2	Improve business		.481	
ME9	Enter without barriers	-.339		.841
ME10	Have competitive income			.841
ME1	Have a reasonable workload			.817
ME8	Be promoted faster	-.324		.772
ME11	Standard of living	.306		.745
ME3	Have flexible schedule			.741
ME5	Be respected			.736
% of variation		36.436	19.298	13.710
Cronbach's alpha		0.957	0.912	0.816

EM – Extrinsic motivation, IM – Intrinsic motivation, TM – Ethical motivation

Note: Retained items are marked in bold

For samples between 60 and 70, Hair and colleagues (2017) recommends retaining items with factor loadings over 0.70 to achieve statistically significant results. We used even stricter criteria. All items that loaded less than 0.80 (i.e. had poor convergent validity) or loaded simultaneously on two or three components more than 0.35 (i.e. had poor discriminant validity) were deleted.

Several distinguished authors in the field of scale development (e.g. Comrey, 1988 & DeVellis, 2016) do not include confirmatory factor analysis (CFA) as a necessary step in scale development. However, other authors (e.g. Gerbing & Anderson, 1988) argue that CFA is a necessary step to check unidimensionality, which cannot be otherwise tested by means of coefficient alpha test or EFA. The second-order CFA was conducted in EQS 6.1, using a maximum likelihood estimation method. To assess the fit of the model, goodness of fit indices were used. The comparative fit index (CFI; Bentler, 1990) was 0.9, indicating an acceptable fit. The root mean square error of approximation (RMSEA; Steiger, 1990) was 0.15 (90% confidence interval 0.09; 0.16 (Cheung & Rensvold, 2002)). Cronbach's alpha was 0.79 and reliability index RHO was 0.927, indicating a good result. Sattora-Bentler χ^2 was 123.2 with 50 degrees of freedom (with normalized Chi-square χ^2 /d.f. 2.41 less than 5 indicating a good fit, see Hair et al., 2017; Marsh & Hocevar, 1985)

and p-value 0.00005, below 0.05 threshold (Wheaton, Muthen, Alwin & Summers, 1977). Low p-value and RMSEA 0.14 more than 0.9 can be explained by the small sample size (Hu & Bentler, 1998). All factors proved significant and loaded as follows: t-value of extrinsic motivation was – 2.89, intrinsic motivation 3.66 and ethical motivation 2.68.

Principal components analysis with varimax rotation was also performed for barriers. Both the KMO index (0.857) and Bartlett's test of sphericity (X² 482.923; d.f. 66; Sig. 0.000) indicated good data fit. The analysis showed that two factors explain 60% of the variation, and basically the first factor had the most power. The same criteria were used to retain items. Factors were labelled “barriers specific to family business” and “conciliation” (Table 2).

Table 2. Exploratory factor analysis of motivations in order to join the family business.

Item code	Item	Factors	
		FB	C
V24	Role incongruity	.869	
V23	Invisibility	.851	
V32	Lack of family support	.794	.346
V25	“Old boys’ network”	.722	
V22	Primogeniture	.703	
V29	Male dominated hierarchy	.642	.309
V26	Lack of education	.599	.354
V33	Priority other		.821
V28	Work–family misbalance		.732
V30	Low professional self-esteem	.488	.671
V31	Lack of leadership qualities	.506	.614
V27	Lack of role models	.386	.490
% of variation		50.724	10.462
Cronbach's alpha		0.911	-

FB – Barriers specific to family business, C – Conciliation

Note: Retained items are marked in bold

Factor “conciliation” was rejected because: (1) it is not recommended to keep factors with less than three items (e.g. Brown, 2014, p. 38), and (2) because the first factor had five times more explanative power.

Step 3

The final step of research consisted in testing the theoretical model presented in Figure 1. QCA was conducted using the fs/QCA programme.

