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Mindfulness, Socio-emotional Wealth, and Environmental Strategy of Family Businesses

ABSTRACT

The study advances knowledge in the field of business strategy and the environment by incorporating mindfulness theory into the research on socio-emotional wealth (SEW) and its environmental consequences in family businesses. Using an integrative model, the paper investigates the relationship between mindfulness SEW dimensions and family firms' environmental strategies, specifically in developing sustainable products and processes. This study also proposes the firm's capabilities as a mediator in this relationship, while market turbulence is a moderator in the relationship between the firm's capabilities and sustainable products and processes.

The empirical results show that in protecting SEW, specifically in the identification of family members with the firm and binding social ties, mindfulness provides a rich endowment that develops appropriate capabilities to produce sustainable products and processes. While the moderating role of market turbulence is insignificant, we can infer that irrespective of how turbulent (or not) the market is, the firm's capabilities are a key determinant of sustainable products and processes. Our findings offer theoretical and managerial implications for sustainable practices in the family business context.

Keywords: family firms; mindfulness; socio-emotional wealth; capabilities; sustainable products and processes

Introduction

Mindfulness is a cognitive state of alertness and proactive awareness (Langer, 1989) that considers the way people or organizations reflect, collect information, perceive the world around them, and are thus motivated to change their perspective in accordance with the current circumstances, in order to achieve desirable outcomes (Ndubisi, 2012, 2014). Prior research has demonstrated that family firms are typically motivated by, and committed to, the sustainability of socio-emotional wealth (SEW), a mindfulness-based concept referring to nonfinancial aspects or the “affective endowments” of family owners (Gómez-Mejía et al., 2011; Naldi et al., 2013). Although some family firms tend (mindlessly) to protect their ownership position even if this means accepting an increased risk of poor firm performance (Gomez-Mejia et al., 2007; Morck and Yeung, 2003), others deploy mindful approaches to create value for the customers, the firm, and the planet. Regarding the link between environmental value, organizational mindfulness, and strategy, some mixed results have been reported by researchers, who found a significant relationship between nonfinancial aspects of family firms and their community-based corporate social responsibility (Block, 2010; Block and Wagner, 2014), even if they have a less proactive environmental strategy (Calza et al., 2016).

Nonetheless, positioning themselves as an environmentally mindful organization has gained some firms sustainable competitive edge. For example, Body Shop is a clear leader in the green cosmetics market and differentiates itself as a firm that enriches people as well as our planet, its biodiversity, and its resources, and reflects this image in its “Enrich Not Exploit™. It’s in our hands” campaign (<https://www.thebodyshop.com/commitment/manifesto>). Both scientific and anecdotal evidence corroborates the notion that one of the ways to help firms gain a stronger position and competitive advantage is through a proactive environmental strategy (Calza et al.,

2016). Moreover, an environmental strategy such as developing sustainable products and processes could bring positive implications for the environment while perpetuating business longevity and responsible public perceptions. According to resource-based scholars, there is a path-dependent between capabilities and strategy. Collis (1994) defined capabilities as socially complex routines that determine the efficiency with which an organization physically transforms inputs into outputs. As such, it is important to examine the link between capabilities and environmental strategy from family firm perspective. Indeed, family businesses that aim to preserve their SEW by portraying a positive public image in the community are found to have better environmental performance (Block and Wagner 2014; Berron et al., 2010) and more stable environmental behavior over time (Dolucà et al., 2017). However, the literature is inconclusive on this notion and research findings on these relationships remain inconsistent. Whilst some scholars have found family ownership to have a negative association with community-related corporate social responsibility performance (Block, 2010; Block and Wagner, 2014), others argue that family firms have a less proactive environmental strategy (Calza et al., 2016) and are less keen on natural environmental policies and social responsibility activities compared to nonfamily firms (Craig and Dibrell, 2006; Dyer and Whetten, 2006). As the evidence regarding the influence of SEW and other mindfulness-based approaches on firms' environmental practices/initiatives has so far been mixed, it is possible that this relationship is dependent on other contingent factors, which are best examined in a more comprehensive model. Our paper extends this line of research by investigating the impact of mindfulness-oriented SEW on family firms' strategy to develop sustainable products and processes. The integrative model (Figure 1) in this study considers the mediating and moderating variables that more fully explain the nature of the relationship between SEW and family firms' environmental strategies.

