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Relational Antecedents of Innovation in Family Firms: The Complex Role of Non-family Employees' Commitment

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Abstract A better understanding of the relational antecedents of innovation in family firms is central to explaining their long-term success and survival. Our study proposes an original model that shows that the internal social capital of non-family members does not always foster innovation directly, as existing theory suggests, but through their organisational commitment. These results differ across the various dimensions of organisational commitment. Therefore, our study challenges existing thinking on commitment studies by offering theoretical grounding and empirical evidence that the neglected dimensions of commitment have a crucial intermediate role in the relationship between internal social capital and innovation in family firms.

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Empresa familiar, Empleados no familiares, Capital social, Innovación, Compromiso

Antecedentes relacionales de la innovación en las empresas familiares: El complejo papel del compromiso de los empleados no familiares

Resumen Una mejor comprensión de los antecedentes relacionales de la innovación en las empresas familiares es fundamental para explicar su éxito y supervivencia a largo plazo. Nuestro estudio propone un modelo original que muestra que el capital social interno de los no familiares no siempre fomenta la innovación directamente, como sugiere la teoría existente, sino a través de su compromiso organizacional. Estos resultados difieren en las diversas dimensiones del compromiso organizacional. Por lo tanto, nuestro estudio desafía el pensamiento existente sobre los estudios de compromiso al ofrecer una base teórica y evidencia empírica de que las dimensiones desatendidas del compromiso tienen un papel intermedio crucial en la relación entre el capital social interno y la innovación en las empresas familiares.

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1. Introduction

Innovation in family businesses is a topic generating greater interest among entrepreneurship researchers because innovation is one of the main sources of competitive advantage and firm survival (Cucculelli & Peruzzi, 2020; Migliori, De Massis, Maturo, & Paolone, 2020; Röd, 2016; Schumpeter, 1934). Prior studies highlighted that innovation is rooted in individuals and requires a social context to encourage it (Patel & Fiet, 2011). Moreover, scholars identified two main social groups in family businesses: family and non-family members (Arregle, Hitt, Sirmon, & Very, 2007; Ram, 2001). However, most of the research focused on family members' involvement in innovation (Miller, Wright, Le-Breton Miller, & Scholes, 2015). Prior research highlighted that the strength of the family in key management positions will lead to more exploitative actions to avoid high-risk decisions and to protect their investments, which will limit exploration (Hiebl, 2015) and innovation (Li & Daspit, 2016). Therefore, non-family members have the potential to make strong contributions to the innovation process of family businesses (Cruz & Nordqvist, 2012). However, little is known about the contribution of non-family members to the firm's innovation and the impact of the interaction between family and non-family members in family firms. In this study, we argue that the key activities developed by these two groups, such as sharing knowledge, experience and information, impact the firm's innovation and rely heavily on social capital and commitment. Surprisingly, few studies considered social capital and commitment (Niehm, Swinney, & Miller, 2008; Werbel & Danes, 2010) as relational antecedents of innovation in family firms (Chirico & Salvato, 2016; Sharma & Irving, 2005). Thus, commitment and social capital are crucial to better understand the interactions between both groups in terms of the support for and achievement of innovation in family firms (Enos, 2020). Consequently, the study of non-family members' internal social capital (ISC) and commitment is critical for improving our understanding of innovation in family firms (Gabay-Mariani & Adam, 2020). Our study addresses these understudied relationships by proposing a new research model focusing on the relational antecedents of innovation achievement. These unexplored relationships motivate our main research question: How do family and non-family employees' ISC and commitment affect innovation achievement in family businesses? This research question responds to the call for research on family and non-family members' relations in innovation process (Chirico & Salvato, 2016; Sharma & Irving, 2005). Our research question can lead us to better understand the understudied roles of social capital and commitment for family and non-family members in innovation.

Our research makes three major contributions. First, this study provides a structural model that integrates two key constructs for the analysis of the relational antecedents of innovation: ISC and organisational commitment (TMC). Second, this study is the first to introduce and test the effect of family loyalty on non-family employees beyond the search for employees' loyalty to the firm empirically. Third, we extend social capital theory by suggesting that the ISC of non-family members does not always foster innovation directly. The mediating role of organisational commitment is essential to innovation achievement. Fourth, our findings challenge the literature on organisational commitment that suggest that normative commitment (NC) and affective commitment (AC) are strongly correlated (Ko, Price, & Mueller, 1997). We find that the three components of TMC have different roles in mediating the relationship between ISC and innovation achievement.

This paper is organised into five sections. Following the introduction, we describe the theory that supports our argument and develop the hypotheses. Then, the methodology is outlined. The research results are presented and contrasted with the hypotheses. Finally, we present the discussion, contributions, research limitations and conclusions.

2. Theory and Hypotheses

2.1. Social capital and innovation

Social capital scholars suggest that the factors relevant to the generation of innovation include not only the number of partners and the structure of a network but also aspects embedded in the interorganisational relationships, such as trust, cohesiveness and commitment (Adler & Kwon, 2002; Nahapiet & Ghoshal, 1998). Trust and norms of acceptable behaviour among the members of the social network encourage the interpersonal coordination and collaboration needed for innovation (Coleman, 1988; Uzzi, 1997). These socially derived benefits are advantageous to organisations as they help develop innovation capabilities, foster synergies in research and development (R&D), reduce R&D-related costs and risks and shorten the time required for new product and market development (Tsai & Ghoshal, 1998).

Our literature review on innovation indicates three different positions. First, some scholars focus on the positive effect of interorganisational collaboration on innovation and explain why these interorganisational relationships stimulate

innovation (Nielsen, 2005). Second, consistent with the embeddedness view, Gedajlovic, Honig, Moore, Payne and Wright (2013) highlight the possibility that social capital is not necessarily valuable for innovation and limits rather than facilitates access to other resources. Further, it discourages rather than encourages collective innovative action. Third, other scholars suggest that social capital cannot influence innovation if it is not mobilised, assimilated and then used (Kwon & Adler, 2014). These actions call for mechanisms to that encourage and facilitate commitment among parties. We thus argue that social capital fosters innovation. As such, we believe the internal view of social capital is most consistent with the interorganisational collaborations that foster the innovation we described earlier. The internal view of social capital focuses on capital within the collective rather than external ties outside of the collective. Internal linkages among individuals and groups within the collective include features that contribute to collaboration, cohesiveness, and commitment, and thereby foster innovation as a collective action (Adler & Kwon, 2002; Maurer, Bartsch, & Ebers, 2011).

