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Being Able and Willing to Innovate: A Study of Family Firm Identity and New Product Output among Dutch Private Businesses

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Abstract. We investigate the influence of family firm identity on new product output and whether this relationship is mediated by the ability and willingness of firms to innovate. Research on innovation in the context of family firms is in the early stages, and the results in the extant literature are equivocal. Recently, an ability and willingness approach to studying firm innovativeness has been introduced in the family business literature, mainly to explain innovation management and behavior in firms with family involvement. Based on a quantitative study of 255 Dutch private firms surveyed in 2017, this paper tests the mediating effect of ability and willingness on the relationship between family firm identity and new product output. We find no evidence for either a direct or indirect relationship between family firm identity and new product output. Hence, our study does not support the common conjecture that family firms are less innovative than nonfamily firms.

Keywords: family firm, innovation, ability and willingness

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1. Introduction

Family firms are one of the most ubiquitous forms of business organization around the world (De Massis, Di Minin, and Frattini, 2015a). They are vital for countries and their economies because these firms bring long-term stability, take a long-term perspective in decision making, have an enduring entrepreneurial spirit, offer long-term commitment and responsibilities to their communities and employees, and define the success of their businesses as entailing more than profit and growth (PWC, 2016). However, family firms face several challenges in the current market. In particular, the need to continually innovate is likely to be one of the biggest challenges in the coming years (PWC, 2016).

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Innovation and innovation management in family firms are gaining attention in the family business literature. However, studies of innovation in family firms are still relatively scarce and the results are equivocal (Cassia, De Massis, and Pizzurno, 2012). While some characteristics of family firms are believed to be auspicious for innovation, others seem to have the opposite effect (Röd, 2016). On the one hand, family firms are seen as risk averse, path dependent, conservative, focused on socioemotional wealth, and relatively inert (De Massis, Frattini, and Lichtenthaler, 2013; Steeger and Hoffmann, 2016). On the other hand, they can re-invent themselves with each generation that takes over the business, and they are often well positioned to successfully innovate. In fact, statistics show that 50% of the most innovative firms in Europe are controlled by family owners (De Massis et al., 2015a). This paradox and the discussion of whether family firms are more, less or as innovative as nonfamily firms have been acknowledged by academics and are nurturing an ongoing discussion in this research area.

Recently, a new perspective has been introduced in the family firm innovation literature, which is based on the *ability* and *willingness* of family firms to innovate. This perspective attempts to improve our understanding of the drivers of innovativeness in family firms (Steeger and Hoffmann, 2016). "Willingness" is defined as the tendency of the involved family to engage in idiosyncratic behaviors while pursuing the firm's goals, motivations, and intentions such that these family members influence the firm's behavior in directions that diverge from nonfamily firms (Chrisman, Chua, De Massis, Frattini, and Wright, 2015; De Massis, Kotlar, Chua, and Chrisman, 2014). "Ability" is defined as the power and "discretion of the family to direct, allocate, add to or dispose of a firm's resources" (De Massis et al., 2014, p. 346), which is also referred to as the "discretion to act." The involvement of family members in ownership, governance, and management may give them the power to act and, moreover, may result in the development of unique family firm resources, which can be applied in ways that can influence innovation (De Massis et al., 2013). The ability and willingness perspective takes into account the potential influence of family members on decisions concerning the firm's strategic behavior, including innovation and new product output, as well as the goals, intentions, power structures, and resources in the firm.

This study aims to determine the extent to which new product output, as an indicator of innovation, is influenced by family firm identity, and how ability and willingness mediate this relationship. Although researchers have tried to explain the direct effect of a family business on innovation, the results have been inconclusive (Chrisman et al., 2015; Kotlar and De Massis, 2013; Steeger and Hoffmann, 2016). The new ability and willingness approach may improve our understanding of the drivers of innovation in family businesses.

The scientific relevance of this study lies in its contribution to the knowledge regarding the intersection of innovation and the family business as a unique and

ubiquitous form of business organization. Although family firms are an important part of the global economy (Schulze, Lubatkin, Dino, and Buchholtz, 2001; Duran, Kammerlander, Van Essen, and Zellweger, 2016) and although innovation is seen as essential for firm growth and survival (Röd, 2016), the links between family firms and innovation have rarely been investigated (Cassia et al., 2012; Duran et al., 2016), and the results of such research are inconsistent. Moreover, the application of the ability and willingness approach in this regard is still scarce (Chrisman et al., 2015; De Massis et al., 2013).

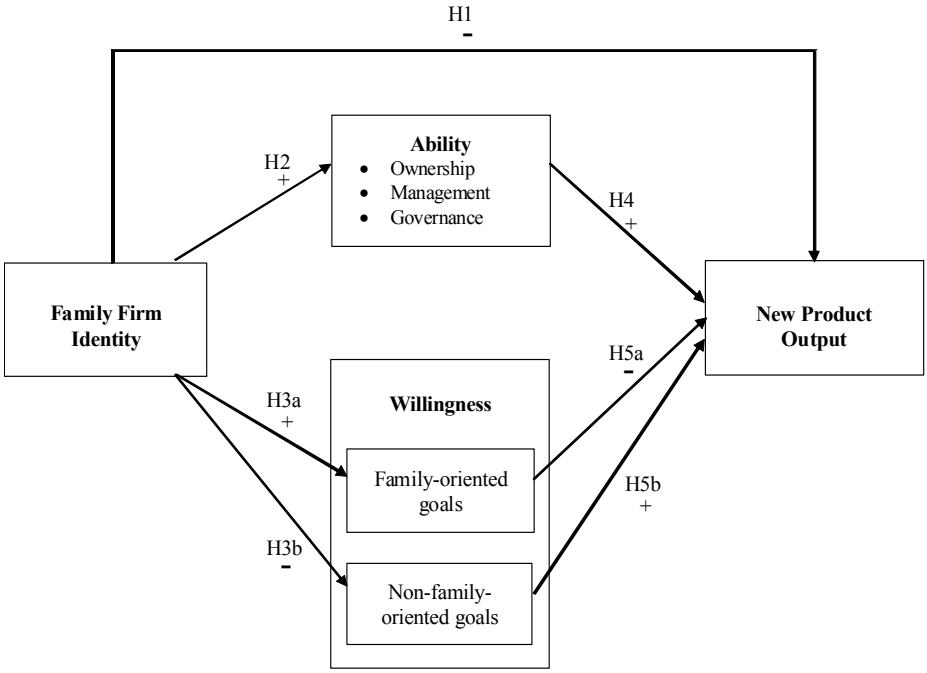
The specific context in which family firms exist and operate must be considered when studying innovation, as the family firm's identity influences the strategic choices and behavior of the company (Gómez-Mejía, Haynes, Núñez-Nickel, Jacobson, and Moyano-Fuentes, 2007). This paper highlights the importance of family involvement, goals, and control as determinants of innovation, especially in terms of their effects on new product output. The failure of innovation management research to recognize and incorporate family involvement in firms might lead to the exclusion of important family firm characteristics while their inclusion could make the extant literature and theories more robust and valuable to both family and nonfamily firms (Cassia et al., 2012). Furthermore, while willingness and ability are intuitively evident as sufficiency conditions, they are generally ignored in the family firm literature (De Massis et al., 2014). This paper contributes to a general understanding of the causal influences between innovation output and family firm identity, goals, governance, ownership, and management, while including the roles of ability and willingness. Moreover, the few studies that have used the ability and willingness framework to date have generally been qualitative in nature (Chrisman et al., 2015; De Massis et al., 2014; De Massis et al., 2015a), whereas the present study applies a quantitative methodology, which allows us to test our hypotheses.

This paper continues as follows. In the next section, we present the theoretical framework, and discuss the main concepts of this study and their relations. We also develop our hypotheses. Thereafter, we present our methodology, including information on the sample, data collection, measurements, and the data analysis strategy. The results of the analysis are then presented and discussed. The paper ends with conclusions and implications for research and practice.