INSERT FIGURE 1 HERE

Drawing from resource-based theory (Ray et al., 2004; Chandler and Hanks, 1994; Sirmon et al., 2007), we propose that the firm's capabilities are a mediator in this main relationship. A family firm developing sustainable products and processes would require appropriate resources and capabilities. When family businesses are mindful of preserving their affective endowment (resources), they can develop stronger organizational control and a culture that strengthens their capabilities, which can lead to sustainable products and processes. By developing sustainable products and processes, a family firm could achieve and maintain a competitive advantage in the marketplace whilst satisfying its SEW endowment (Porter and van der Linde, 1995). We also take the position that market turbulence works as a catalyst to moderate the relationship between a firm's capabilities and sustainable products and processes. When the market is more turbulent, it will encourage the firm to use its capabilities to produce more sustainable products and processes, to fulfill the needs and demands of unpredictable customers.

The remainder of the paper is organized as follows: following this introduction is the theory and hypothesis section, which sets out the argument for the links among SEW and mindfulness, the firm's capabilities, and sustainable products and processes, as well as the moderating role of market turbulence. Next is a detailed discussion of the research method, including the conceptualization and operationalization of the relevant variables, a presentation and discussion of the results, and the theoretical and managerial implications of the findings. The paper concludes with a highlight of the study's limitations and suggestions for further research.

Mindfulness and Socio-emotional Wealth

SEW is a complex, multifaceted construct that can be considered as a mindfulness-oriented perspective, because it involves “the connection and sharing of the mindfulness of individuals to create new meaning and knowledge that will help both individuals and the organization achieve greater congruence between their intentions and outcomes” (Malhotra et al., 2012, p. 608). It is an intentional/mindful act found in family firms that aims to preserve their accumulated endowment in the firm and shapes the framing of problems, becoming the primary reference point for guiding managerial choice. Mindfulness includes being alert to different contexts and multiple perspectives that can help the organization to achieve desirable outcomes (Ndubisi, 2014). Zellweger (2014) outlines several characteristics in the collective mindfulness of controlling families in business. These family firms acknowledge multiple interpretations and perspectives, and are open to uncertainty arising from the family and business interface. Mindful family firms have their unique way of combining family and business interests, by obtaining a realistic outlook on their surroundings (Langer, 1989). As a result, mindful family firms realize the importance of commitment to the environment by producing sustainable products and processes, whilst preserving the endowment of SEW in the business.

Berrone et al. (2012) propose five dimensions of the SEW construct to capture the affective endowment of family owners: 1) family control and influence; 2) identification of family members with the firm; 3) building social ties; 4) emotional attachment; and 5) renewal of family bonds through dynastic succession (FIBER). These dimensions have been used and validated in several family business studies (e.g., Debicki et al., 2016; Hauck et al., 2016; Angulo et al., 2016). Among the five dimensions, family control and influence represent the desire of family owners to exert their control and influence on the business to preserve the family endowment (Gómez-Mejía et al.,

2007; Pukall and Calabrò, 2014). The focus on strong family control suggests a tendency not to migrate decisions to experts (who are capable of making them), a key hallmark of organizational mindfulness (Ndubisi, 2012; Weick et al., 1999). It appears to ignore the broader perspective, and the overall interest, utility, and position of the business and its stakeholders. In addition, this dimension is inward looking and does not support the active perception of cues in the business environment in order to respond appropriately; thus, it can be viewed as unmindful.