It is well established in the literature that ISC is especially important in family business to foster innovation (Arregle et al., 2007; Miller et al., 2015). While the family business literature presents several definitions of a family firm, we adopted the widely-accepted definition by Chua, Chrisman and Sharma (1999). Thus, a family firm is one that is 'governed and/or managed with the intention to shape and pursue the vision of the business held by a dominant coalition controlled by members of the same family or a small number of families in a manner that is potentially sustainable across generations of the family or families' (Chua et al., 1999, p. 25). Most of the research studied ISC and the commitment of family members (Melin & Nordqvist, 2007; Vallejo-Martos & Puentes-Poyatos, 2014). In this way, the non-family members can complement the family members' knowledge to introduce innovations into the firm (Adler & Kwon, 2002; Arregle et al., 2007; Nahapiet & Ghoshal, 1998). Thus, we argue that non-family members' social capital is key in fostering innovation. Sanchez-Famoso, Maseda and Iturralde (2014) identified three main reasons that support our argument. First, given the complexity of the innovation decision-making process, high-quality relationships among the individuals involved (family and non-family members) may contribute to the necessary agreements and meaningful commitment and collaboration that foster innovation (Chen, Chang, & Hung, 2008; Hoegl, Parboteeah, & Gemuenden, 2003). Second, non-family social capital can generate innovation through the interactions among family members by complementing their views, helping them maintain a continuous flow in the innovation process. This is especially important in product and process innovation (Oh, Chung, & Labianca, 2004). Third, the relationships among non-family members enhance the firm's ability to identify and develop innovation opportunities that could not be identified or developed by relying only on the social capital of family members (Capaldo, 2007; Carrasco-Hernandez & Jimenez-Jimenez, 2013; Maurer & Ebers, 2006; Wise, 2014).

Huggins, Johnston and Thompson (2012) stated that inter-organisational networks which reinforce social capital impact the innovation performance of firms. However, ISC is not gained easily. Some scholars highlighted that ISC requires some kind of commitment as a mechanism to mobilise economic and cultural resources to generate innovation (Moran, 2005; Nahapiet & Ghoshal, 1998; Portes, 1998; Tsai & Ghoshal, 1998). Given that ISC and commitment are fundamental for innovation, we consider the potential interaction among them. This argument is supported by research on innovation which suggests that the development of new products and services results not from individual effort based on the individual's level of knowledge but from creative cooperation at the social level (Leonard & Sensiper, 1998). Consequently, internal social and human capital are not independent variables; rather, they interact to generate innovation in organisations (Miller & Friesen, 1983). Surprisingly, our literature review does not reveal any research that analyses the interactions among the ISC of non-family members, commitment and innovation. Surprisingly, little research considered non-family members (Sanchez-Famoso, Maseda, & Iturralde, 2017; Sanchez-Famoso, Pittino, Chirico, Maseda, & Iturralde, 2019; Vallejo-Martos, 2009). Thus, we propose the following hypothesis:

Hypothesis 1: The internal social capital of non-family members fosters innovation.

2.2. Organisational commitment (TMC)

Family business scholars (Corbetta & Salvato, 2004; Dawson, Sharma, Irving, Marcus, & Chirico, 2015; Sharma & Irving, 2005; Vallejo-Martos, 2009) adopted the TMC framework developed by Meyer and Allen (1991, 1997). Meyer and Herscovitch (2001) suggest that 'Commitment is a force that binds an individual to a course of action of relevance to one or more targets. As such, commitment is distinguishable from exchange-based forms of motivation and from target-relevant attitudes, and can influence behaviour even in the absence of extrinsic motivation or positive at-

titudes' (p. 302). Following Broekaert, Andries, and Debackere (2016, p. 781), if family business members 'succeed in extending its own sense of commitment and group feeling to its non-family employees, this stimulates essential components of organisational flexibility like employee creativity and responsiveness to change'. Additionally, non-family members' involvement and high commitment and affect innovation performance (Minichilli, Corbetta, & MacMillan, 2010). In this sense, Ahluwalia, Mahto and Walsh (2017), whose research focuses on small family firms, state that employee commitment is positively associated with firm innovation. In this study, family businesses constitute the subject of interest (Dawson et al., 2015), and we seek to improve our understanding of the possible combinations of commitment of the non-family members participating in the innovation process (Miller & Friesen, 1983).

Meyer and Allen (1991) distinguished between three different types of commitment: AC, NC and continuance commitment (CC). Following Dawson et al. (2015), non-family members with AC toward the family business believe strongly in the purpose and goals of the business and the owning family. These members demonstrate enthusiasm in contributing positively to organisational outcomes. Non-family members with NC have a mindset based on obligation and perceive the need to be aligned with social norms. Finally, non-family members with CC believe that the costs of leaving the family business are too high. Although the TMC framework has been widely applied by management scholars, and especially by family business researchers, there is some debate regarding the relevance of its components (Solinger, Plffen, & Roe, 2008). Some authors suggested that AC is the most important component of the TMC framework and has the strongest influence on employees' entrepreneurial behaviour (Camelo-Ordaz, Garcia-Cruz, Sousa-Ginel, & Valle-Cabrera, 2011; Chirico & Salvato, 2016; Herscovitch & Meyer, 2002), to the point of being the sole indicator of commitment to a firm (Armstrong-Stassen, 2006; Harrison, Newman, & Roth, 2006; Kuvaas, 2006). Meyer, Stanley, Herscovitch and Topolnytsky (2002) support this argument and state that AC and NC exhibit the same relationships and have a consistently strong correlation. Furthermore, some studies (Bergman, 2006) suggested that it is very hard to differentiate between these two types of commitments and regard NC as a redundant dimension (Ko et al., 1997; Meyer et al., 2002). We therefore know little about the roles of CC and NC (Loi, Hang-Yue, & Foley, 2006). Our research adds to this literature by analysing each of the three components and their mediating effects in social capital and innovation.

AC. On the one hand, ISC reflects whether individual tendencies will be oriented more towards social relationships or economic relationships (Tjahjono, Fachrunnisa, & Palupi, 2019). Employees with low SC tend to be oriented more towards economic interests. In this sense, they are less motivated to be involved in social systems, are not oriented towards social interests, and do not strongly identify themselves in a group (Manzaneque, Rojo-Ramirez, Dieguez-Soto, & Martinez-Romero, 2020). Thus, non-family employees with low SC tend to me more sensitive than those with high SC regarding their commitment to the family firm (Khan, Ali, Khan, & Jehan, 2019).