2. Theoretical Framework

The theoretical framework of this study is based on the willingness and ability approach to innovation in the context of family firms. Figure 1 presents our conceptual model in which ability and willingness mediate the relationship between family firm identity and new product output.

Figure 1: Conceptual model



2.1. New Product Output

Nowadays, innovation is seen as vital for firm growth, survival, and competitive advantage (Artz, Norman, Hatfield, and Cardinal, 2010; De Massis et al., 2015a; De Massis, Kotlar, Frattini, Chrisman, and Nordqvist, 2016; Röd, 2016; Smith, Collins, and Clark, 2005). However, innovation is often a lengthy and complex process with significant risk, irreversible investments and expenses, and uncertain future payoffs (Cassia et al., 2012; Classen, Carree, Van Gils, and Peters, 2014; Garud, Tuertscher, and Van de Ven, 2013). Researchers acknowledge that although innovation is increasingly challenging, it is important for businesses, their daily management, and their future vision and strategy. Innovation as a strategic decision and the success of new products are critical for organizations, as they are essential ways of adapting to changing markets, competition, and new technologies (Dougherty and Hardy, 1996).

De Massis et al. (2015a) define innovation as "the set of activities through which a firm conceives, designs, manufactures, and introduces a new product, service, process, or business model" (p. 10). According to Tidd and Bessant (2009), innovation enables firms to capture value by identifying new opportunities for change and turning those opportunities into reality. Research often distinguishes among innovation input, innovation activities, and innovation

output (Chrisman et al., 2015). Innovation input encompasses the (financial) resources a business assigns to innovation as well as the exploitation and exploration of new opportunities (Duran et al., 2016; Lumpkin, Steier, and Wright, 2011; Röd, 2016). One can think of innovation input as the firms' (financial) investments in R&D and the allocation of other resources, like human capital and natural resources, to R&D efforts. Innovation activities utilize those firm resources in order to create value. In this regard, strategy, leadership, organizational culture, resource allocation, and knowledge management are important (Röd, 2016). Innovation activities include the activities, collaborations, and environment that stimulate and eventually transform innovation inputs into innovation outputs. Finally, Crossan and Apaydin (2010) and Röd (2016) refer to innovation output as the final form that an innovation takes in a service, product, process, or business model. Therefore, the literature examining innovation output often distinguishes between process output and new product output (De Massis, Frattini, Pizzurno, and Cassia, 2015b; Utterback and Abernathy, 1975). Process outputs are innovations that change and improve elements of a firm's processes, such as logistics and operations (De Massis et al., 2015a). New product output refers to the introduction of new products to the market (Duran et al., 2016; Smith et al., 2005).

This paper focuses on innovation output, especially on new product output. There are several reasons to focus on new product output. First, product output may have greater value for the firm, as it is commercially oriented, while process output is internally oriented (Katila, 2002). Second, to be innovative, a firm must not only devote resources to innovation but also efficiently convert those resources into new products and/or services (Brouwer and Kleinknecht, 1996a; Hansen, 1992). Finally, there is more literature available on measuring new product output than on measuring process output (De Massis et al., 2015b).

2.2. Family Firm Identity

Defining and operationalizing family firms is still a well-known challenge in the family firm literature, which makes the comparison of research findings problematic (Klein, Astrachan, and Smyrnios, 2005). One commonly used way of expressing the family variable is in terms of family involvement in the firm's ownership, management, and governance (Chrisman, Chua, and Sharma, 2005; Chua, Chrisman, and Sharma, 1999). However, these components of family involvement may only represent the potential of the family to influence the firm—they may not necessarily provide any indication of whether or how the family uses its power to influence the firm's behavior (Zellweger, Eddleston, and Kellermans, 2010). In the literature, this has resulted in efforts to theoretically define the family variable in terms of family essence, which examines the actual influence of the family on the firm's behavior, vision, growth, and perpetuation

(Eddleston, 2011), as expressed by the family's intention to influence the firm's vision and strategic direction, and to create unique, synergistic capabilities and resources for the firm (Chrisman et al., 2005).

However, the family involvement and family essence approaches are still limited in their ability to reflect the family variable. Recently, researchers have acknowledged that two identities can exist in family firms—the identity of the family and the identity of the firm. These identities can be integrated or separated to varying degrees (Sundaramurthy and Kreiner, 2008; Zellweger, Nason, Nordqvist, and Brush, 2013). In acknowledging the existence of two identities, Eddleston (2011) suggests the concept of *family firm identity* to measure the family firm variable. Family firm identity takes into account the degree to which the firm is regarded by its leaders (i.e., owners and/or managers) as a family firm (Eddleston, 2011). Thus, this concept focuses more on the emotional connection and psychological anchoring of the family in the firm (Uhlaner, Matser, Berent-Braun, and Flören, 2015). Uhlaner et al. (2015) propose "kinship, name shared by firm and family, common history among family members, and familiarity between family members" (p. 261) as aspects of family firm identity. Families have a unique mix of capabilities, resources, and history, which can constitute an important part of the firm (Zellweger et al., 2010). The degrees of family firm identity can vary across firms because it depends on the degree to which the leaders of the firm integrate the family into the organizational identity (Eddleston, 2011). Some choose to integrate the family and firm roles to create a family firm identity, while others choose to separate the family from the firm to the greatest extent possible (Eddleston, 2011). This integration or separation of the family and firm identities distinguishes family firms from nonfamily firms.

In an attempt to determine the degree to which the family's identity and the firm's identity overlap, Sundaramurthy and Kreiner (2008) discuss several characteristics that indicate the degree of integration between the business and family identities. The first is the association between the business and family images. For example, the family and the business may share a name or the firm may be acknowledged as a family business in marketing and advertising material. These types of conscious efforts to link the firm's products to the family image can reinforce the integration of the two identities (Sundaramurthy and Kreiner, 2008). Furthermore, Sundaramurthy and Kreiner (2008) discuss ownership by the family as a vital factor in building a shared identity between the family and the business, as firms that restrict outside ownership often have substantial overlap between the firm and the family. According to these authors, the presence of a family relationship among the owners is important, as those owners can determine the integration or separation of the family and the business. Gersick (1997) proposes that a family firm identity plays an important role in the ownership, leadership, and organizational structure of a family firm, as a stronger family firm identity may increase the family's efforts to consolidate its power in the firm.

All aspects of family firm identity measure the level of familiarity and shared identity between the family and the firm (Uhlaner et al., 2015; Zellweger et al., 2010). Measuring family firm identity is important when studying firms' behavior because different values, preferences, and dynamics arise in family firms, which can lead to policies, decisions, and strategies that diverge from those of nonfamily firms (Chua et al., 1999). The emotional and psychological attachment that the family has with the firm also influences what the family views as important in the business (Gómez-Mejía, Cruz, Berrone, and De Castro, 2011). In addition, a family firm identity is unique and may be an important source of competitive advantage for the firm (Sundaramurthy and Kreiner, 2008; Zellweger et al., 2010).

2.3. Ability and Willingness Model

Recently, De Massis et al. (2014) introduced a new perspective in the family business literature—the ability and willingness approach to study innovation in the context of family firms. Several scholars have used this perspective to explain idiosyncratic, particularistic family business behavior and/or family firm innovation behavior (Chrisman et al., 2015; De Massis et al., 2014; De Massis et al., 2015a; Steeger and Hoffmann, 2016). However, as this perspective is in the relatively early stages of development, extensive research on it is lacking.

The ability and willingness model focuses on how family involvement in the firm affects firm behavior and how innovation is managed in the firm. The model is based on two drivers, ability and willingness, which are both necessary but not sufficient conditions on their own to influence firm behavior and innovation management. De Massis et al. (2014) describe ability as "the discretion of the family to direct, allocate, add to, or dispose of a firm's resources" (p. 346), which is also referred to as "the discretion to act" (Steeger and Hoffmann, 2016, p. 254). Thus, ability is understood in terms of the power the family has to influence the firm's resources and directions. De Massis et al. (2015a) also define ability in terms of the resources (e.g., social capital, human capital, and financial capital) that the family can use to guide the firm in specific directions ("ability as resources").