Adaptation of data for QCA

The data collected in study 2 was further used in study 3. Since QCA is based on the concept of set membership, the original measures needed to be adapted (or calibrated) to indicate the degree

to which different cases belong to a set (Ragin, 2007). The determination of breakpoints allows calibration of all original values into membership values. The selection of threshold values depends on both theory and researcher knowledge of the cases under analysis (Fiss, 2007; Ragin, 2000). For the three types of motivation and barriers, calibration was done by the “direct method” (Ragin, 2007), through the use of three anchor points, taking into account means and standard deviations. Calibration of outcome (position) was done based on the degree of control in the company, using four anchor points. Tables 3 and 4 summarize calibration decisions.

Table 3: Calibration of conditions

Condition	Descriptive statistics		Membership threshold values		
	Mean	St. Dev.	Full non-membership (0.05)	Cross-over point (0.5)	Full membership (0.95)
EM	2.9	0.9	2.0	3.0	4.0
IM	4.0	0.9	2.0	3.0	4.0
TM	3.9	0.8	2.0	3.0	4.0
Barriers	2.3	1.2	1.5	2.5	3.5

EM – Extrinsic motivation. IM – intrinsic motivation, TM – ethical motivation

Table 4: Calibration of outcome

Outcome	Membership threshold values			
	False (0)	More false than true (0.33)	More true than false (0.67)	True (1.0)
Position	Internship/ temporary work	Professional	In charge of the department	In charge of the company

Testing combined effects of motivation and barriers on position

Data analysis in QCA starts by defining property space, which is then converted to a “truth table” (Appendix F) by cross-case comparison of memberships between causal sets (motivation and barriers) and outcome set (position) (Ordanini, Parasuraman & Rubera, 2014). Consistency was used to evaluate configurations of conditions that can be sufficient to achieve a high position. Consistency is calculated by dividing the number of members of both causal and outcome sets by the total number of members of the set. A “few” inconsistent cases are allowed because of random error (Fiss, 2007). Thus, Ragin (2008) recommends a minimum threshold of 0.8 for consistency.

When deciding on the threshold for the consistency cut-off, the PRI consistency index should also be taken into account. PRI consistency is low when a condition or configuration is considered as sufficient for the outcome and its absence (Schwellnus, 2013). Schneider and Wagemann (2012) set the value of 0.65 as high and 0.35 as low. Thus, the last two rows were excluded because they had very low PRI consistency. Once all sufficient configurations were identified, the following

mathematical reduction was used: if in one configuration A is present and in another it is absent, then A can be dropped.

Before proceeding with analysis of sufficient conditions, the analysis of necessary conditions should be undertaken. Conventionally, a condition or a combination of conditions is called “necessary” or “almost necessary” if the consistency score exceeds the threshold of 0.9 (Schneider, Schulze-Bentrop & Paunescu, 2010). Only condition “ethical motivation” exceeds the 0.9 threshold (Appendix G). In practice, this means that ethical motivation alone is not sufficient to cause outcome, but it is an indispensable part of causal conditions.

For sufficiency analysis, fs/QCA provides three types of solutions: complex, parsimonious, and intermediate. Ragin (2008) suggests superiority of intermediate solutions that use only “easy” logical remainders when simplifying the solution. While the intermediate solution is presented in Table 5, the study distinguishes between core and peripheral causal conditions (Fiss, 2011). In each of the solutions, ethical motivation represents a core condition, the one that has a strong causal relationship with the outcome (i.e., appearing in both parsimonious and intermediate solutions). Other causal conditions are peripheral and have a weaker causal relationship with the outcome (i.e., appearing only in the intermediate solution). While the role of ethical motivation on career of daughter has been understudied to date, this finding provides relatively clear evidence of a strong positive connection.