On the other hand, AC is related to a high identification and voluntary commitment to the company (Hayek, Randolph, Atinc, & Montalvo, 2018). Following Franco and Franco (2017), if family business employees have an emotional connection in the context in which they are situated, then their AC has a positive influence on contextual performance. Additionally, by promoting AC, family firms may develop an environment in which employees are involved in the allocation of a firm's current resources in critical areas such as innovation (Carnes & Ireland, 2013; Hatak, Kautonen, Fink, & Kansikas, 2016). Higher levels of AC and expectations of reciprocity can help to mobilise knowledge resources, as they motivate employees to share valuable private resources (Granovetter, 1982), such as sensitive knowledge and information (Uzzi, 1997). Employees with stronger AC may be more willing to invest time and effort in knowledge exchange and provide assistance even in cases of unplanned inquiries (Hansen, Poldony, & Pfeffer, 2001). This fosters the assimilation of knowledge and innovation. Other research scholars found that AC is positively associated with proactive behaviour at work, innovation-related behaviours and acceptance of organisational change (Diaz-Moriana, Clinton, Kammerlander, Lumpkin, & Craig, 2020; Iverson, 1996). More precisely, some scholars argued that AC increases the possibility of new product and service development by affecting the employees' entrepreneurial behaviour (Camelo-Ordaz et al., 2011; Diaz-Moriana et al., 2020; Herscovitch & Meyer, 2002; Sharma & Irving, 2005). On the other hand, higher levels of AC from employees make it easier for these employees to accept change and innovation initiatives and the change is more likely to persist (Bandura, 1986; House & Mitchell, 1974).

Employees with higher levels of AC are predisposed to perform an extra role and exhibit behaviour (Erdogan, Rondi, & De Massis, 2020; Hislop, 2003) and discretionary effort that may increase knowledge sharing and innovation (Coff & Rousseau, 2000; Corbetta & Salvato, 2004). Therefore, we hypothesise that:

Hypothesis 2: The AC of non-family employees mediates the relationship between the internal social capital of non-family employees and innovation.

NC. On the one hand, McCormick and Donohue (2019), in their study of organisational volunteers, identified ISC as one of the most influential antecedents of NC. Relationships between employees gained through active participation and acknowledgement can act as a relational inducement and thereby enhance NC.
On the other hand, in the presence of NC, employees feel obliged by morality, value-driven principles and socialisation practices to reciprocate with loyalty and commitment (Meyer & Allen, 1997; Meyer & Herscovitch, 2001). Firms could use this type of motivation to implement, encourage and foster innovation. Gellatly, Meyer and Luchak (2006) suggest that employees with stronger NC may perceive that they have a responsibility to strive toward valued outcomes or that they have an obligation to meet others' expectations. Hence, if the firm is known for its innovation, then there is a strong possibility that NC will contribute to this process, which may even be accentuated by a pride-guilt dynamic (Meyer, Becker, & Van Dick, 2006).
Other scholars suggested that NC has weaker positive relations with behaviours such as support and acceptance for organisational change, citizenship behaviours and job performance (Hackett, Bycio, & Hausdorf, 1994; Iverson, 1996; Meyer et al., 2002; Patel & Fiet, 2011; Rasdi & Tangaraja, 2020); thus, we expect that NC will have a weaker impact on innovation than AC. Therefore, NC received less attention than the other types of commitments (Bergman, 2006; Calabrò et al., 2019; Ko et al., 1997). This will likely have implications for innovation in family firms (De Massis, Audretsch, Uhlaner, & Kammerlander, 2018) Therefore, we hypothesise that:

Hypothesis 3: The NC of non-family employees mediates the relationship between the internal social capital of non-family employees and innovation.

CC. On the one hand, non-family employees with good relationships can benefit the CC and receive positive performance evaluations from their employer (De Clercq, Suhail, Azeem, & Haq, 2019) because they respond positively to the pressures (Diaz-Moriana et al., 2020; Graca & Khare, 2020). On the other hand, our literature review identifies two main perspectives. First, in firms where there is an obligation to be innovative, a stronger level of CC may induce employees to accept innovation for fear of losing their current employment. They are thus prone to fulfil the minimum requirement to keep their status in the company (Luchak & Gellatly, 2007). Second, in firms where innovation projects lead to employees' personal gains, a stronger level of CC should have a positive effect on innovation (Johnson & Yang, 2010). Employees who exhibit high levels of CC generally worry about their job security and actively work to comply with organisational directives to keep their jobs (D Clercq et al., 2019). Thus, CC may function as a buffer against the fatigue that arises with organisational pressures to go beyond formally prescribed duties, which them diminishes the likelihood that employees underperform (De Clercq et al., 2019). In sum, if employees perceive that innovation may improve the probability of receiving valued rewards, is crucial to secure their investment in the company, or if is no better alternative elsewhere (Johnson & Yan, 2010; McGee & Ford, 1987), then a higher level of CC may have a positive effect on innovation. Therefore, we hypothesise that:

Hypothesis 4: The CC of non-family employees mediates the relationship between the internal social capital of non-family employees and innovation.

2.3. Family top management team (TMT) involvement and support for innovation

The management literature defines the TMT as the chief executive officers (CEOs) and their team of the managers who report directly to them (Boeker, 1997). This team is responsible for innovation-related decisions in firms (Talke, Salomo, & Rost, 2010). Prior research showed that the involvement of family members in governance and management (TMT) may influence innovation in family firms differently (Howorth, Rose, Hamilton, & Westhead, 2010; Miller, Le-Breton Miller, Lester, & Cannella, 2007; Sanchez-Marin, Permatin, & Monreal-Perez, 2020; Sciascia, Nordqvist, Mazzola, & De Massis, 2015; Westhead & Howorth, 2007). The existing literature in this field reports contradictory results. For example, Matzler, Renz, Mooradian, Von Krogh and Mueller (2011) found that family management at the top has a negative impact on innovation input and a positive influence on innovation output. According to Nieto, Santamaria and Fernandez (2015), firms managed by business families are innovative; however, they show risk aversion and have other agency costs and resource constraints and are thus less inclined toward radical innovation (developing scientific and technological knowledge) and more oriented to incremental innovation.
Similarly, Duran, Kammerlander, Van Essen and Zellweger (2016) maintained that family firms with a family CEO invest less in innovation but have an

increased conversion rate of innovation input into output, and ultimately a higher innovation output than other firms. Thus, excessive levels of family involvement in the TMT could result in the limited availability of diverse knowledge and multiple perspectives, which would limit innovation (Handler, 1992; Howorth et al., 2010; Ruekert & Walker, 1987). For example, this limitation could lead to a desire to accommodate other team members for the 'good' of the team (Amason & Sapienza, 1997); however, doing so could compromise employees' ability to generate innovative ideas (Arregle et al., 2007). On the other hand, some scholars considered that non-family managers are important stakeholders who promote innovation and solve problems in family businesses (Basco & Voordeckers, 2015; Block, 2011; Sonfield & Lussier, 2009). Therefore, the inclusion of non-family members in top management positions increases the social capital (Portes, 1998) and facilitates the acquisition of original information from diverse sources, leading to a positive effect on innovation (Blyler & Coff, 2003; Calabrò et al., 2019). Top managers and employees rely on mutual support to focus on innovation during changes in the market (Huy, Corley, & Kraatz, 2014). Thus, family involvement in the TMT may enhance the potential for non-family employees' commitment to and assessment of innovation (Sanchez-Marin et al., 2020). However, when many family viewpoints are included in the strategic decision process, the likelihood of relational conflicts rises, generating tension, animosity and annoyance (Martinez-Alonso, Martinez-Romero, & Rojo-Ramirez, 2020; Sanchez-Famoso et al., 2019). Overall, these arguments suggest that the involvement of family members in the TMT can reinforce the effectiveness of the relationships between non-family employees and the commitment of non-family employees towards innovation outputs. Therefore, we hypothesise that:

Hypothesis 5: Family involvement and support in TMT positions moderate the relationship between the three dimensions of commitment (AC, NC and CC) and innovation.