This paper focuses on ability as the discretion to act, which directly arises from the involvement of family in management, ownership, and governance (De Massis et al., 2014; Matzler, Veider, Hautz, and Stadler, 2015). Family involvement in management refers to family members holding the top management positions (e.g., a family member as CEO; De Massis et al., 2014; Matzler et al., 2015; McConaughy, 2000). Family involvement in ownership refers to family relationships among the firm's owners and/or the proportion of ownership held by the family (Matzler et al., 2015). Lastly, family involvement in governance is evident in family members taking a seat on the advisory and/or

supervisory boards or in other types of governance bodies (De Massis et al., 2014). This involvement in management, ownership, and governance can give the family the ability to influence the firm by influencing its decisions, and thus its behavior. The family must have actual power within the company in order to have sufficient discretion in the decision-making process and, thereby, be able to influence the firm. In firms with family involvement in management, ownership, and/or governance, the family usually has significant discretion to act and, thereby, affect the firm's behavior (De Massis et al., 2014).

Willingness is referred to as "the disposition of the family owners to engage in idiosyncratic behavior based on the goals, intentions, and motivations that drive the owners to influence the firm's behavior in directions diverging from those of nonfamily firms or the institutional norms among family firms" (Chrisman et al., 2015, p. 311). Chrisman et al. (2015) state that the tendency of the family to influence the firm's behavior depends on the goals, motivations, and intentions of the family owners. In line with Chrisman et al. (2015) and De Massis et al. (2014), we understand willingness as the firm's goals, which can be family oriented or nonfamily oriented. Family-oriented goals often involve non-economic objectives, such as the family's social status, family harmony, or dynasty preservation, while non-family-oriented goals have a more economic character, as they are focused on, for instance, increasing profit and revenue (Chrisman, Chua, Pearson, and Barnett, 2012; De Massis et al., 2014; Kotlar and De Massis, 2013; Westhead and Cowling, 1997).

A commonly used approach to describing and explaining family-oriented goals is socioemotional wealth (SEW) approach. SEW approach suggests that when determining what is important in the firm, in addition to economic factors, family firms consider the emotional value of the firm for the family (Gómez-Mejía et al., 2007; Steeger and Hoffmann, 2016). SEW approach encompasses family-oriented goals, such as transgenerational succession (Gómez-Mejía et al., 2007; Westhead and Cowling, 1997), employment for family members (Schulze, Lubatkin, and Dino, 2003), family harmony (Chrisman et al., 2012), and family reputation or social status (Deephouse and Jaskiewicz, 2013; Steeger and Hoffmann, 2016).

On the other hand, nonfamily, economic-oriented goals focus more on maximizing profit, pursuing aggressive growth (Daily and Dollinger, 1992), and increasing employment and market share (Knight and Cavusgil, 2004; Westhead and Cowling, 1997). Of course, in order to survive, family firms must also pursue nonfamily, economic-oriented goals. However, extant research suggests that family firms also have multiple family-oriented, non-economic goals, which can have a higher priority than economic goals (Chrisman et al., 2012; De Massis et al., 2016; Westhead and Cowling, 1997). The importance that is granted to family-oriented and non-family-oriented goals affects decisions made in the firm and, therefore, the firm's direction (Berrone, Cruz, and Gómez-Mejía, 2012; Gómez-Mejía et al., 2007).

2.4. Family Firm Identity and New Product Output

In most of the extant literature, an inconsistent and ambiguous relationship is found between family firm identity and innovation. This ambiguity can be explained by the wide range of innovation output indicators as well as various family firm characteristics, which arguably lead to different outcomes. However, most studies show a negative link between family firm identity and innovation. This negative effect is often explained by specific family firm characteristics and values. In family firms, the family's principles, values, and attitudes influence the introduction of new products and services, as these principles, values, and attitudes affect innovation decisions (Naldi, Nordqvist, Sjöberg, and Wiklund, 2007). Family firms are often hesitant to implement extensive innovation strategies (Miller, Le Breton-Miller, and Lester, 2011). Moreover, they are seen as risk averse (Cassia et al., 2012; Chrisman et al., 2015), conservative (Cassia et al., 2012; De Massis et al., 2015a), and resistant to change (Hilburt-Davis and Dyer, 2003), and they view innovation and the introduction of new products as less important than other strategic options or goals (Dunn, 1996), including the preservation of SEW (De Massis et al., 2014; De Massis et al., 2015a; Gómez-Mejía et al., 2007; Steeger and Hoffmann, 2016).

Therefore, the behavior of family firms is often characterized as conservative because these firms focus on protecting their financial security, and thus the family, and on securing continuity and transgenerational succession (De Massis et al., 2015; Röd, 2016). In addition, the management style of conservative firms often relates to risk aversion, such that they are passive and less reactive, and less or even non-innovative (Covin, 1991). Naturally, in firms with such characteristics, the introduction of new products can be challenging, as such introductions tend to be risky and capital intensive with no guarantee for success or positive financial consequences (Cassia et al., 2012). They are, therefore, avoided by family firms. Furthermore, family firms tend to be hesitant about introducing new products because they are committed to their traditional products or services, which often are offered by the firm even across generations (Chrisman et al., 2015). Family firms focus mainly on incremental product or service innovations (Hiebl, 2015; Röd, 2016) because they wish to avoid the extreme consumption of the family's wealth that is generally associated with radical innovation. Based on those arguments, we formulate the following hypothesis:

Hypothesis 1: A family firm identity negatively influences new product output.

2.5. Family Firm Identity and the Ability and Willingness Model

Firms with high levels of family firm identity have a distinct character. For many firms in which family plays a role, an identity overlap exists between the firm and the family because of the tight and often inseparable ties between the firm and the family (Zellweger et al., 2013). The degree to which a family feels attached to the firm and sees it as a family firm is likely to influence the degree to which the family wishes to maintain control over the firm's management, governance, and ownership (ability as discretion to act), and the kind of goals the family and the firm want to pursue (willingness).

2.5.1. Family Firm Identity and Ability

As discussed earlier, ability refers to the formal control and power a family has to act and direct a firm towards certain directions. This power stems from the family's involvement in the firm's management, ownership, and governance (Chrisman et al., 2015; De Massis et al., 2014). Gersick (1997) proposes that family firm identity plays an important role in the division of ownership, management, and governance of a firm, as a stronger family firm identity may increase the family's efforts to increase or retain their power in the firm. In this regard, identity alignment between the business and the family has a significant influence on both familial and business relationships (Chrisman, Steier, and Chua, 2008). Firms with high levels of family firm identity may be more reluctant to appoint nonfamily members to the management team (Matzler et al., 2015; Schulze et al., 2001), and they may favor relatives over other potential employees outside the family who may be more capable and/or skilled for specific positions (De Massis et al., 2015b).

Gómez-Mejía et al. (2007) argue that firms in which family firm identity is in place are more likely to perpetuate the direct control of the family owners in the firm. This is in line with Deephouse and Jaskiewicz (2013), who confirm that high family firm identification motivates family members to pursue power in the firm via involvement in management, ownership, and governance. The psychological attachment of the family members to the firm increases both the emulation of and commitment to transgenerational control (Chrisman et al., 2012; De Massis et al., 2015b). When close attachment, commitment, emotional bonds, and identification of the family with the business are present, families tend to keep the management, governance and ownership within the family to the greatest extent possible (Schulze et al., 2001; Gómez-Mejía et al., 2011). Gómez-Mejía et al. (2011) show that families want to maintain control via ownership. This leads to the following hypothesis:

Hypothesis 2: A family firm identity positively influences ability as expressed in family involvement in ownership, management, and governance.