Table 5. Analysis of sufficient conditions: intermediate solution

Configuration	Solution		
	1	2	3
Extrinsic motivation			●
Intrinsic motivation		●	
Ethical motivation	●	●	●
Barriers	⊗		
Consistency	0.91	0.87	0.92
Raw coverage	0.69	0.85	0.43
Unique coverage	0.02	0.14	0.02
Overall solution consistency	0.86		
Overall solution coverage	0.90		

Note: (⊗) - Absence of condition, (●) - presence of condition and blank spaces indicate, “don’t care”. Large circles indicate core conditions; small ones indicate peripheral conditions.

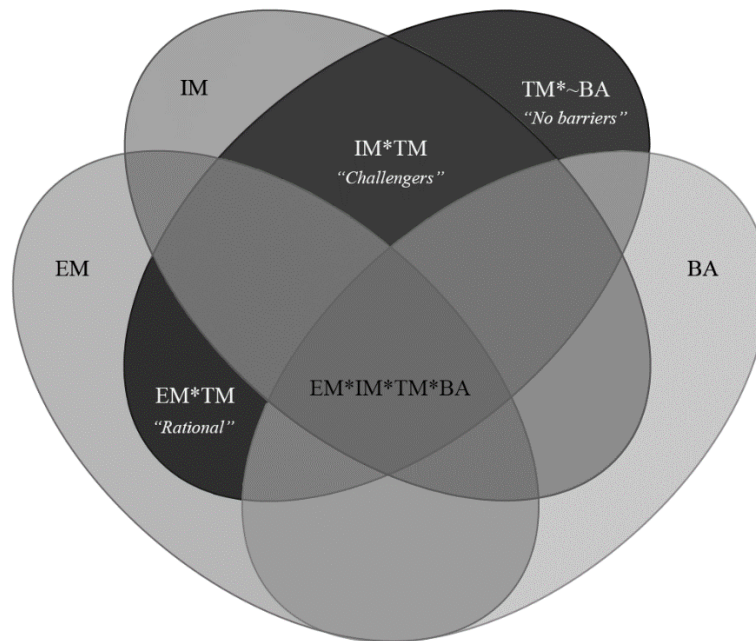
The quality of the final solution was assessed by coverage and consistency. Coverage determines the empirical relevance of the solution (Schneider & Wagemann, 2012). The higher the coverage, the more common the solution is and the more outcomes are explained by it. The model had good

fit solution, coverage 0.90, which is higher than recommended value of 0.45 (Ragin, 2008). Consistency shows whether the outcome can be produced regularly by the solution (Schneider & Wagemann, 2012). Consistency was 0.86, which is higher than the recommended value of 0.74 (Ragin, 2008). In the analysis of individual attributes in the final solution it is important to note the role of ethical motivation that is presented in each pathway of the solution. The absence of barriers is required in one pathway, but it is irrelevant in other two.

Discussion and Implications

In the solution obtained, seven sufficient configurations were reduced to three equifinal pathways, as shown in Figure 3. Since findings in QCA are “case” and not “variable” based (Ragin, 2000), each solution reflects both: (1) a combination of variables related to the outcome; and, (2) the group of subjects associated with that combination. In other words, the results of QCA analysis allow for elaborating an informed typology (Fiss, 2011), where each configuration describes a segment of daughters in family business that is different in their motivation and perception of barriers. The following clusters present the characteristics of women who hold high positions in their family firms.

Figure 3. Graphical representation of results



EM – Extrinsic motivation, *IM* – Intrinsic motivation, *TM* – Ethical motivation, *BA* – Barriers, “*” logical AND, “~” logical negation

No barriers. The first pathway unites all configurations with absence of perceived barriers and presence of ethical motivation. This pathway can be labelled “no barriers” and is intuitively

straightforward to understand. The lesser the barriers, the better career growth and the higher the position daughters hold. This is consistent with cognitive theories of motivation (Bandura, 1997). However, the feasibility of a career in the family business does not automatically make it a desirable career option. Apart from “not having barriers”, a daughter in a family business should also feel a strong inclination to work with the family and for the family, which resonates with various studies (Björnberg & Nicholson, 2012; Daspit et al., 2010; Dumas, 1998; Murphy & Lambrechts, 2015; Peters et al., 2012; Salganicoff, 1990; Song, 1995; Vera & Dean, 2005).