2.4. Loyalty

Research about loyalty in family business is scarce (Boszormenyi-Nagy, Grunebaum, & Ulrich, 1991; Lumpkin, Martin, & Vaughn, 2008). Our literature review reveals two aspects of loyalty. The first is focused on organisational loyalty and the second on individuals.

Organisational loyalty. Graham (1991) defined organisational loyalty as identification with and allegiance to organisational leaders and the organisation as a whole, transcending the parochial interests of individual, work groups and departments. The representative behaviours include defending the organisation against threats, contributing to its good reputation and cooperating with others to serve the interests of the whole (Graham, 1991; p. 255). Loyalty is associated with TMC (Johnson, 2005). Loyal employees support their organisation and even defend it against outsiders, remaining committed to the organisation even in difficult circumstances, and contributing to its good reputation (Johnson, 2005). However, the relationship between organisational loyalty and innovation in the family business literature received no empirical attention.

Despite the lack of studies addressing the link between organisational loyalty and innovation, some empirical evidence consistent with TMC is available. For example, Bettencourt and Brown (1997) claimed that employees with high levels of AC want to stay in their organisations. Lin, Tsai, and Chiu (2009) found that loyalty is influenced positively by the three dimensions of commitment. However, to the best of our knowledge, little is known about how loyalty influences organisational commitment.

Loyalty among individuals in family firms. This literature focuses on loyalty among family members. Loyalty refers to the sense of personal support, commitment and duty that individuals within a family experience. Within families, children are expected to display filial loyalty and support simply by virtue of being family members (Boszormenyi-Nagy et al., 1991). Although this relational ethic generates a sense of obligation to the family among children, parents typically display stronger loyalty to their children than children do to them (Boszormenyi-Nagy et al., 1991).

Therefore, loyalty keeps individual members obligated to the family through sanctions, devotion and commitments. Reiss and Olivery (1991) suggest that as a social group, family members are expected to remain loyal and support to one another and the family, with their most fundamental requirement being to maintain the group; that is, the family.

In a family business setting, loyalty is often so crucial that family members may even demand it from nonrelative employees (Kets de Vries, 1993). Thus, loyalty creates assurances among individual family members that their obligations will be met through mutual support (Lumpkin et al., 2008).

Loyalty is also associated with social capital (Jones & Taylor, 2007). The marketing literature reported significant positive effects of social capital on loyalty (Bansal, Irving, & Taylor, 2004). Although the family may show loyalty and commitment to non-family employees, their primary obligation and loyalty are normally reserved for family members (Zwick & Jurinski, 1999). This argument could be counterproductive because one of the key chal-

lenges identified in the family business literature is the retention of loyal non-family employees (De Massis et al., 2018). However, research focusing on non-family employees is scarce (Sanchez-Famoso et al., 2014, 2017, 2019). Barnett and Kellermanns (2006) argue that it is important to encourage the loyalty of non-family employees. However, we know little about the manner in which the loyalty of non- family employees is encouraged and its role as a moderator in the innovation process. This study offers the first analysis of the role of the family loyalty to non-family employees. Therefore, we hypothesise that:

Hypothesis 6: Family loyalty to non-family employees moderates the relationship between the three dimensions of commitment (AC, NC and CC) and innovation.

3. Methods

3.1. Data and sample

We tested the six main hypotheses emerging from our literature review with a sample of 232 small and medium family firms listed in the Iberian Balance Sheet Analysis System (SABI). We imposed restrictions to obtain a final sample consistent with our research question and representative of the population. First, most of the research on innovation was conducted in large firms (Santoro, Ferraris, Giacosa, & Giovando, 2018). We therefore focused on family firms with between 10 and 500 employees. Though the European Commission defines small and medium family firms as those which employ fewer than 250 persons (SME definition adopted by the European Commission, 2003/361/EC), we extended the upper limit to match the U.S. Small Business Administration's definition of small and medium enterprises because our aim is to capture non-family employees' SC in the firm through their commitment and because the literature review revealed that large firms (i.e. usually more than 500 employees) limited the opportunity for relational links between employees (Basco, 2013). In smaller firms (i.e. fewer than 10 employees), communication at work can be limited (Sanchez-Famoso, Akhter, Iturralde, Chirico, & Maseda, 2015; Sorenson, 2012). Second, we excluded companies affected by special situations, such as liquidation and/or insolvency. Third, we identified family members in the TMT. This choice was also helpful to: a) identify firms owned by individuals from one family, no less than 51 percent (Molly, Laveren, & Deloof, 2010); and b) verify that family members were involved in management activities. The CEOs of the selected companies were contacted by letter and a phone call requesting their participation in our study. Two categories of respondents were necessary to conduct our research: 1) family members involved in innovation projects in the TMT and 2) non-family employees working on innovation activities. In the letter sent to the CEOs, we explained that a professional survey research firm would get in touch with the respondents to conduct a phone survey. Participants were assured that personal and organisational data would remain completely confidential. The professional survey firm collected our data and verified the accuracy of respondents. We used G*Power to calculate the sample size based on its statistical power (Faul, Erdfelder, Buchner, & Lang, 2009), which suggested that we needed a sample size of 134 for a statistical power of 0.95 (two tails) for model testing. Furthermore, the minimum power required in social and behavioural science research is typically 0.8 (Rasoolimanesh, Roldán, Jaafar, & Ramayah, 2017). Thus, we can safely conclude that our sample size was acceptable for the purposes of this study. Furthermore, the response rate is consistent with previous research on innovation in Spain.

3.2. Data quality and test

We verified our hypotheses using a quantitative analysis. Quantitative methods are necessary in the development of family firm research (Wilson, et al., 2014). These quantitative methods use more sophisticated methodological approaches, which advances the research on family firms. First, we test for nonresponse bias.