2.5.2. Family Firm Identity and Willingness

Willingness encompasses the intentions, goals, and motivations of the involved family to guide the firm in certain directions, as reflected in the family-oriented and non-family-oriented goals (Chrisman et al., 2015; De Massis et al., 2014). Goals that are adopted by a firm depend, in part, on the process of translating individual or group preferences (i.e., "dominant coalition") into the policy, strategy, and action(s) of the firm (Kotlar and De Massis, 2013). Eddleston (2011) states that "the degree to which a firm sees itself as a family firm may have a profound impact on its values, goals, and behaviors" (p. 189). In the literature, there is consensus that in firms with family involvement, economic, profit-maximizing intentions and goals are not the only goals of key importance (De Massis et al., 2015a). Researchers argue for a need to consider the emotional connection and psychological attachment that a family has with the firm, as that attachment influences what the family views as important for the business (Gómez-Mejía et al., 2011). Consequently, more or less of this affection and emotional attachment will affect whether the family seeks family-oriented goals. Thus, where classical theories on firm goals and ambitions focus on, for instance, maximizing profit and shareholder value, SEW approach suggests that the higher the degree of family firm identity, the higher the likelihood that a firm will have numerous family-oriented goals in addition to its non-family-oriented goals (Craig and Dibrell, 2006).

Whether family-oriented goals will be pursued may depend on the degree to which a family identifies itself with the business (Chrisman et al., 2005; Deephouse and Jaskiewicz, 2013; De Massis et al., 2014; Gómez-Mejía et al., 2007). Firms with higher levels of family firm identity prioritize the pursuit of family-oriented goals rather than the maximization of economic, non-family-oriented goals (De Massis et al., 2015a; Zellweger et al., 2013). Family members who identify with and are involved in the business see the firm as a vehicle for achieving family-oriented goals, such as transgenerational sustainability of the firm, social status, identity linkages, family harmony, security, and belonging (Chrisman et al., 2012; De Massis et al., 2014; De Massis et al., 2015b; Gómez-Mejía et al., 2007; Miller, Le Breton-Miller, and Scholnick, 2008; Zellweger et al., 2013). Thus, although all firms adopt and pursue economic goals, higher degrees of family firm identity should lead firms to also have non-economic, family-oriented goals that reflect the interests of the family owners (Chrisman et al., 2012; Zellweger and Nason, 2008). This indicates that firms' chosen and pursued goals are directly influenced by the level of family firm identity (Lee and Rogoff, 1996).

The presence of both family-oriented and non-family-oriented goals can cause contradictions in the needs of the firm and the family (Eddleston, 2011). In some cases, family objectives are pursued at the expense of the firm because family owners and managers find the former to be more important (Eddleston, 2011). Firms with high levels of family firm identity need to consider what is most important, the family or the firm, and whether the firm exists for the family or the family exists for the firm (Eddleston, 2011). Given the direct and often intimate connection of the family with the firm, and the desire of the family to protect the identity of both the business and the family as well as the interconnections between the two, firms with higher degrees of family firm identity are more likely to adopt, protect, and prioritize the pursuit of family-oriented goals (Chrisman et al., 2012; De Massis et al., 2015a; Gómez-Mejía et al., 2007; Zellweger and Nason, 2008; Zellweger et al., 2013). Firms with lower levels of family firm identity are more prone to focus on non-family-oriented goals (Chrisman et al., 2012), as family-oriented goals are not viewed as important. In fact, they may not even be in place. Thus, we present the following hypotheses:

Hypothesis 3a: Family firm identity positively influences family-oriented goals.

Hypothesis 3b: Family firm identity negatively influences non-family-oriented goals.

2.6. Ability and Willingness and New Product Output

Both ability and willingness are key drivers of innovation (Chrisman et al., 2015). Certain preferences, goals, and social interests of family members (i.e., willingness), as well as their control over the firm, its assets, resources, and decisions (i.e., ability) may be used to influence decisions that affect and shape new product output. Researchers often refer to a paradox when they talk about the ability and willingness perspective with respect to innovation. Family firms are widely expected to be less willing than nonfamily firms to innovate, despite the fact that they often have a greater ability to do so (Chrisman et al., 2015; Smith and Lewis, 2011). Thus, while family firms have the possibility to directly influence strategic innovation decisions and new product output via the family's involvement in management, ownership, and governance, these firms tend to put greater emphasis on family-oriented goals than on goals related to new product output.

2.6.1. Ability and New Product Output

In order to influence and pursue the family's view on new product output, the family needs to hold power within the firm's management, ownership, and governance structures. This power gives the family the opportunity to influence the introduction of new products, as decisions about new product output are strategic decisions that are made on the management, ownership, and governance levels (Matzler et al., 2015).

Family firms' governance structures contribute to family specific advantages, several aspects of which positively affect new product output. One of these factors is the fact that family members who serve on boards (e.g., supervisory or advisory boards) can advise, question, and council managers with regards to new products. Moreover, they can help spot needs, opportunities, and problems in the market, which can lead to the successful introduction of new products (Corbetta and Salvato, 2004; Matzler et al., 2015). In particular, family board members often have extensive knowledge of the firm, its resources, its external environment, and its network, which is beneficial when making decisions regarding new products (Matzler et al., 2015). Governance boards that include family members also benefit from ties to managers and owners, as these ties result in more consistency in command and in interest alignment (Braun and Sharma, 2007).

Ownership is also seen as an important denominator in strategic innovation decisions. Ownership in the firm endows the family with the authority to make decisions about the firm, including decisions about the introduction of new products (De Massis et al., 2014). Control rights over the firm, and its assets and resources can be deployed to influence decisions about innovation output (Matzler et al., 2015). Ownership in a company also gives the family the ability to influence investment horizons (Kotlar, De Massis, Frattini, Bianchi, and Fang, 2013; Miller and Le Breton-Miller, 2006), risk profiles (Gómez-Mejía et al., 2007), return aspirations (Sciascia, Nordqvist, Mazzola, and De Massis, 2015), and resource management (De Massis et al., 2015b), which, in turn, affect the innovation output (Matzler et al., 2015). In conclusion, one would expect a positive relationship between family ownership and new product output (Gudmundson, Tower, and Hartman, 2003).

With respect to management, a number of studies have found a positive relationship between family involvement in management and innovation output (Matzler et al., 2015). Close family bonds between members of management team are likely to influence communication, decision making, and the emergence of an informal management system, and reduce information asymmetries, which, in turn, benefit new product output (Matzler et al., 2015; Schulze, Lubatkin, Dino, and Richard, 2002). Furthermore, family managers are expected to be more productive than nonfamily managers because they are involved in more than just decision making or one specific area of the firm's operations. This gives family

managers the ability to adjust to unexpected events (Kellermanns, Eddleston, Sarathy, and Murphy, 2012). In addition, family managers often work in the firm for an extended period of time, which provides them with deeply embedded, often tacit knowledge about the firm's intangible resources, customers, and competitors, which can be used while developing and introducing new products and services (Gómez-Mejía, Makri, and Kintana, 2010; Matzler et al., 2015).

Therefore, strong conceptual factors suggest that family involvement in governance, management, and ownership not only gives the family the opportunity to affect how resources are managed and developed (De Massis et al., 2015b; Sirmon and Hitt, 2003), but also determines authority structures (Gedajlovic, Lubatkin, and Schulze, 2004). This gives the family the power to significantly affect innovation and, thus, new product output (De Massis et al., 2015b). This discussion leads to the following hypothesis:

Hypothesis 4: Ability, as expressed in family involvement in ownership, management, and governance, positively influences new product output.

2.6.2. Willingness and New Product Output

The strategic behavior of firms is influenced by the unique combination of family-oriented and non-family-oriented goals (Chrisman et al., 2012; Classen et al., 2014). Prior research shows that the pursuit of family-oriented goals and the desire to protect the family's SEW affect decisions regarding the introduction of new products (Sciascia et al., 2015). Block, Miller, Jaskiewicz, and Spiegel (2013) argue that the family's focus on gaining and retaining its SEW might be in conflict with ambitious innovation projects and new product introductions because they often require funding and risky investments, have uncertain outcomes, and do not guarantee financial and reputational success, which can damage the family's SEW.