This leads us to suggest that a fraction of daughters who join the family business are taking an ethical stand and are driven by the intention to act in the best interest of the business, family, customers, suppliers, and society. When their efforts become “visible” and recognized by both family and non-family members, daughters feel encouraged and strongly motivated, whereas when the opposite happens, they become frustrated to the point of leaving the business (Sharma & Irving, 2005). Therefore, the absence of barriers needs to be complemented by the fulfilment of psychological needs and the internalization of external demands (Deci, Eghrari, Patrick, & Leone, 1994).

Challengers. The second pathway suggests the presence of ethical motivation and intrinsic motivation as sufficient. This pathway achieves the highest level of unique coverage (0.15, number of cases = 20), meaning that intrinsic motivation and ethical motivation cluster together as a pathway to high position more frequently than the other two pathways. This suggests that the motive of helping might be strengthened by intrinsic motivation, resulting in an increase of persistence, performance, and productivity (Grant, 2008) that is reflected in the high position (Seibert et al., 2001). Daughters in family business who are intrinsically motivated would be professionally more proactive (Dumas 1998, Dumas et al., 1995). The development of relevant work skills is strengthened by a strong inclination to work with the family and for the family (Björnberg & Nicholson, 2012; Murphy & Lambrechts, 2015; Salganicoff, 1990). Thus, these daughters have all desirable successor attributes (Sharma, 2004).

Comparing “challengers” and “no barrier” daughters leads us to suggest that a fraction of daughters join the company because it naturally fits their career interests and because they are inclined to work for the family and with the family. This configuration is strong, because, in contrast to the previous one, daughters are motivated not only to become a good leader for the family business, but also a good professional. In fact, intrinsic motivation would make the job enjoyable to daughters, thus experiencing satisfaction from autonomy (Gagné & Deci, 2005). These daughters might be seen as tough (Schröder, Schmitt-Rodermund & Arnaud, 2011), sometimes adopting masculine styles of leadership. Consistent with previous research, if noticed, this attitude might help daughters to obtain higher support of family (Dumas, 1998; Mathew, 2016).

Apart from the two conditions that are present in this pathway, it is relevant to highlight that barriers specific to family firm represent a condition that is neither present nor absent. This pathway was labelled “challengers” because the absence of barriers for this type is not a decisive factor, assuming that these daughters, although motivated both intrinsically and ethically, also faced barriers. Consistently with Schröder and colleagues (2011), we suggest that daughters in family business who opt to stay in the family business are more persistent and tough. As mentioned, daughters from larger companies with greater number of family members, especially male siblings, might face higher barriers specific to the family firm (Ahrens et al., 2015; Curimbaba, 2002; Haberman & Danes, 2007). Further, when family businesses open the door to traditionally masculine sectors (Dumas, 1998), daughters might face an additional need to prove their professional skills in front of non-family employees and clients in these industries (Deng, 2015; Glover, 2014), which could be even more difficult without family support (Cole, 1997).

Rational. The third pathway suggests that ethical motivation and extrinsic motivation are sufficient conditions to hold a high position in the family business. Although it should be noted that unique coverage of this pathway was very low (0.017), it is relevant to discuss the complex relation between extrinsic motivation, barriers, and position. Previous research found that daughter career scenarios based on extrinsic motivation are not related to high position, as daughters are not promoted (Dumas, 1998), and sometimes even do not want to be promoted Curimbaba (2002). Current analysis suggests that daughters might be drawn to the business by a desire to help the family and to improve the business, as well as by good compensation, flexibility, and ease of entry, and in this case, they can achieve a high position. This type is labelled “rational”, as daughters in this group balance the interests of the company, employees, clients, and partners, as well as their personal interests.