To test for nonresponse bias, we compared respondents (early and late) as well as respondents who completed the whole survey and those who dropped out before completion using ANOVA (Oppenheim, 1966), and found no significant differences. To address potential common method bias, we first conducted Harman's one-factor test (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003), which revealed that no factor explained more than 50 percent of the variance. A confirmatory factor analysis (CFA) (Podsakoff et al., 2003) with all our independent, mediator, moderator and dependent variables shows that the corresponding structure exhibits an acceptable fit. (X^2 = 744.91; SRMR = 0.06; NFI = 0.71). These findings suggest that our measures are empirically distinguishable and that common method bias is unlikely to be a major concern.

3.3. Measures

The questionnaire was designed in Spanish. We then tested the questionnaire on ten family managers and ten non-family managers in ten family firms and three academic experts in research methods and family firms. We attempted to ensure that the items were interpreted unambiguously and displayed high content validity. The refined items were then pretested with a convenience

sample of 25 family firms. These revision efforts created an instrument with high reliability (Cronbach's alpha ranging from 0.71 to 0.87). Except where otherwise noted, the study's variables and items are measured on a 5-point scale that ranges from '1= strongly disagree' to '5= strongly agree'. Table 1 shows the results of the CFA, which support the reliability of the scales that we used in the analysis.

Dependent Variables. Family Firm Innovation (α = 0.71). We based our scale on Garcia- Morales, Llorens-Montes and Verdu-Jover (2008) and Miller and Friesen (1983), asking questions about the firms' level of innovation compared with that of their closest competitors.

Independent Variable. ISC (α = 0.85). Following Chirico and Salvato (2016), we used a set of six items.

Mediator Variables. For TMC, we follow the scale proposed by Meyer, Allen and Smith (1993) and tested by Ko et al. (1997) to measure AC (α = 0.84), NC (α = 0.87), and CC (α = 0.84) with sets of six items each.

Moderator Variables. TMT involvement and support is measured as the proportion of family managers in the TMT and the support given to employees (Cabrera-Suarez, Deniz-Deniz, & Martin-Santana, 2015). Family loyalty to non-family employees was adapted from the scale proposed by Buchanan (1974).

Control Variables. Because many similar factors can influence the dependent, mediator and independent variables, we controlled for 4 variables. First, we control for size. Larger firms might have more slack resources to engage in corporate entrepreneurship, and size may thus bias the results (Zahra, Hayton, & Salvato, 2004). Company size was measured using the natural log of total assets (Sanchez-Famoso et al., 2015). Larger family firms need more and diverse expertise to meet the advanced skill requirements of their executives. Small family firms may affect non-family members' motivation and commitment (Chen & Hsu, 2009). Second, we control for the number of employees by using the log of the number of employees. Miller, Minichilli and Corbetta (2013) stated that the number of employees is related to a higher level of administrative complexity, which requires more skills, knowledge and expertise of executives; therefore, these organisations tend to be more bureaucratised and are better positioned to endure innovation (Wagner, Pfeffer, & O'Reilly, 1984). Third, company age was measured using the natural log of firm age (Zahra & Nielsen, 2002). More mature firms may be more eager to hire non-family managers because of the tendency within older family firms to share governance roles with non-family members more readily (Yildirim-Öktem, & Üsdiken, 2010). Fourth, depending on the sector to which they belong, some companies could be more motivated to undertake innovation than others.

Table 1: Evaluation of the measurement model (CFA)

Construct/Dimension/Indicator	*Loadings*	*Composite Reliability*	*Average Variance*
Internal Social Capital (cronbach's alpha = 0.847)		0.887	0.567
Non-family employees spend time together in social occasions	0.710		
Non-family employees maintain close social relationships	0.670		
Non-family employees can rely on each other without any fear that some of them take advantage even if the opportunity arises	0.757		
Non-family employees always keep the promises they make to each other	0.759		
Non-family employees share the same ambitions and vision	0.820		
Non-family employees are enthusiastic about pursuing the collective goals and missions of the whole organisation	0.793		
Affective Commitment (cronbach's alpha = 0.844)		0.885	0.562
Non-family employees would be very happy to spend the rest of their career with this family firm	0.725		
Non-family employees really feel as if the family firm's problems are their own	0.735		
Non-family employees feel a strong sense of belonging to the organisation	0.810		
Non-family employees feel emotionally attached to this organisation	0.746		
Non-family employees feel like part of the family at the family firm	0.765		
This family firm has a great deal of personal meaning for non-family employees	0.712		
Normative Commitment (cronbach's alpha = 0.873)		0.905	0.613
Non-family employees do not feel any obligation to remain with their current employer	0.700		
Even if it were to non-family employees advantage, non-family employees do not feel it would be right to leave the family firm now	0.778		
Non-family employees would feel guilty if they left this organisation now	0.795		
This family firm deserves the loyalty of their non-family employees	0.814		
Non-family employees would not leave this family firm right now because they have a sense of obligation to the people in it	0.790		
Non-family employees owe a great deal to their family firm	0.815		
Continuous Commitment (cronbach's alpha = 0.840)		0.883	0.559
Right now, staying with the organisation is a matter of desire	0.670		
It would be easy for non-family employees to leave the family firm right now	0.635		
Too much of their life would not be disrupted if non-family employees decided to leave the family firm now	0.767		
Non-family employees feel that they have many options to consider leaving the family firm	0.769		
If they had not already put so much of theirselves into this family firm. They might consider working elsewere	0.828		
The many alternatives that exit in the labor market do not push non-family employees to leave this family firm	0.798		
Innovation (cronbach's alpha = 0.714)		0.840	0.636
The rate of introduction of new products or services in the organisation has grown rapidly in the last five years	0.792		
The rate of introduction of new production methods or services rendered in the organisation has grown rapidly in the last five years	0.804		
In comparison to its competitors, the organisation has become much more innovative in the last five years	0.796		

4. Results

4.1. Statistical analyses

We tested our research model using Partial Least Squares (PLS), a variance-based structural equation modelling method (Hair, Hult, Ringle, & Sarstedt, 2017; Roldán & Sánchez-Franco, 2012). The assessment of the measurement model for reflective indicators in PLS is based on individual item reliability, construct reliability, convergent validity and discriminant validity (Roldán & Sánchez-Franco, 2012). Individual item reliability is considered adequate in this study because all indicators and dimensions have loadings above 0.635 (Table 1). All constructs and dimensions meet the requisite level of construct reliability, as their composite reliabilities (CR) are greater than 0.7 (Table 1). To assess convergent validity, we examine the average variance extracted (AVE). All latent variables achieve convergent validity, as their AVEs surpass the 0.5 level (Table 1). Finally, Table 2 shows that all the constructs attain discriminant validity following both the Fornell-Larcker and the strictest $HTMT_{85}$ criterion (Hair et al., 2017). This means that all the constructs are empirically distinct.