Family firms may also be less willing to engage in projects characterized by high outcome variance, such as the introduction of new products (Gómez-Mejía et al., 2007), because their owners often have invested their own financial resources in the firm, meaning that they will likely bear the financial burden if an investment fails (Gedajlovic et al., 2004). As a consequence, strategic decisions that are necessary but carry a lot of risk and uncertainty are assigned a lower priority or suspended from the firm's agenda due to the family's concern about losing wealth and security (De Massis et al., 2015b; Gómez-Mejía et al., 2007; Schulze et al., 2002). Because of this vulnerability, families often value risk avoidance and continuation of the current strategy more than the potential returns from new product introductions (Gómez-Mejía et al., 2007).

On the other hand, non-family-oriented goals, like profit maximization, growth, and increasing employment, are likely to positively influence new

product output, as introducing new products is seen as a way to achieve these goals and enhance performance. As stated by Harms, Reschke, Kraus, and Fink (2010), one of the key determinants of firm growth is innovation. By introducing new products, firms may be able to gain a better competitive position and possible first-mover advantages. As a result, these new product introductions can contribute to sales volumes and growth (Harms et al., 2010; Bruderl and Preisendorfer, 2000). Thus, firms with goals like increasing sales volumes, growth, and profit maximization are likely to introduce new products. Thus, we propose the following hypotheses:

Hypothesis 5a: Family-oriented goals negatively influence new product output.

Hypothesis 5b: Non-family-oriented goals positively influence new product output.

3. Methodology

3.1. Sample and Data Collection

The data used for this research was collected in May and June 2017 by means of a survey that was undertaken by telephone with managing directors of privately-owned, family and nonfamily, firms in the Netherlands. Contact information for the firms was retrieved from the general database of all private Dutch companies compiled by the Chamber of Commerce. The managing directors were targeted, as they held the information about the firm that was needed for this research, including information on innovation, firm goals, ownership, governance, and management. Therefore, they can be regarded as key informants (Chrisman et al., 2015; Kumar, Stern, and Anderson, 1993). The companies that were asked to participate in the survey were firms with a minimum of 25 employees. In order to achieve an appropriate representation of all firm sizes in the sample, stratification according to size was applied.

In total, 399 directors were surveyed. Due to missing data (i.e., answers of "I do not know" or "I do not want to say") and five outliers (firms with 18,000 to 110,000 employees), 255 cases were available for the final analysis. Most of the firms in the sample were SMEs (89.4%). The average firm age was 50 years. The firms predominantly operated in commercial services (51.8%), followed by manufacturing and construction (30.2%), agriculture (9.4%), and other sectors (8.6%). Most firms were in the hands of the first generation of owners (66.7%).

3.2. Measurements

As the targeted respondents were Dutch, the survey questions were translated from English into Dutch and back to English to ensure that their meaning stayed the same. The Appendix presents details regarding the measurement of the variables included in this study.

Family firm identity. Family firm identity is measured based on the scale proposed by Uhlaner et al. (2015). All five questions are measured on a yes/no scale. The mean score of all of the answers is calculated and ranges from 0 (no family firm identity) to 1 (high level of family firm identity). The scale has a Cronbach's alpha of 0.74 (see Table 1).

New product output. This variable is measured using four questions based on Avlonitis, Papastathopoulou, and Gounaris (2001), Beck, Janssens, Debruyne, and Lommelen (2011), and Cooper, Easingwood, Edgett, Kleinschmidt, and Storey (1994). These four questions capture the product innovation as being the "first to market" (Beck et al., 2011) and focus on the directors' perceptions of their own firms relative to competitors in relation to new product output. The mean of the values of the answers to these questions is used to measure new product output. The Cronbach's alpha of the measurement is 0.75.

Ability. The measurement of ability encompasses family involvement in management, governance, and ownership. Family involvement in management is measured as the "percentage of family directors," which is calculated based on the number of directors the firm has in total and how many of those directors are members of the owner's family. The measure of family involvement in governance is based on the total number of members on the board as well as the number of board members who are members of the owner's family. The variable "percentage of family members in governance" was calculated as the proportion of family members on the board to the total number of board members (Uhlaner et al., 2015). As the variable is skewed towards smaller values, it was transformed using the log10 function[2] (Pallant, 2013). Family involvement in ownership is measured based on two indicators: the percentage of the ownership in the hands of one family or a single person, and the percentage of family capital fixed in the company (Sciascia et al., 2015).

Willingness. The questions addressing the family-oriented goals are based on Chrisman et al. (2012) and are answered using a five-point Likert-type scale. The variable is calculated by taking the mean of all values of the answers to those questions. The Cronbach's alpha is 0.78. Furthermore, as successful transfer of

2. Note that the variable could have a value of 0, for which the logarithmic function cannot be applied. Thus, before the transformation, 1 was added to the original value of the variable.

the business is identified in the literature as an important family-oriented goal (Berrone et al., 2012) but it is not captured by Chrisman et al.'s (2012) measurement, we included a single question from Hauck, Suess-Reyes, Beck, Prügl, and Frank (2016) to address the importance of successful business transfer.[3] The questions addressing the non-family-oriented goals covered net profit, sales/revenue, and employment size as possible goals (Westhead and Cowling, 1997). This variable is calculated by taking the mean of the answers. No Cronbach's alpha was calculated for this variable as it is considered as a formative measurement of non-family-oriented goals.

Control variables. The control variables include company age, company size, and company sector. The age of the company is measured by asking respondents to indicate the year in which the company was established. We control for firm age because older companies are expected to have a more conservative strategic orientation than younger firms (Beck et al., 2011; Zahra, Hayton, Neubaum, Dibrell, and Craig, 2008) and younger companies have a greater tendency to introduce new products (Huergo and Jaumandreu, 2004). Moreover, as a firm ages, the owners may become more attached to it (Chrisman et al., 2012, 2015).

Company size is measured as the number of employees. This is a common control variable in innovation studies, as differences in company size may influence the firm's performance and resources. Moreover, prior research shows a positive relationship between company size and a firm's innovation, especially in terms of new product output (Hansen, 1992; Hitt, Hoskisson, and Kim, 1997; Steeger and Hoffmann, 2016). As company size is skewed towards smaller firms, the values were transformed using a log10 function in order to obtain a more normal distribution (Pallant, 2013).

To measure company sector, nine industries were listed according to the SBI 2008-2017 codes (CBS, 2016) and then transformed into four sectors: primary sector (raw materials and food), secondary sector (industry), tertiary sector (commercial services), and other (other industries). A dummy variable was created for each of the four sectors. The tertiary sector is used as the reference group in the regression analyses.

3.3. Factor Analysis and Correlations

Table 1 presents the exploratory factor analysis. All items load above 0.50 on the intended factors (Hair, Black, Babin, Anderson, and Tatham, 2006). Furthermore, the Cronbach's alphas of all scales are well above the recommended minimum of 0.70 (Nunnally, 1978). This indicates that the measurements used in this study are

3. We explored the possibility of combining these two measurements of family-oriented goals. However, the factor analysis showed that the additional item measuring successful business transfer does not load together with the other three items from Chrisman et al.'s (2012) scale.

reliable. As no factor explains more than 50% of the total variance, common method bias is not a concern (Fuller, Simmering, Atinc, Atinc, and Babin, 2016).