Theoretical Implications

The discussion suggests that there is an important role of ethical motivation—motivation to act ethically towards different stakeholders of the company. This finding deserves further attention. In general, ethical issues in family business, and their introduction into organizational theories remain a part of the family business research agenda (Caldwell, Hayes, Bernal & Karri, 2008; Chrisman et al., 2007; Kellermanns & Hoy, 2016). This is surprising, given that the long-term survival of family businesses is based on the ability of family members to contribute to a trustful and involvement-oriented working environment by controlling the moral quality of their intentions and actions, not falling into agentic behaviour towards other family or non-family members (Neubaum, Thomas, Dibrell, & Craig, 2017). This might be key to understand why ethical motivation appears as a part of each configuration.

Thus, it is a remarkable finding that ethical motivations are of paramount importance to engage women in leading positions in their family business. According to previous research, it was not clear whether daughters' motivation to help family (Salganicoff, 1990; Song, 1995; Dumas, 1998; Vera & Dean, 2005) also spills-off to other firm stakeholders. This question is important in light of the socio-emotional wealth (SEW) perspective, which states that family members often have non-financial goals in addition, or even in contradiction, to financial goals (Berrone, Cruz, & Gomez-Mejia, 2012), and that benefits of increased SEW may or may not spill over to other stakeholders of the company (Zellweger, Kellermans, Chrisman, & Chua, 2012; Miller & Le Breton-Miller, 2014; Newbert & Craig, 2017). It was also unclear whether the motivation to help family promotes or draws a daughter to a career. In this study, the motivation to help family and to work with the family also spills-off to employees and is an indispensable condition of achieving a higher position.

Additionally, findings suggest that depending on how different types of motivation are configured, the perceived absence of barriers to leadership may be a relevant or irrelevant factor. The perceived absence of barriers in the first pathway seems to be a motivational equivalent to intrinsic motivation in the second pathway and to extrinsic motivation in the third pathway. This suggests that a perceived absence of barriers is motivational enough to strengthen implementation of career choices through cognitive appraisal processes (Lent, Brown & Hackett, 1994, 2000). However, some daughters in family business ("challengers") attain a high-level management position even with some degree of barriers, suggesting that there are specific archetypes of daughters in family business who are strong enough to overcome some degree of family resistance.

Practical Implications

Given that daughters in family business represent a valuable human resource for family companies, these results can be used by family companies' representatives, incumbents, and alike, who are interested in attracting and retaining the next generation of talent in the company. Practitioners and consultants might find useful the current typology of daughters in family business for analysing specific cases and to provide leadership recommendations and coaching for daughters in family business.

For parents who are interested in continuation of their business, it would be beneficial to develop and reinforce the ethical motivation of daughters, through socialization, demonstrating their leadership integrity and ability to exercise a good level of moral quality of their intentions, inducing them to identify with the organization and educating them to improve their motives. The recommendation to parents would also consist in being reciprocal with good intentions of

daughters, showing that their own values spills-off to the business. In the end, a strong family identity is an important strength of family business (Berrone et al., 2012).

Apart from that, parents should express their support to daughters, but not by trying to overprotect them, but rather, by gradually sharing responsibility and giving professional opportunities to take different roles. By doing so, they would potentiate the intrinsic link of daughters with the business and avoid the feeling of role incongruity perceived by daughter. This might be especially useful for parents of “challengers”, who might want to avoid losing their human capital not because of barriers, but because of decreased interest.

Finally, parents who want to support their daughters might find it useful to educate them about the potential dangers of assuming that altruism and ethical behaviour is always mutual. Thus, it might be beneficial for daughters (and parents) to be aware that brothers might act as agents when they decide to compete (sibling rivalry).