Table 2: Discriminant validity of the measurement model

	Fornell-Larcker Criterion				Heterotrait-Mototrait ratio (HTMT)			
	Affective Commitment	Continuance Commitment	Innovation	Normative Commitment	Affective Commitment	Continuance Commitment	Innovation	Normative Commitment
Affective Commitment	0.749							
Continuance Commitment	0.221	0.748			0.259			
Innovation	0.390	0.243	0.798		0.497	0.312		
Normative Commitment	0.350	0.328	0.545	0.783	0.403	0.380	0.690	
Internal Social Capital	0.297	0.562	0.379	0.410	0.347	0.655	0.487	0.471

4.2. Structural model results

In the structural model assessment, we estimated the path coefficients and determined their significance via bootstrap tests. In addition, the R^2 values and the Q^2 tests were estimated for predictive relevance. This analysis was carried out for the entire sample and for four subsamples. The Q^2 value is calculated using the blindfolding procedure for a specified omission distance (in our case, the value was 7). When a PLS path model exhibits predictive relevance, it accurately predicts data not used in the model estimation. Q^2 values larger than zero for a specific reflective endogenous latent variable indicate the path model's predictive relevance for a particular dependent construct (Hair et al., 2017). In our case, the value of all reflective constructs exceeds zero, confirming predictive relevance.

4.3. Hypotheses testing

The structural model analysis confirms that the ISC of non-family employees has a positive and significant effect on innovation (H1). Additionally, the control variables have no significant influence on innovation. The calculation of the standardised root mean square residual (SRMR) completes the goodness-of-fit analysis for the structural model. Henseler et al. (2014) advocated the use of the SRMR indicator to measure the goodness of fit of a model, recommending values less than 0.08. For the structural model, the value is 0.06. Mediation hypotheses. In the main model, we tested our mediation hypotheses (H2 through H4) by following Nitzl, Roldán and Cepeda's (2016) analytical approach. To establish a mediating effect, the indirect effect must be significant. Hence, we followed two main steps. First, we determined the significance of the indirect effects. Second, we defined the type of mediation. For full mediation, the direct effect must be non-significant. The results of the total, direct and indirect effects, as well as the bias-corrected confidence intervals with the significance level of 0.05 using a two-tailed test are presented in Table 3.

The direct effect of non-family employees' ISC (0.172) on innovation is significant [0.020; 0.322]. The indirect effects of AC (0.058) [0.020; 0.322] (H2) and NC (0.177) [0.107; 0.261] (H3) are both significant. Thus, AC and NC partially mediate the relationship between the ISC of non-family employees and innovation. These findings illustrate the main role of AC and NC in explaining the process that determines innovation in the context of social capital theory. However, the indirect effect of CC (0.028) is not significant [-0.110; 0.054] (H4). Therefore, the results support H2 and H3 but do not support H4.

Table 3: Structural model and multi-group analysis test results

Mediation Model (without moderation)	**Direct Effect**	**Confidence Intervals**		**Indirect Effect**		**Confidence Intervals**	**Total Effect**	**Confidence Intervals**	R^2= 0.368
Internal Social Capital -> Innovation	0.172	[0.020; 0.322]	0.297*	0.196	0.058	[0.020; 0.109]	0.230		**Affective Commitment**
			0.410*	0.431	0.177	[0.110; 0.261]	0.349		**Normative Commitment**
			0.562*	0.049	0.028	[-0.110; 0.054]	0.200		**Continuance Commitment**
			0.262			[0.110; 0.320]	0.434	[0.237; 0.514]	**TMC**
Metiation Model moderated by TMT									
Group 1: High TMT	**Direct Effect**	**Confidence Intervals**		**Indirect Effect**		**Confidence Intervals**	**Total Effect**	**Confidence Intervals**	R^2= 0.408
Internal Social Capital -> Innovation	0.314	[0.106; 0.532]	0.312*	0.227	0.071	[0.010; 0.153]	0.385		**Affective Commitment**
			0.651*	0.447	0.291	[0.070; 0.276]	0.605		**Normative Commitment**
			0.592*	0.289	0.171	[-0.306; -0.069]	0.485		**Continuance Commitment**
			0.533			[-0.109; 0.209]	0.847	[0.144; 0.571]	**TMC**
Group 2: Low TMT	**Direct Effect**	**Confidence Intervals**		**Indirect Effect**		**Confidence Intervals**	**Total Effect**	**Confidence Intervals**	R^2= 0.468
Internal Social Capital -> Innovation	-0.016	[-0.217; 0.208]	0.289*	0.205	0.059	[0.001; 0.128]	0.043		**Affective Commitment**
			0.498*	0.471	0.235	[0.106; 0.369]	0.219		**Normative Commitment**
			0.541*	0.190	0.103	[-0.001; 0.242]	0.087		**Continuance Commitment**
			0.397			[0.246; 0.570]	0.381	[0.107; 0.580]	**TMC**
Metiation Model moderated by Family Loyalty to Non-Family Employees									
Group 1: High Family Loyalty to Non-Family	**Direct Effect**	**Confidence Intervals**		**Indirect Effect**		**Confidence Intervals**	**Total Effect**	**Confidence Intervals**	R^2= 0.345
Internal Social Capital -> Innovation	0.132	[0.100; 0.434]	0.286*	0.227	0.065	[0.024; 0.142]	0.197		**Affective Commitment**
			0.332*	0.389	0.129	[0.083; 0.262]	0.261		**Normative Commitment**
			0.442*	0.008	0.004	[-0.112; 0.090]	0.136		**Continuance Commitment**
			0.198			[0.118; 0.354]	0.330	[0.364; 0.625]	**TMC**
Group 2: Low Famlily Loyalty to Non-Family	**Direct Effect**	**Confidence Intervals**		**Indirect Effect**		**Confidence Intervals**	**Total Effect**	**Confidence Intervals**	R^2= 0.272
Internal Social Capital -> Innovation	0.314	[-0.394; 0.186]	0.245*	0.227	0.056	[-0.080; 0.155]	0.370		**Affective Commitment**
			0.395*	0.401	0.158	[-0.020; 0.370]	0.472		**Normative Commitment**
			0.693*	-0.352	-0.244	[-0.290; 0.125]	0.070		**Continuance Commitment**
			-0.030			[-0.194; 0.450]	0.284	[-0.330; 0.390]	**TMC**

Furthermore, when our model has multiple mediators, comparing their specific mediating effects could be useful (Williams & MacKinnon, 2008). We therefore calculated the following equation: DM = M1 – M2, where M1 and M2 are the specific indirect effects and DM is the difference between them. We do not include M3 because the indirect effect of CC is not significant. In this way, we tested whether the two specific indirect effects are equal if the difference is zero. As zero is not included in the interval, we can conclude that the difference of the partially mediated effects of AC and NC are significant (-0.119) [0.237; 0.514]. Thus, we can conclude that the role of AC and NC in the relationship between the ISC of non-family employees and innovation is significantly different. As we can see in Table 3, although CC does not mediate the relationship between ISC and innovation of non-family employees, both the total indirect effect and the total effect are significant.