Table 1: Exploratory factor analysis

	FFI	NPO	Willingness_FOG	Willingness_NFOG
FFI_FAMNAM	**0.68**	-0.03	0.11	-0.16
FFI_FAMSTRAT	**0.57**	0.06	0.28	-0.05
FFI_FAMBUS	**0.71**	0.03	0.27	-0.01
FFI_FAMREL	**0.64**	0.02	0.16	0.13
FFI_FAMREL CUR PRE	**0.77**	-0.15	0.03	-0.08
FOG_HARMONY	0.25	-0.03	**0.83**	0.03
FOG_SOCIALSTATUS	0.17	-0.07	**0.82**	0.01
FOG_IDENTITY	0.38	0.13	**0.71**	-0.01
NFOG_PROFIT	0.06	0.11	-0.12	**0.73**
NFOG_REVENUE	-0.07	0.05	-0.04	**0.76**
NFOG_EMPL.OPP	-0.08	-0.04	0.17	**0.53**
NPO_FIRSTTOMARKET	-0.07	**0.74**	0.03	-0.08
NPO_MOREEFFECTIVE	0.06	**0.74**	0.03	0.05
NPO_NEEDSCLIENTS	-0.08	**0.73**	-0.09	0.16
NPO_MOREINNOV	0.04	**0.82**	0.02	0.02
Variance explained	23.51%	15.99%	9.55%	7.52%
Cronbach's alpha	0.74	0.75	0.78	

Note: N = 255. Extraction method: principal component analysis.
Rotation method: Varimax with Kaiser Normalization. Rotation converged in five iterations.
FFI = family firm identity; NPO = new product output; Willingness_FOG = family-oriented goals; Willingness_NFOG = non-family-oriented goals.

Table 2 presents correlations and bivariate statistics for all of the variables included in the study. The dependent variable correlates with the percentage of family members in governance, and with company size and age. A positive correlation is found between family firm identity and family-oriented goals, and between family firm identity and the family-oriented goal of business transfer. With respect to ability, only the percentage of family members in governance does not correlate with family firm identity.

Table 2: Correlations and bivariate statistics

		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
1.	NPO	1														
2.	FFI	-0.02	1													
3.	Willingness_NFOG	0.09	-0.10	1												
4.	Willingness_FOG	0.02	0.51***	-0.00	1											
5.	Willingness_FOG_BT	0.04	0.25***	0.05	0.30***	1										
6.	Ability_GOV_ PFam (lg10)	0.15*	0.02	0.03	0.01	-0.10	1									
7.	Ability_MAN_PFam	-0.01	0.49***	0.03	0.34***	0.31***	-0.14*	1								
8.	Ability_OWN_PFam	0.10	0.52***	0.04	0.34***	0.26***	-0.05	0.50***	1							
9.	Ability_OWN_FamCap	0.05	0.43***	0.04	0.27***	0.24***	-0.04	0.37***	0.51***	1						
10.	Company size (lg10)	0.19**	-0.08	0.12	-0.10	-0.13*	0.09	-0.18**	-0.05	-0.02	1					
11.	Company age	-0.12*	0.34***	-0.03	0.04	0.11	0.02	-0.01	0.03	0.03	0.01	1				
12.	Primary sector	0.03	0.20**	-0.19**	0.21**	0.10	0.02	0.19**	0.10	0.11	-0.08	-0.06	1			
13.	Secondary sector	0.05	-0.01	-0.01	-0.13*	-0.01	0.13*	-0.14*	-0.04	-0.06	0.04	0.18**	-0.21**	1		
14.	Tertiary sector	-0.09	-0.06	0.09	0.00	-0.06	-0.13*	-0.02	-0.01	-0.02	0.06	-0.09	-0.33***	-0.68***	1	
15.	Other sector	0.06	-0.08	0.05	-0.00	0.01	-0.01	0.07	-0.03	0.02	-0.08	-0.07	-0.10	-0.20**	-0.32***	1
Mean		3.58	0.48	3.78	3.09	3.27	4.58	57.83	72.74	53.85	179.83	50.36	0.09	0.30	0.52	0.09
SD		0.67	0.34	0.52	0.94	1.11	14.44	46.95	36.65	38.89	442.18	38.76	0.29	0.46	0.50	0.28

Note: N = 255. Pearson correlation coefficients, two-tailed: $^{*}p < 0.05$; $^{**}p < 0.01$; $^{***}p < 0.001$.
The reported means and standard deviations for company size (lg10) and Ability_GOV_ PFam (lg10) are values of the original variables.
SD = standard deviation; NPO = new product output; FFI = family firm identity; Willingness_NFOG = non-family-oriented goals; Willingness_FOG = family-oriented goals; Willingness_FOG_BT = family-oriented goals of business transfer; Ability_GOV_ PFam = governance: percentage of family members in the governance structure; Ability_MAN_PFam = management: percentage of family directors; Ability_OWN_PFam = ownership: percentage of ownership in the hands of one person or family; Ability_OWN_FamCap = ownership: percentage of family capital fixed in the firm.

3.4. Data Analysis

In order to test the mediation model proposed in this paper, we used the PROCESS tool developed by Hayes (2013). PROCESS is an appropriate tool for analyzing the mediation path that can be used in SPSS. The parallel multiple-mediation model used in this research is a causal model in which an independent variable, X, is modeled as influencing the dependent variable, Y, via multiple mediators M_i, assuming that the mediators do not causally influence each other (Hayes, 2013). The path from independent variable X to dependent variable Y is referred to as the direct effect (Hayes, 2013). The indirect effect from X to Y assesses the influence of the mediating variables M_i in terms of a causal sequence, where X influences M, which then influences Y. The total effect of X is calculated by summing up the direct and indirect effects. To check whether the indirect effect is significant, we utilized a bootstrapping technique (Hayes, 2013) using 5,000 bias-corrected bootstrap samples.

4. Results

The results of the mediation effect, including the predictive outcomes of ability and willingness and new product output, are presented in the following tables. Table 3 shows predictions for the effect of the independent variable *family firm identity* on the mediator *ability* (i.e., family involvement in management, governance, and ownership). Table 4 presents the results for the independent variable *family firm identity* when predicting the mediator *willingness* (i.e., non-family-oriented goals, family-oriented goals, and the family-oriented goal of business transfer). Finally, in Table 5 the dependent variable *new product output* is explained by the independent variable *family firm identity* and the variables reflecting the mediators *ability* and *willingness*. The models explain between 3% and 31% of the variance in the dependent variables. The variance inflation factor (VIF) scores for all models range from 1.02 to 1.20, which indicates that the models are free from multicollinearity (Hair at al., 2006).

Table 3: Prediction of ability

	Model 1 Ability_MAN_PFam (management)		Model 2 Ability_GOV_PFam(lg10) (governance)		Model 3 Ability_OWN_PFam (ownership)		Model 4 Ability_OWN_FamCap (ownership)	
	B–value	T–value	B–value	T–value	B–value	T–value	B–value	T–value
Constant	59.78	4.49***	-0.13	-0.79	51.98	4.94***	29.31	2.48*
FFI	73.73	9.19***	0.03	0.31	62.48	9.85***	54.59	7.65***
Company size (lg10)	-13.79	-2.26*	0.12	1.52	-0.57	-0.12	2.15	0.39
Company age	-0.21	-2.96**	-0.00	-0.07	-0.16	-2.82*	-0.12	-1.99*
Primary sector	8.22	0.91	0.11	0.94	-3.39	-0.48	0.97	0.12
Secondary sector	-7.15	-1.25	0.16	2.18*	-0.23	-0.05	-1.32	-0.26
Other sector	13.53	1.48	0.07	0.59	0.20	0.03	7.17	0.88
R^2	0.31		0.03		0.29		0.20	
F-statistic (df1, df2)	18.47***	(6, 248)	1.23	(6, 248)	17.02***	(6, 248)	10.54***	(6, 248)

Note: N = 255. *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$. B-values are unstandardized regression coefficients.
FFI = family firm identity; Ability_MAN_PFam = management: percentage of family directors; Ability_GOV_ PFam(lg10) = governance: percentage of family members in the governance structure; Ability_OWN_PFam = ownership: percentage of ownership in hands of one person or family; Ability_OWN_FamCap = ownership: percentage of family capital fixed in the firm.