Mindfulness involves the ability to scan the environment and take effective actions that aim to create an organizational environment with smooth interaction of perception and action (Grove, 1996). Organizational mindfulness is a combination of ongoing scrutiny of existing expectations, continuous refinement and differentiation of expectations based on newer experiences, willingness and capability to invent new expectations that make sense of unprecedented events, a more nuanced appreciation of context and ways to deal with it, and identification of new dimensions of context that improve foresight and current functioning (Ndubisi, 2012; Weick and Sutcliffe, 2001). It also focuses on an organization's ability to observe, interpret, and respond to cues in an appropriate manner. It helps the firm respond successfully to the opportunities and threats presented by a competitive marketplace, by conducting effective organizational reforms. Extant research argues that mindfulness has a positive effect on (resource) sustainability and facilitates the transformation of mindful consumption to opportunity by creating mutual value for all stakeholders (Ndubisi, 2014), being accountable to them, and identifying with them (the stakeholders). As such, the last four SEW dimensions embed the mindfulness philosophy and are dubbed MSEW (mindful SEW) in this study. These include:

- a) Identification of family members with the firm:* denotes the deep sense of belonging to the firm among family members, which strengthens their dedication to pursuing the best outcomes for

the business (e.g., Craig and Dibrell, 2006; Deephouse and Jaskiewicz, 2013). Identification of family members with the organization can enhance sensitivity to the needs of the members and the firm, and to their contexts, different perspectives, and interests. It facilitates peer discussion, as well as open and frequent communications. In their study, Waldron et al. (1995) found that peer leaders who used frequent and open communications prompted mindfulness in discussion participants, whereas Langer (1989) showed that mindfulness enables active and fluid information processing, sensitivity to context and multiple perspectives, and the ability to draw novel distinctions. The purposeful interactions between family members and the firm give rise to a unique identity within the family (Berrone et al., 2012).

- b) *Binding social ties*: refers to the interaction between the family firm and nonfamily stakeholders of the business, such as nonfamily employees, suppliers, customers, and their communities or social networks (e.g., Berrone et al., 2012; Miller and LeBreton-Miller, 2005). Such interactions are capable of enhancing mindfulness's attribute of detecting important aspects of the context and taking timely, appropriate actions (Ndubisi, 2012). They are also vital to achieving strategic goals and the overall mission, and central to leading and facilitating collaboration in organizations (Bayraktar and Ndubisi, 2014; Malhotra et al., 2012). When the ability to scan the environment and take effective actions is present in a family firm, it can engage actively in its community and develop kin ties with stakeholders. The engagement with external stakeholders provides great sources in developing business capabilities and has significant impact on perceived family business performance (Niehm et al., 2008, Fitzgerald et al., 2010).
- c) *Emotional attachment*: refers to the role of emotions in a family business context, where members are held together to connect with one another emotionally, in intimate relationships

(e.g., Berrone et al., 2012; Cruz et al., 2014). Emotional attachment through the creation of intimate relationships promotes the mindful behavior of considering the perspectives of others, sensitivity to their needs and contexts, and adapting accordingly (Burgoon et al., 2000; Sternberg, 2000). Prior studies in the field of psychology also show that mindfulness is related to emotional attachment and produces many positive outcomes, such as relationship satisfaction, well-being, and self-esteem (Barnes et al., 2007; Brown and Ryan, 2003).

d) Renewal of family bonds through dynastic succession: is the desire to hand the firm down to future generations, where the founders/owners strive to preserve their legacy and safeguard continued family control through intergenerational succession (e.g., Zellweger et al., 2011; Fitz-Koch and Nordqvist, 2017). Succession usually results in many conflicting issues in family businesses (Miller et al., 2003; De Massis et al., 2008), thus it requires careful planning. Through dynastic succession, potential successors are identified and groomed in relevant skills or expertise. They would later become experts to whom decisions are migrated. Migration of decisions to experts as a mindful approach refers to a departure from hierarchical decision structures to permit problems to migrate to the experts most capable of solving them (Weick et al., 1999). As such, this helps family firms to achieve greater cohesion between their aims and outcomes (Malhotra et al., 2012).