Multi-group analysis (MGA). Prior to performing MGA to compare the path coefficients of high family involvement and TMT support and low family involvement and TMT support, as well as those of high family loyalty to non-family employees and low family loyalty to non-family employees, the acceptability of the measurement models and measurement invariance should be established (Hair et al., 2017; Henseler et al., 2014). PLS-SEM is a composite model with latent variable scores calculated based on a composite model algorithm. We followed the measurement invariance of composites (MICOM) method suggested by Henseler et al. (2014), which is a three-step process involving (1) the configurational invariance assessment, (2) the establishment of a compositional invariance assessment, and (3) an assessment of equal means and variances. In accordance with the MICOM procedure, we establish that partial measurement invariance for the two groups of family involvement and TMT support, and the full measurement variance for the two groups of family loyalty to non-family employees (Table 4). Partial measurement variance is the minimum requirement for comparing and interpreting the MGA's group-specific differences in the PLS-SEM results (Henseler et al., 2014).

After testing the structural model and guaranteeing the metric invariance, we performed the multi-group analyses. This process divides the sample into two groups. In this analysis, family ownership and family management in the TMT are moderator variables, which allows us to test the moderating role of the three dimensions of TMC (AC, NC, and CC) on the relationships in the research model. To this end, we used mainly the permutation test (5000 permutation runs; two-tailed; 0.05 significance level) for each group of observations. Statistically significant differences in path coefficients between sub-samples are interpreted as moderating effects (Qureshi & Compeau, 2009).

We conducted two multi-group analyses, one for each moderator variable. In both, a non-parametric approach is applied (bias-corrected 95 percent confidence intervals). In this case, if the parameter estimate for a path relationship of one group (Table 3) does not fall within the corresponding confidence interval of another group (Table 3), and vice versa, then no overlap exists and we can assume that the group-specific path coefficients are significantly different with regard to a significance level α (Sarstedt, Henseler, & Ringle, 2011). The next step is to analyse the

Table 4: Invariance measurement test results using permutation

1/ MICOM tests for Family Involvement in Management (TMT)

Constructs	(Step 1) Configurational Invariance (Same Algorithms for Both Groups)	Correlation Permutation Mean	5.00%	(Step 2) Compositional Invariance Established	Mean-Permutation Mean Difference		Equal	Variance -Permutation Mean Difference		Equal	(Step 3) Partial Measurement Invariance Established	(Step 3) Full Measurement Invariance Established
					Differences	Confidence Inteval		Differences	Confidence Interval			
Affective commitment	Yes	0.993	0.982	Yes	-0.097	[-0.265; 0.249]	Yes	0.118	[-0.424; 0.437]	Yes	Yes	Yes
Normative commitment	Yes	0.998	0.994	Yes	-0.016	[-0.257; 0.256]	Yes	-0.083	[-0.436; 0.445]	Yes	Yes	Yes
Continuance commitment	Yes	0.995	0.988	Yes	-0.216	[-0.265; 0.255]	Yes	-0.069	[-0.412; 0.431]	Yes	Yes	Yes
Social capital	Yes	0.996	0.99	Yes	0.048	[-0.256; 0.255]	Yes	0.080	[-0.437; 0.448]	Yes	Yes	Yes
Innovation	Yes	0.997	0.99	Yes	-0.045	[-0.259; 0.258]	Yes	-0.112	[-0.440; 0.463]	Yes	Yes	Yes

2/ MICOM tests for Non-Family Employees' Loyalty

Constructs	(Step 1) Configurational Invariance (Same Agorithms for Both Groups)	Correlation Permutation Mean	5.00%	(Step 2) Compositional Invariance Established	Mean-Permutation Mean Difference		Equal	Variance -Permutation Mean Difference		Equal	(Step 3) Partial Measurement Invariance Established	(Step 3) Full Measurement Invariance Established
					Differences	Confidence Inteval		Differences	Confidence Interval			
Affective Ccommitment	Yes	0.988	0.967	Yes	-0.062	[-0.299; 0.305]	Yes	0.119	[-0.441; 0.540]	Yes	Yes	Yes
Normative commitment	Yes	0.997	0.990	Yes	0.182	[-0.303; 0.307]	Yes	0.080	[-0.452; 0.548]	Yes	Yes	Yes
Continuance commitment	Yes	0.992	0.978	Yes	0.109	[-0.307; 0.297]	Yes	0.553	[-0.428; 0.533]	No	Yes	No
Social capital	Yes	0.995	0.985	Yes	0.175	[-0.302; 0.296]	Yes	-0.022	[-0.468; 0.570]	Yes	Yes	Yes
Innovation	Yes	0.995	0.984	Yes	0.345	[-0.298; 0.298]	No	-0.265	[-0.457; 0.583]	Yes	Yes	No

differences between the coefficients for the different paths. If these differences are significant, then the moderator variables have a moderation effect (Table 3).

Family involvement in the TMT, MGA. The sample is divided in two groups: firms with high family involvement in the TMT (176 firms) and firms with low family involvement in TMT (56 firms). Analysing Table 3, we can conclude that family involvement in the TMT has a moderating effect in the relationship between internal SC and innovation, which is mediated by TMC. Thus, with low family involvement in the TMT, TMC has no meditating effect. Moreover, the total direct and indirect effects are not significant. However, with a high family involvement in the TMT, despite the non-significant difference between AC and NC (-0.092) [- 0.221; 0.037], AC, and NC partially mediate the relationship between ISC and innovation. The total indirect effect and the total direct effect are both significant. Thus, we can conclude that H5 is supported.

Family loyalty to non-family employees, MGA. The sample is divided in two groups: firms with high family loyalty to non-family employees (127 firms) and firms with low family loyalty to non-family employees (105 firms). Table 3 shows that family loyalty to non- family employees has a moderating effect in the relationship between ISC and innovation, which is mediated by TMC. First, in firms with low family loyalty to non-family employees, AC and NC fully mediate the relationship between ISC and innovation because the direct effect of ISC on innovation is non-significant in this case. In addition, the difference between AC and NC is significant (0.176) [-0.336; -0.015], which shows that the role of AC and NC in this relationship is different. The total indirect effects and the total effects are significant. Second, in firms with high family loyalty to non-family employees, all three dimensions of TMC (AC, NC and CC) partially mediate the relationship between internal SC and innovation. Furthermore the roles of AC, NC and CC differ because the difference between AC and CC is significant (0.100) [0.120; 0.400], as is the difference between NC and CC (0.12) [0.193; 0.513]. In this case, although the total indirect effect is not significant, the total effect of all mediated relationships is significant. Thus, we can conclude that H6 is supported.