Table 4: Prediction of willingness

	Model 1 Willingness_NFOG		Model 2 Willingness_FOG		Model 3 Willingness_FOG_BT	
	B–value	T–value	B–value	T–value	B–value	T–value
Constant	3.60	20.75***	2.76	10.28***	3.38	9.34***
FFI	-0.07	-0.71	1.45	8.97***	0.73	3.34***
Company size (lg10)	0.13	1.61	-0.11	-0.91	-0.29	-1.75
Company age	-0.00	-0.16	-0.00	-1.94	0.00	0.63
Primary sector	-0.33	-2.78**	0.24	1.30	0.22	0.89
Secondary sector	-0.05	-0.66	-0.17	-1.42	0.03	0.19
Other sector	0.06	0.47	0.06	0.35	0.13	0.53
R^2	0.05		0.29		0.08	
F-statistic (df1, df2)	2.36*	(6, 248)	17.06***	(6, 248)	3.69***	(6, 248)

Note: N = 255. *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$. B-values are unstandardized regression coefficients. FFI = family firm identity; Willingness_NFOG = non-family-oriented goals; Willingness_FOG = family-oriented goals; Willingness_FOG_BT = family-oriented goal of business transfer.

Table 5: Prediction of new product output

	NPO	
	B–value	T–value
Constant	2.49	6.31***
Ability		
Ability_MAN_PFam	-0.00	-0.45
Ability_GOV_PFam (lg10)	0.17	2.01*
Ability_OWN_PFam	0.00	1.57
Ability_OWN_FamCap	-0.00	-0.09
Willingness		
Willingness_NFOG	0.07	0.89
Willingness_FOG	-0.00	-0.00
Willingness_FOG_BT	0.04	0.10
Independent variable		
FFI	-0.04	-0.24
Controls		
Company size (lg10)	0.31	3.00**
Company age	-0.00	-1.95*
Primary sector	0.14	0.89
Secondary sector	0.11	1.18
Other sector	0.21	1.36
R^2	0.10	
F-statistic (df1, df2)	2.10* (13, 241)	

Note: N = 255. *: $p < 0.05$; **: $p < 0.01$; ***: $p < 0.001$. B-values are unstandardized regression coefficients.
NPO = new product output; FFI = family firm identity; Ability_MAN_PFam = management: percentage of family directors; Ability_GOV_ PFam = governance: percentage of family members in governance; Ability_OWN_PFam = ownership: percentage of ownership in hands of one person or family; Ability_OWN_FamCap = ownership: percentage of family capital fixed in the firm. Willingness_NFOG = non-family-oriented goals; Willingness_FOG = family-oriented goals; Willingness_FOG_BT = family-oriented goal of business transfer.

Table 3 presents the results when the independent variable *family firm identity* is used to predict the mediator *ability*, as reflected by management, governance, and ownership. Family firm identity is positively and significantly related to the percentage of family directors (B = 73.73, $p < 0.001$, Model 1), the percentage of family ownership (B = 62.48, $p < 0.001$, Model 3), and the percentage of family capital that is fixed in the firm (B = 54.59, $p < 0.001$, Model 4). Model 2 shows predictions for the percentage of family members involved in governance, but the results are non-significant (B = 0.03, ns). Thus, the results allow us to (partially) accept Hypothesis 2.

Table 4 presents the results for the prediction of the mediator *willingness*. Family firm identity significantly predicts family-oriented goals (B = 1.45, $p < 0.001$, Model 2) and the family-oriented goal of business transfer (B = 0.73, $p < 0.001$, Model 3), but it is not related to the non-family-oriented goals (B = -0.07, ns, Model 1). Thus, Hypothesis 3a is accepted, while Hypothesis 3b is not supported.

Table 5 shows the predictions for the dependent variable *new product output*. The model explains 10% of the variance in the dependent variable. The independent variable, *family firm identity*, does not have a significant effect on *new product output* (B = -0.04, ns), providing no support for Hypothesis 1. Only one aspect of ability—the percentage of family members in governance—shows a significant, positive effect on new product output (B = 0.17, $p < 0.05$). Other indicators of this variable are not significant, which means that we cannot accept Hypothesis 4. As the variables representing willingness do not show a significant effect on new product output, Hypotheses 5a and 5b are not supported.

The total effect of the independent variable *family firm identity* on the dependent variable *new product output* is not significant (B = 0.09, BootLLCI = -0.18, BootULCI = 0.35).[4] The same is true for the direct effect of family firm identity on new product output (B = -0.04, BootLLCI = -0.41, BootULCI = 0.32). Lastly, the indirect effect (i.e., the mediating effect of ability and willingness on the relationship between family firm identity and new product output) is not significant (B = 0.13, BootLLCI = -0.12, BootULCI = 0.39).

As the mediation effect of ability and willingness on the relationship between family firm identity and new product development (measured as new product output) is not significant, an alternative measurement of new product output is used to further explore the model. The alternative measurement concerns the "newness" of the introduction (see the Appendix), and reflects whether the innovation was new to the firm, the industry, or the world (Brouwer and Kleinknecht, 1996b; Laursen, Masciarelli, and Prencipe, 2012). With exception of the effect of the percentage of family members in governance, which becomes

4. BootLLCI and BootULCI refer, respectively, to the lower and upper bounds of the 95% confidence interval based on the bootstrapping technique. If the confidence interval includes zero, the assessed effect is not significant (Hayes, 2013).

insignificant, the predictions regarding the dependent variable remained unchanged in this analysis.[5]

Based on these results, we can conclude that family firm identity does not have a significant influence on new product output. Moreover, this relationship is not significantly mediated by ability and willingness.

5. Discussion, Limitations, and Recommendations

5.1. Discussion

Family firm identity and new product output. Contrary to expectations, we found no direct relationship between family firm identity and new product output. The literature offers inconsistent and contradictory results for the effect of family firm identity on new product output, and this issue is widely debated. While we argued for a negative association, some research shows a positive link, which has been attributed to the unique resources and characteristics of family firms (Classen et al., 2014; Cassia et al., 2012), including long-term orientation (Zellweger, 2007), informal knowledge sharing (Zahra, 2012), and stewardship behavior (Eddleston and Kellermans, 2006), which may stimulate the introduction of new products. These contradictory arguments may explain why we found no significant (negative) relationship—some elements of family firm identity may lead to positive links with new product output, while others may lead to a negative relationship.

Another reason for the non-significance of the relationship between family firm identity and new product output may lie in the wide range of family firm and innovation output definitions. No consistent definitions of the family variable are used in the family business literature, making comparison between research challenging (Klein et al., 2005). The same applies to definitions of innovation output. In this paper, we chose to examine the introduction of new products and/or services, while other researchers have focused on such aspects as technological or patent innovation output (Brouwer and Kleinknecht, 1996a; Chrisman et al., 2015; Matzler et al., 2015).

Yet another reason is the suggestion that firms with high levels of family-firm identity may, in fact, not be very different from firms with low levels of family-firm identity with regard to innovation. Firms with a high degree of family-firm identity might be as heterogeneous in their approaches to innovation and new product output as firms with low levels of family-firm identity (Chrisman et al., 2015). Moreover, the literature suggests that other indicators may explain innovation output to a greater extent than the level of family-firm identity. Such

5. As newness of the introduction is an ordered, categorical variable, the ordered multinomial logit regression was used to predict the dependent variable.

indicators may include R&D intensity, radicalness, and the firm's internationality (Steeger and Hoffmann, 2016).

Ability and new product output. This paper also proposes that ability, as expressed by the involvement of the family in ownership, management, and governance, positively influences new product output. However, the analysis shows surprising results, with only a positive, significant influence of governance on new product output, while the other aspects of ability have no significant impact on new product output. The literature suggests a possible explanation for this non-significance: if a family has the power to influence new product output, whether the family actually uses that power to influence the firm's behavior, especially its new product output, depends on the situation (Zellweger et al., 2010). Other elements may also have an influence. Some research indicates that the propensities to innovate and introduce new products are likely to be based on a trade-off between current and future control, and the importance of, for example, survival, performance aspirations, profitability, and intra-family succession (Berrone et al., 2012; Chrisman et al., 2015). Another explanation stems from the typology of active and passive family influence and involvement, whereby only active family involvement is positively associated with innovation output (Matzler et al., 2015).