Conclusions, Limitations, and Future Research

This study has presented three types of daughters, labelled as “no barriers”, “challengers”, and “rational”, consistently with the properties of each type, contributing to previous studies that offered taxonomies of daughters in family business (Curimbaba, 2002; Dumas, 1998; Otten-Pappas, 2013). Specifically, this research expands the findings of Otten-Pappas (2013), additionally looking at internal characteristics of daughters in family business who occupy high-level position (successors). The study results outline specific ways of how the perception of barriers combines with different types of motivation and contributes to career literature in both mainstream and family business areas.

Nevertheless, this research is not free from limitations, which open the way to future research directions. One aspect that has been neglected in this study regards the relationship between the typology of female leaders and their contribution to financial and non-financial outcomes of the firm. For instance, although women might reach a top position in their family firms, future research might consider their managerial discretion, thus offering novel insights to management theories that might be extended considering women’s involvement in family businesses, rather than other type of organizations (Chadwick & Dawson, 2018).

Moreover, the study of different types of female leaders can challenge existing theories in management by considering also their contribution to decision-making. Indeed, scholars might consider how social structures and social relationships with other family and non-family members in the firm (Zellweger et al., 2019), which could relate to power interactions in the family business, affect the way female leaders contribute to make strategies (Danes & Olson, 2003). Besides their contribution, another area for future inquiry regards the investigation of pathways

to becoming one type of leader rather than another. Scholars interested in understanding the drivers and processes guiding women into the leadership of their family business may adopt socialization theory and identity construction and routes to self-positioning in the family firm, which could support this research area (Hytti et al., 2017; Welter et al., 2017; Mussolino et al., 2019).

Several methodological limitations should be acknowledged. First, the sample used to conduct quantitative and mixed-method analysis (study 2 and 3) had two major issues: size and representativeness. First, the sample consisted of 66 daughters, which is critically small for performing second-order CFA using structural equation methods. Second, a convenience, non-representative sample was used, limited by the authors' ability to encourage participation. Compared to a representative sample of Spanish family businesses, the current sample consisted of older and larger companies. While, according to the evidence from Casillas Bueno and colleagues (2016), in Spain, the size of the company does not affect the probability that it would be led by a woman, the age of the company might negatively affect the chances of a women to take it over. In the study, we do not account for the effects of size and of the age of the company. While some previous research related to gender has sometimes opted to analyse a specific sector, our sample was heterogeneous in terms of economic activity. Thus, the results are more generalizable, but might be missing the effects of sector on careers of daughters.

Second, related to the scale development procedures, there are several limitations. At the step of scale development, we did not test nomological validity, testing against conceptually related concepts (e.g. motivation and commitment), we also did not test the scale in relation to other scales of motivation. Further, we used the same sample for both study 2 and 3. Optimally, future studies could use two separate samples.

Third, there are several limitations related to the QCA: complementarity with quantitative data, sensitivity to conditions, logical remainders, and sensitivity to measures (Schneider & Wagemann, 2010). Among these, specifically important is that only interrelated conditions such as motivation and barriers were studied in this research, but we did not control for other possible effects related to human capital of daughters among other possible factors. This limitation is related to the method: in QCA, additional control variables may actually harm the results (Schulze-Bentrop, 2013, pp. 50-51).

Finally, the results should be taken in a strict manner: the term barriers are limited to the perceived absence of invisibility, role incongruity, and family support. The role of lack of conciliation barrier might be explored by future studies.

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Appendix A: Sample Description – Companies

Question	Options	(N)	(%)
Turnover last year available (Euros)	Less than 1,000,000	9	11 %
	Between 1,000,000 and 5,000,000	27	36 %
	Between 5,000,000 and 20,000,000	21	18 %
	More than 40,000,000	6	9 %
	Mean	11,266,000	
	Median	3,992,000	
Number of employees	Less than 10	14	21 %
	Between 10 and 20	13	20 %
	Between 20 and 60	21	31 %
	Between 60 and 100	9	14 %
	Between 100 and 500	9	14 %
	Mean	57	
	Median	22	
Generations	2	40	60 %
	3	19	29 %
	4	5	8 %
	More than 5	2	3 %
	Total	66	100 %
Family members working in the company	1 or 2	25	42 %
	3 or 4	21	28 %
	Between 5 and 10	19	28 %
	More than 10	1	2 %
	Total	66	100 %