5. Discussion

Our findings suggest that family firms can achieve innovation by effectively combining ISC with the three components of non-family members' commitment (Meyer & Allen, 1997). This relationship is moderated by family loyalty to non-family employees and family involvement in the TMT. The following sections discuss our results, highlighting the theoretical contributions to the social capital, commitment and family business fields.

5.1. The ISC of non-family members does not always foster innovation directly

Our empirical findings show that the internal SC of non-family employees has a positive and significant effect on innovation. Thus, ISC needs AC and NC to achieve innovation. Our findings challenge the literature that suggests that NC and AC are strongly correlated (Ko et al., 1997). We find that they play different roles in mediating the relationship between ISC and innovation. Our study therefore partially refutes existing thinking by offering theoretical grounding and empirical evidence of non-family employees' TMC as a crucial intermediate variable in the relationship between ISC and innovation.

The resulting model in Table 3 extends existing research on commitment (TMT) and social capital theory (Chirico & Salvato, 2016; Dawson et al., 2015). First, for the commitment research field, our study highlights the different contributions of AC and NC in family firms. We find empirical evidence that the mediation of NC is higher than that of AC. This result refutes existing thinking (Bergman, 2006; Ko et al., 1997; Meyer et al., 2002) that AC and NC are similar and giving more importance to AC (Lapointe & Vandenberghe, 2017). Thus, NC received less attention than AC because, empirically, they were not distinguished, as was theoretically expected (Bergman, 2006; Ko et al., 1997). Our study distinguishes the expected differences empirically.

Our research contributes as well to the study of the mediation effects of the AC of non-family employees, as suggested by Dyer (2003) and Sieger, Bernhard, and Frey (2011). In contrast to our predictions, a non-significant mediation effect exists for CC. Although CC does not mediate the relationship between internal SC and innovation of non-family employees, both the total indirect effect and the total effect are significant.

5.2. The family involvement in management (TMT members) has a moderating effect in the relationship between ISC and innovation

Our findings show that with low family involvement in the TMT, there is no meditating effect of TMC. This finding highlights that the inclusion of non-family members in top management positions increases the social capital and facilitates the acquisition of original information from diverse sources, leading to a positive effect on innovation and having a strong contribution to the innovation achievements of family businesses, as Cruz and Nordqvist (2012) suggested.

However, with a high family involvement in the TMT, AC and NC partially mediate the relationship between ISC and innovation. This finding supports the argument that family involvement in the TMT enhances the potential for non-family employee commitment and assessment of innovation (Sanchez-Marin et al., 2020). Thus, top managers and non-family members rely on mutual support to realise innovation (Aparicio, Iturralde, & Sanchez-Famoso, 2019; Sanchez-Famoso et al., 2019).

5.3. The family loyalty to non-family employees has a moderating effect in the relationship between ISC and innovation

We did not find any existing research on family loyalty to employees. We therefore argue that ours is the first study to introduce and test the effect of the family's loyalty on non-family employees beyond the search for employees' loyalty to the firm. Our research shows that with low family loyalty to non-family employees, AC and NC fully mediate the relationship between ISC and innovation because the direct effect of internal SC on innovation is non-significant. Additionally, the difference between AC and NC is significant, which confirms that the roles of AC and NC in this relationship differ, as we mentioned in section 5.1.

These results could be interpreted as a substitution effect. Given low levels of family loyalty to non-family employees, non-family employees use AC and NC to fully mediate the relationship between ISC and innovation. In contrast, with high family loyalty to non-family employees, all three dimensions of TMC (AC, NC and CC) partially mediate the relationship between ISC and innovation. Furthermore, the roles of AC, NC, and CC differ because the difference between AC and CC is significant, as shown in the Results section.

Thus, in the case of high family loyalty to non-family employees, it is possible that TMC acts as complementary mechanism partially moderating the relationship between ISC and innovation. Our findings add to the existing knowledge by introducing family loyalty to non-family employees and its complementarities or substitute effects with commitment as crucial intermediate variables in the relationship between ISC and innovation in family business, which remains unexplored in the existing literature. The additional implications of these findings relate to the governance of family businesses, especially to stewardship theory (Davis, Schoorman, & Donaldson, 1997).

6. Implications for Research and Practice

We next identify some directions for future research. First, more research is needed to better understand the context in which NC and AC are not strongly correlated, and then to identify their contribution to the relationship between ISC and innovation achievement. Second, another important path for future research is the analysis of family loyalty to employees. This is a promising field that will be useful to better understand the interactions between family and non-family members at different levels and in different contexts of the development of the firm. For example, what is the role of this kind of loyalty during the succession process? Are there some groups that need different expressions of this loyalty and is there a theoretical link between loyalty and reciprocity at different stages of the development of family firms? Third, extensions of our structural model might consider additional factors affecting innovation achievement, such as socioemotional wealth variables.

Our study has some limitations. First, the cross-sectional data in our study could be a limitation. We controlled for the potential problem of common method bias by using Harman's single factor test (Podsakoff & Organ, 1986), suggesting that common method bias is not a problem in our data. However, empirical studies with longitudinal surveys may provide complementary insights on the proposed model of the relational antecedents of innovation and clarify the underlying exchange mechanisms among ISC and TMC to foster innovation in small family businesses. A second limitation of this research is that we study family firms in a single country. The restricted nature of our sample suggests that any generalisation of our findings to other contexts should be done with caution.

Our research also contributes to family firms' practices. For instance, the value of the relational antecedents of innovation in the family firms we studied seems to be related to the different components of commitment (AC, NC, and CC) to achieve innovation. Therefore, in practice, family businesses owners should manage each of the three components of TMC differently to achieve innovation. Thus, to leverage innovation, the family firms in our study may need to foster the family loyalty to non-family employees as well. Consequently, family firms interested in fostering innovation should account for the relational aspects we studied. This effort will enable family owners and family firm managers to better understand the impact of the relational aspects in innovation.

7. Conclusion

We hope that scholars and practitioners infer the relevance of the relational antecedents of innovation from our results in the family busi-

nesses we studied. More precisely, we highlighted the different roles that AC and NC have in our sample. We therefore invite scholars and practitioners to account for their differences. Even if our sample is focused on Spanish family firms, Spain is one of the most innovative countries in the world and might have more in common with major economies than we previously thought.

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