MSEW, Capabilities, and Sustainable Products and Processes

SEW preservation explains many strategic choices of family firms, which include organizational capabilities, stakeholder relations, and corporate social responsibility (Hauck and Prüggl, 2015; Gómez-Mejía et al., 2011). MSEW dimensions would provide sufficient resources for a family business to develop the relevant capabilities. According to Glomb et al. (2011), there is strong

consensus in the literature that mindfulness results in better workplace functioning. Previous research also found that mindfulness among strategic partners is positively associated with relationship quality (Quaglia et al., 2015) and stability (Saavedra et al., 2010). Mindful effort in strengthening the firm's identity and family-to-firm identity can increase the cohesion and commitment to adopt good internal management processes and positive behavior toward building relevant organizational capability (Riketta, 2005; Chirico and Salvato, 2016; Zellweger et al., 2012). The sense of belonging (entrenched in SEW) promotes the stability that is important to developing the firm's capabilities, which would be beneficial to its long-term environmental strategy. In addition, mindful building of social networks encourages sustained attention and improves communication with strategic partners (Wachs and Cordova, 2007). These interactions generate social capital (Chirico and Salvato, 2016; Lin et al., 2006; Dyer, 2006), relational trust (Cennamo et al., 2012), and mutual satisfaction and commitment (Ndubisi, 2012). As a result, unique social ties have a positive effect on innovative work employment (Bammens et al., 2015).

Emotions can affect the family's attachment in a positive way through business processes, behavior, group dynamics, and/or performance (Kellermanns and Eddleston, 2007; Hauck and Prügl, 2015). Miller and LeBreton Miller (2006) proposed that emotional attachment causes family managers and executives to be deeply concerned about their firm's future and thus make good decisions. Through intergenerational succession, founders/owners strive to preserve their legacy, leading to a long-term orientation or long-term horizon in business outlook, and accumulation of patient capital (Sirmon and Hitt, 2003). This orientation or outlook nurtures a strong organizational culture that is mission oriented, and shapes a clear organizational structure and task delegation in family firms. Taken together, having a mindful approach of intentionally strengthening family-to-firm identification, building social networks, encouraging emotional attachment among family

members, and protecting the family legacy through succession planning can have positive effects on a family firm's capabilities. They can offer a great bundle of operant and operand resources by helping to cultivate or access competent and talented executives, capital, leadership skills, and sustainable organizational culture, among others. Hence, we hypothesize:

H1a: Identification of family members with the firm has a positive impact on firm's capabilities.

H1b: Binding social ties have a positive impact on firm's capabilities.

H1c: Emotional attachment has a positive impact on firm's capabilities.

H1d: Renewal of family bonds through dynastic succession has a positive impact on firm's capabilities.

A firm's unique capabilities are the distinctive competencies that are difficult for rivals to imitate and thus allow the firm to enjoy sustainable profits. These specific competencies include tasks such as planning, coordinating activities, efficient allocation of resources to achieve organizational goals, and people management. These capabilities allow a family firm to assign and distribute its resources and activities properly, leading to organizational success (Sirmon et al., 2007). Comparing to other types of organization, family firms are commonly known to have more idiosyncratic structures, incentives, and resources that allow fast decision making, which is important to facilitate organizational resources and sustainable practices (Habbershon and Williams, 1999). There is a generally held belief that family firms outperform non-family firms because of potential capabilities gained and long-term perspectives (Poza 2009; Rutherford, Kuratko, & Holt 2008). Familiness is suggested as a source of competitive advantage that generates a firm's wealth and value creation (Habbershon, Williams, & MacMillan, 2003; Chrisman, Chua, & Litz, 2004). According to resource-based capabilities scholars, there is a direct relationship between capabilities and environmentally sustainable strategies (Sharma and Vredenburg, 1998; Aragón-Correa and Sharma, 2003; Surroca et al., 2010; De Medeiros et al.,

2014; Yu and Ramanathan, 2016). Capabilities are found to be associated with better strategic focus, innovative human resource policies, and performance in Spanish family firms (Garcés-Galdeano et al., 2016). Family involvement within a firm could result in family-specific capabilities that would lead to better outcomes (Pearson et al., 2008) or sustainable products. Sustainable products and processes can serve as a marker of how successful a firm's environmental strategy is. For example, Body Shop takes pride in its sustainable products and processes, and uses those to demonstrate its environmental sensitivity and genuine interest in advancing society's well-being. The firm's capabilities lie in its operant and operand resources, which include its people, skills, know-how, and high-quality and environmentally friendly materials and supplies. These, in the right combinations, deliver the firm's sustainable products and processes. Similarly, this study argues that family firms' capabilities will culminate in sustainable products and processes. Therefore, we propose:

H2: Firm's capabilities have a positive impact on sustainable products and processes

Mediating Role of Firm's Capabilities

Based on the earlier hypotheses, we also acknowledge that firm's capabilities are the mediator between the MSEW dimensions and sustainable products and processes. The role of capabilities as a mediator has been extensively discussed by many scholars (e.g., Hitt et al., 2011; Lu et al., 2010; Sapienza et al., 2006; Johnson and Filippini, 2013). They are often used as a mediator between organizational resources and output. While a family firm possesses distinctive resources from the preservation of SEW, firm-level capabilities manage and deploy these resources to realize competitive advantage through effective strategy (Sirmon et al., 2007). Developing sustainable products and processes is an important strategy that helps to achieve competitive advantage (Dechant and Altman, 1994; Sharma and Vredenburg, 1998; Calza et al., 2016; Epstein et al.,

2015). The ability to assemble, integrate, and deploy the specific endowment generated from MSEW dimensions is of high importance. Without these capabilities, family firms would not be able to conceive, choose, and implement a strategy such as sustainable product and processes. The relationship between MSEW dimensions and environmental practices so far has been equivocal. We suggest that firm's capabilities could be the mediator that can better explain this relationship. This leads us to formulate the following hypotheses:

H3a: Firm's capabilities mediate the relationship between identification of family members with the firm and sustainable products and processes.

H3b: Firm's capabilities mediate the relationship between binding social ties and sustainable products and processes.

H3c: Firm's capabilities mediate the relationship between emotional attachment and sustainable products and processes.

H3d: Firm's capabilities mediate the relationship between renewal of family bonds through dynastic succession and sustainable products and processes.

Moderating Effect of Market Turbulence

Market turbulence refers to the rate of change in customer preferences (e.g., Jaworski and Kohli, 1993). Hult et al. (2004) define market turbulence as rapidly changing buyer preferences, which include diverse needs and wants, continual buyer entry and exit from the marketplace, and stress on new product offerings (p. 432). Similarly, Calantone et al. (2003) recognize that operating in turbulent environments heightens the need to make risky investments, which include innovation in sustainable products and processes. Scholars have argued that the effects of firms' strategies may vary under different market conditions, thus supporting the moderating role of market turbulence in strategic choices, such as the effects of firm's capabilities on business outcomes

(Santos-Vijande and Álvarez-González, 2007; Wang et al., 2015). The environmental concern of consumers is rising and the number of them who prioritize environmental preservation over economic growth is increasing (González-Benito and González-Benito, 2006). In addition, prior studies highlight the importance of pressure from the market for environmental strategies (Sharma and Henriques, 2005; Moon, 2007). As pressure for more environmentally sensitive behaviors mounts and sustainability issues rise over time, rapid changes in customer preferences for compliant brands and their makers would drive family firms to develop more sustainable products and processes using their capabilities. This leads to the following hypothesis:

H4: Market turbulence moderates the relationship between firm capabilities and sustainable products and processes positively.

Empirical Study

The contact list for our study consisted of 238 family businesses. Out of those, 182 were associated with the Khalifa Fund for Enterprise Development (KFED), and 56 were in the network of an innovation and entrepreneurship research group at United Arab Emirates University. Of the 238 family businesses surveyed, 8% indicated that their organization was in the start-up phase, 53% in the growth phase, 29% in the maturity phase, and 10% in the decline phase. The enterprise's average operating age was 15 years, and the average work experience of owners was 23 years. Of the enterprises surveyed, 45% were predominantly manufacturing companies, 30% service companies, and 25% retail companies.

The content of the survey instruments was the result of modifying previously validated indicators in the literature to our specific research objectives. The following variables were considered as first-order reflective constructs: MSEW dimensions (identification of family members with the

firm-IFM, binding social ties-BST, emotional attachment of family members-EAFM, and renewal of family bonds through dynastic succession-RFB), firm capabilities (FC), sustainable products and processes (SPP), and market turbulence (MT). Moreover, various control variables related to firm-specific characteristics and sector of activity were included in the analyses to ensure proper model specification. More specifically, we included various firm-level variables such as firm age, firm size, venture life-cycle stage (VLC), number of family members (NFM), generation (GEN), and sector-related variables such as industry type (IT) and primary product (PP). These control variables have been shown to relate to firm performance (Schepers et al., 2014), but are not directly relevant to our hypotheses.