Appendix B: Sample Description – Daughters in Family Business

Question	Options	(N)	(%)
Education	University grade	15	23%
	Master	28	42%
	Master MBA	18	27%
	PhD	2	3%
	Total	63	95%
Years working in family firm	Less than 5	4	6%
	Between 5 and 10	17	26%
	Between 10 and 20	32	48%
	More than 20	9	14%
	Total	62	94%
Position*	Basic level, internship	0	0%
	Professional	8	12%
	Head of Department	33	50%
	In charge of the whole company	25	38%
	Total	66	100%

Appendix C: Descriptive Statistics of Sample of In-Depth Interviews

Group	Sector	Region	Turnover (2016) mn Euro	Emp- loyees (2016)	Gene- ration	Family members involved	Males same gene- ration	Years in family business	Exper- ience outside	Education
In charge of the company	Food sector	Girona	80	36	2	3	Yes	> 15	Yes	Commerce, marketing
	Food sector	Barcelona	190	442	> 5	4	Yes	> 40	Yes	Business administration
	Food sector	Girona	250	845	3	4	Yes	> 30	Yes	Business administration
	Food sector	Tarragona	15	160	2	4	No	> 20	No	Business administration
	Food sector	Barcelona	0.3	5	5	4	Yes	> 30	Yes	Computer science
In charge of the depart	Pharm/cosmetics	Madrid	65	200	2	4	Yes	> 15	Yes	Business administration
	Pharm/cosmetics	Madrid	67	200	2	4	Yes	22	Yes	Law
	Pharm	Barcelona	63	107	2	8	Yes	30	No	Pharmacy
Left the family company y	Fashion (Fabrics)	Barcelona	0.3 (12)	2 (40)	(2)	(5)	(Yes)	(4)*	(Yes)	Design
	Fashion (Fashion)	Barcelona	NK (8)	2 (87)	(2)	(3)	(Yes)	(11)*	(Yes)	Design, commerce
	Education	Barcelona	NK (3)	NK (28)	(2)	(2)	(Yes)	(14)*	(No)	Business administration
	(Automotive)									

NK – not known; Information in brackets refers to family company which daughter left; *years before left family company

Appendix D: Items Measuring Motivation of Daughters in Family Business With Sources

Motivation	Area	Item code	Question: Compared to other possible employment available to me, working in the family firm I have opportunity to:	Sources of items
EXTRINSIC MOTIVATION	Work–life balance	ME1	Have a reasonable workload	New items, based on articles: Rosenblatt et al. (1985) Salganicoff (1990) Cole (1997) Stavrou (1998) Dumas (1998) Vera and Dean (2005) Overbeke et al. (2013)
		ME2	Have more time for my family	
		ME3	Have a flexible schedule	
	Respect	ME4	Be approved of	
		ME5	Be respected	
	Easy career	ME6	Work with easier and familiar practices	
		ME7	Improve my career profile	
		ME8	Be promoted faster	
		ME9	Enter the job I wanted without formal barriers (without competing for it)	
	Monetary	ME10	Have competitive income	Adapted from MAWS, Gagné et al. (2010)
		ME11	Gain a certain standard of living	
		ME12	Work for the pay cheque	
		ME13	Make a lot of money	
INTRINSIC MOTIVATION	Interest	MI1	Do challenging tasks	New items, based on articles: Handler (1992) Dumas et al. (1995) Stavrou (1998) Dumas (1998) Constantinidis and Nelson (2009)
		MI2	Be independent at work	
		MI3	Do interesting tasks	
	Professional learning	MI4	Align my career interests	
		MI5	Have good mentoring	
		MI6	Develop professionally	
		MI7	Work with products, markets, or strategies which are professionally interesting to me	
	Enjoyment	MI8	Enjoy the working atmosphere	Adapted from MAWS, Gagné et al. (2010)
		MI9	Take the moments of pleasure	
		MI10	Have fun working	
		MI11	Do the work that I enjoy	
ETHICAL MOTIVATION	Business contribution	MT1	Mentor employees	New items, based on articles: Stavrou (1998) Dumas (1998) Vera and Dean (2005)
		MT2	Improve the business	
		MT3	Improve product or service	
		MT4	Improve relationships with partners	
	Family contribution	MT5	Help family	
		MT6	Work for family	
		MT7	Continue family tradition	
		MT8	Influence the future of the business	
	Social contribution	MT9	Provide benefit to others	Adapted from Prosocial motivation scale, Grant (2008)
		MT10	Help others through my work	
		MT11	Make a positive impact on others	
		MT12	Do good for others through my work	