Willingness and new product output. In this study, we expected a relationship between willingness (as expressed by family-oriented goals and non-family-oriented goals) and new product output. However, we found no significant relationship between the constructs. This contradicts the extant literature. One possible reason for the non-significant relationship is that family-oriented and non-family-oriented goals do not have a direct influence on new product output but are more closely related to innovation input and innovation activities. Innovation output is often partially dependent on decisions and outcomes from earlier stages, such as the innovation input and innovation activities stages.

5.2. Limitations and Recommendations

Although extensive effort has been made to ensure that our research methodology was appropriate, this study has several limitations. First, we applied the power aspect of ability. De Massis et al. (2015a) and Matzler et al. (2015) suggest a need to also consider the resources aspect of ability, including social-, human-, relational-, and financial-capital resources. These resources and capabilities determine whether an innovation input is effectively used and transformed into innovation output (Matzler et al., 2015). Therefore, future research may wish to take into account both the ability as discretion to act and ability as resources

perspectives to derive a more comprehensive view of the impact of ability on innovation.

Second, this is a cross-sectional study. Longitudinal methods could be used to test the effect of variables predicting innovation and to determine how changes in these constructs affect the relationships. Zellweger and Sieger (2012) claim that innovativeness changes and oscillates over time, and they also suggest using longitudinal research.

Third, we measured family involvement in governance as family presence on the board. However, the majority of firms in this sample do not have a board. This is in line with the research on governance in private Dutch firms, which finds that only 7.9% of those firms have a board and that this percentage is even smaller among family firms (7.1%) (Berent-Braun et al., 2013). Thus, future research could measure family involvement in governance based on other indicators, such as the presence of various governance practices, including a family charter, a family code of conduct, or a family council (Berent-Braun and Uhlaner, 2012).

The fourth limitation of this research is the fact that we only measure innovation output. We therefore suggest that researchers investigate the relationships among family firm identity, the ability and willingness model, and innovation input and/or activities (Chrisman et al., 2015).

The final limitation concerns the mutual relationship that may exist between ability and willingness. In this study, we assumed that these aspects do not influence each other. However, other authors propose that ability and willingness are intertwined (e.g., Chrisman et al., 2015). For example, the structure of ownership, management, and governance is likely to influence the firm's (long-term) goals, investment horizons, and risk profile (Chrisman, Sharma, Steier, and Chua, 2013; De Massis et al., 2013, 2015b; Steeger and Hoffmann, 2016). However, the literature offers inconsistent views on this issue and these relationships tend to be complex. Interestingly, our study shows significant correlations between almost all aspects of ability and willingness.[6] This indicates a possible avenue for further research in which ability and willingness could be explored as serial mediators (see Hayes, 2013). As longitudinal data should be used to test such a model and as our data are cross-sectional, we could not carry out the relevant tests.

6. Conclusions

The main aim of this study was to examine whether family firm identity has a direct influence on new product output, and whether this relationship is mediated by ability and willingness. Based on quantitative research covering 255 private

6. Note that the fact that the mediating variables are correlated with each other does not violate the parallel mediation model, as a lack of a relationship between the mediators is an assumption rather than a condition in this type of analysis (Hayes, 2013).

Dutch companies, our results indicate that the relationship between family firm identity and new product output is not mediated by ability or willingness. However, we have found a relationship between family firm identity and some aspects of ability and willingness. We also have found that new product output is enhanced by one aspect of ability, that is family involvement in governance.

As such, this research emphasizes two key elements when family firm identity is at play in a firm. First, the power and authority structures are likely to be influenced by the integrated identities of the family and the firm, meaning that families tend to maintain control of the firm via ownership, management, and governance especially when this integration is high. Second, the goals that a firm works toward are influenced by the family, such that family-oriented goals are often pursued in addition to the non-family-oriented, more economic goals. Family members, nonfamily decision makers, and advisors should be aware of these dynamics, which may influence what is viewed as important in the firm. Boundaries between the firm and the family can become blurred (Berrone et al., 2012; Hauck and Prügl, 2015), which can influence the firm and its employees. In addition, family firms are often viewed as lacking the motivation to innovate. However, this study does not support the conclusion that status as a family firm significantly affects the introduction of new products. In fact, the results indicate that family firms, with their specific goals and family involvement in ownership, management, and governance, are not less innovative than their nonfamily counterparts. Therefore, nonfamily decision makers would be well served to recognize that although family control and goals may be in place, they are unlikely to hamper innovation output.

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Appendix: Survey questions

Construct and source	Question and answer categories
Independent variable	
Family firm identity (FFI) (Uhlaner et al., 2015)	The family name of one or more owners is incorporated in the company name. (FFI-FAMNAM) One family has significant influence on the business strategy. (FFI-FAMSTRAT) Do you consider this business as a family business? (FFI-FAMBUS) Is there a family relationship between two or more of the company's owners? (FFI-FAMREL) Is there a family relationship between the current owner and the previous owner or owners? (FFI_FAMREL CUR PRE) *For each question: 1 = yes, 0 = no.*
Dependent variable	
New product output (NPO) (Avlonitis et al., 2001; Beck et al., 2011; Cooper et al., 1994)	Our business is often one of the first to bring innovative products and services to market. (NPO-FIRSTTOMARKET) Our business is more effective than our competitors at converting existing ideas into improved products or services. (NPO-MOREEFFECTIVE) Our business is better than our competitors at developing products and services to meet customer needs. (NPO-NEEDSCLIENTS) Our business is perceived by the customers as more innovative than our competitors. (NPO-MOREINNOV) *For each question: range from 1 = completely disagree to 5 = completely agree.*
Newness of the introduction (Brouwer and Kleinknecht, 1996b; Laursen et al., 2012)	Which 'type of innovation' was introduced in the last three years? 0 = no new products introduced 1 = new to the firm 2 = new to the industry 3 = new to the world
Mediators	
Ability Governance (Uhlaner et al., 2015)	Percentage of family members in the firm's governance structure (i.e., supervisory and/or advisory boards). (Ability_GOV_PFam) Calculated: family board members/total board members (x 100). *Numbers filled in by respondent.* Note: Cases with no board (194 cases) are coded as 0%.
Management	Percentage of family directors. (Ability_MAN_PFam) Calculated: family directors/total firm directors (x 100). *Numbers filled in by respondent.*
Ownership (Sciascia et al., 2015)	What percentage of the ownership is in the hands of one person or one family? (Ability_OWN_PFam) *Numbers filled in by respondent.* What percentage of the family capital of the owner or owners is fixed in the company? (Ability_OWN_FamCap) *Numbers filled in by respondent.*

Willingness Family-oriented goals (Willingness_FOG) (Chrisman et al., 2012)	Harmony among the family members of the business owners is an important goal in making my business decisions. (FOG-HARMONY) The social status of the owners and their family is an important factor in making my business decisions. (FOG-SOCIALSTATUS) Our business is closely linked to the identity of the owners and their family. (FOG-IDENTITY) *For each question: range from 1 = completely disagree to 5 = completely agree.*
Family-oriented goal of business transfer (Hauck et al., 2016)	Successful business transfer is an important goal of the owners. (Willingness_FOG_BT) *Range from 1 = completely disagree to 5 = completely agree.*
Non-family-oriented goals (Willingness_NFOG) (Westhead and Cowling, 1997)	Can you indicate the extent to which the following goals are important for your business for the next five years? 1) Increase net profit. (NFOG-PROFIT) 2) Increase sales level. (NFOG-REVENUE) 3) Increase employment size. (NFOG-EMPL.OPP) *For each question: range from 1 = completely disagree to 5 = completely agree.*
<u>Control variables</u>	
Company age	When was the company originally established? *Year filled in by respondent.*
Company size	How many employees, including yourself, are currently working in your company in the Netherlands and (if applicable) abroad? *Number filled in by respondent.*
Sector	Can you describe the company's main activity? *A = Agriculture or fishing* *B = Industry* *C = Wholesale or retail* *D = Construction* *E = Transportation or communication* *F = Hospitality* *G = Financial services* *H = Business services* *I = Other services* Coding: Primary Sector: A Secondary Sector: B and D Tertiary Sector: C, E, F, G, and H Other sector: I