The questionnaire was adapted for use in Arabic through an iterative process of translation and back-translation by a bilingual team, with a view to assuring equivalency in meaning (Brislin, 1980). Once the survey was designed, it was subjected to an initial pre-test with four members of family businesses in order to check the comprehensibility and adequacy of all indicators in the family business context. Moreover, independent sample t-tests between the two groups of data collected from firms in the KFED list and firms in the research group network were performed to identify any possible systematic differences regarding structural criteria (e.g., industry type, firm age in years, and firm size) and regarding the MSEW scale between the respective subsamples. The results of these tests showed no significant differences relevant to the subsequent procedure.

For the survey, we contacted the firms by phone and screened them to check that they belonged to our target population. The survey instruments were distributed and collected by a group of research assistants. Two sets of questionnaires were administered to each family business: one to the family owner-manager and the other to a nonfamily manager within the same business. FC and MSEW

dimensions were measured using data from family owner-managers, as they were expected to provide more objective and reliable data on these variables. SPP was measured using responses from nonfamily managers. The collection of data from multiple respondents was performed to avoid single-source bias (Zacca et al., 2015, p. 7). A total of 176 questionnaires were returned, of which 26 had to be rejected because of a very high share (above 20%) of missing values. The remaining 150 questionnaires used for the analysis represent an effective response rate of 63.02%.

We analyzed our proposed research model via structural equation analysis using the partial least squares (PLS) technique with SmartPLS v.3.2 software (Ringle et al., 2015). Structural equation modeling (SEM) is an extensively used technique in the recent academic literature (López-Pérez et al., 2017) and is considered appropriate for the early stages of theory development, where the interest of the research lies in testing various and complex relations among latent variables simultaneously using a small sample size (Reinartz et al., 2009). We opted for PLS for two reasons. First, our research setting is explorative with a relatively complex model, because the impact of MSEW dimensions on FC and the mediating impact between these dimensions and SPP in the specific context of family businesses were tested for the first time in our study. Second, PLS is an appropriate technique when the sample size is small (Hair et al., 2010). Thus, PLS is an especially good fit with our study, as it ensures the quality and reliability of results for a sample of 150 family businesses, which can be considered comparatively small.

For SEM a two-step analysis is generally recommended in order to carry out PLS statistical analysis properly (Reinartz et al., 2009). First, the measurement models (the outer models) are validated. In a second step, the structural model (the inner model) is tested by applying the resampling procedures (i.e., bootstrapping) to 5000 resamples (Hair et al., 2012).

Following this recommendation, we first assessed the quality of the outer models with a view to analyzing internal consistency. This process includes three stages (Roldán and Sánchez-Franco, 2012). The first stage involves checking the reliability of the individual indicators – using their cross-loadings (λ) – to determine the extent to which each construct indicator is significantly correlated with its respective latent variable. The rule of thumb on internal item reliability is to accept items with loadings of 0.70 or greater (Nunnally, 1978; see Appendix). Two indicators – IFM6 for IFM, and RFB4 for RFB dimensions of MSEW constructs – were deleted from the original model because of their low outer loadings. All the outer loadings in the six reflective measurement models are at least 0.70 and are statistically significant ($p < 0.001$).