Items that were retained after interviews are marked with grey colour

Appendix E: Items Measuring Career Barriers of Daughters in Family Business With Description

Barrier	Explanation	Item code	Item	Sources of items
Primogeniture	Traditional transfer of leadership from father to the first-born son	V22	Sons a priori had more ability to influence strategic decisions	Dumas (1992); Cole (1997); Keating and Little (1997); Martinez Jimenez (2009)
Invisibility	Being viewed by others, whether within or outside the business, differently compared to the male members	V23	I was forced into a position where I could not participate in strategic decisions	Hollander and Bukowitz (1990); Cole (1997)
Role incongruity	Two incompatible roles (family and business) contained in family business relations	V24	Family undervalued my ability to assume leadership position	Salganicoff (1990); Cole (1997)
Lack of family support	The problem of unequal treatment of daughters and sons	V32 V26	Family did not support me My career was stuck due to lack of education	Rosenblatt (1985); Iannarelli (1992)
Work–family balance	The problem of managing time between different facets of life	V28 V33	I had problems reconciling work and family Needed to prioritize other areas	Salganicoff (1990); Cole (1997); Vera and Dean (2005)
Low self-confidence	A low subjective estimation of the ability to perform a task	V30 V31	Had doubts about my professional abilities Had doubts about my leadership abilities	Eagly (2003)
Old boys' network	Organizational culture and social structure that prevents women from socializing in a way that could benefit them professionally	V25 V29	My social connections were not professionally helpful It was difficult to advance because men prevailed in the hierarchy of the company	McDonald (2011)
Lack of role models	Adapting “masculine” leadership styles due to lack of positive feminine examples to follow	V27	I did not have role models	Ely, Ibarra, & Kolb (2011)

Appendix F. Truth Table.

Conditions				Number of cases	Outcome	Consistency		
EM	IM	TM	Barriers		Position	RAW	PRI	SYM
1	0	1	0	1	1	1.00	1.00	1.00
1	1	1	1	2	1	1.00	1.00	1.00
1	0	1	1	1	1	0.99	0.99	1.00
0	1	1	0	20	1	0.96	0.95	1.00
1	1	1	0	15	1	0.92	0.89	0.97
0	1	1	1	8	1	0.91	0.82	0.93
0	0	1	0	2	1	0.86	0.73	0.81
0	1	0	1	1	0	0.84	0.53	0.63
1	0	0	1	3	0	0.77	0.37	0.42

EM – extrinsic motivation, IM – intrinsic motivation, TM – ethical motivation

Appendix G. Analysis of Necessary Conditions

Conditions tested	Consistency	Coverage
EM (em)	0.45 (0.64)	0.82 (0.83)
IM (im)	0.89 (0.18)	0.81 (0.76)
TM (tm)	0.93 (0.18)	0.85 (0.77)
B (b)	0.40 (0.71)	0.74 (0.89)

*EM – extrinsic motivation, IM – intrinsic motivation, TM – ethical motivation, B – barriers.
Lowercase in brackets means negation of condition.*