In the second stage, composite reliability (CR) is assessed by analyzing Cronbach's alphas – indicating whether the variable set is consistent in what it intended to measure. All multidimensional constructs and dimensions meet the requisite construct reliability, since their CRs are greater than the usual 0.70 benchmark. Specifically, the CR scores range from 0.82 for EAFM to 0.89 for IFM. Therefore, we conclude that the measurement items are robust in terms of their internal consistency and reliability, as indexed by the CR. Convergent validity was assessed using average variance extracted (AVE) for all latent constructs that include reflective indicators and factor loading criteria (Fornell and Larcker, 1981). Factor loading should be greater than 0.70 and AVE larger than the square of its largest correlation with any construct. All reflective measurement constructs used in this study fulfill these requirements. Factor loading of most items ranges from 0.71 to 0.93, confirming convergent validity. The third stage, discriminant validity analysis, determines whether each construct in the model is significantly different from the others. By comparing the AVE values with the square correlation between variables (Barclay et al., 1995),

we confirmed the existence of discriminant validity between the constructs, since the AVE values are higher than the squared estimated correlations. Following Henseler et al.'s (2015) suggestion, the heterotrait–monotrait (HTMT) ratios are all lower than 0.85 and the upper confidence bounds (97.5%) are less than 1 (Table 1). These HTMT results indicate satisfactory discriminant validity within the data. Taken together, these results lend sufficient assurance that the reflective measurement model fits the data well.

INSERT TABLE 1 HERE

Findings

After checking the outer models' quality, analysis of the inner models focuses on testing the causal paths between the constructs comprising the theoretical model. A bootstrapping procedure with 5000 subsamples is performed to assess the significance of the path coefficients. This structural model is assessed observing the R^2 values of the dependent variables with values exceeding the minimum thresholds. The results of this study are presented in three models, depicted in three figures. Model 1, depicted in Figure 2, describes the significant total effects of SEW dimensions on SPP considering the effect of controls (Age, Size, VLC, GEN, NFM, IT, and PP). As seen in Figure 2, identification of family members with the firm has a significant and positive total effect on sustainable products and processes ($c_1 = 0.34^{**}$), and there is no significant total effect of the other dimensions ($c_2 = 0.22^{ns}$, $c_3 = 0.17^{ns}$, $c_4 = 0.13^{ns}$, for binding social ties, emotional attachment and renewal family bonds through dynastic succession respectively) on sustainable products and processes.

INSERT FIGURE 2 HERE

Model 2, depicted in Figure 3, shows the fully mediated model without the direct relationships between SEW dimensions and sustainable products and processes. As seen in Figure 3, identification of family members with the firm and binding social ties have significant positive effects on FC ($a_1 = 0.32^{***}$ for IFM; $a_2 = 0.28^*$ for BST). However, the other MSEW dimensions do not have significant effects on FC ($a_3 = 0.13^{ns}$ for EAFM; $a_4 = -0.09^{ns}$ for RFB). Thus, H1a and H1b are supported, but H1c and H1d are not supported. With respect to the firm capabilities-sustainable products and processes relationship, firm capabilities have significant positive effect on performance ($b = 0.39^{***}$), supporting H2.

INSERT FIGURE 3 HERE

Model 3, depicted in Figure 4, shows how the direct effects of MSEW dimensions on sustainable products and processes decrease when including firm capabilities. Like the results in Model 1, the results in Model 3 show a significant direct effect of IFM on SPP ($c'_1 = 0.27^{**}$), but no significant direct effects of the other SEW dimensions ($c'_2 = 0.12^{ns}$, $c'_3 = 0.05^{ns}$, $c'_3 = 0.16^{ns}$, for BST, EAFM and RFB, respectively) on sustainable products and processes. These results provide further support for H1a and H1b. Therefore, the regression coefficients a_1 and a_2 for the direct effects of identification family members with the firm and binding social ties on firm capabilities, respectively, and b for the direct effect of firm capabilities on sustainable products and processes suggest the potential indirect effects of identification of family members with the firm and binding social ties on sustainable products and processes via firm capabilities as a mediator.

INSERT FIGURE 4 HERE

In order to determine the potential mediating effect of firm capabilities among identification family members with the firm, binding social ties, and sustainable products and processes, the significance of $a \times b_1$ is tested (Hayes, 2009). In doing so, the values for these indirect effects are obtained from SmartPLS. The results (see Table 2) show a significant indirect effect of both identification family members with the firm ($a_1 \times b_1 = 0.13^{***}$) and binding social ties ($a_2 \times b_1 = 0.10^{**}$) on sustainable products and processes via firm capabilities. Consequently, these results assume partial mediation of firm capabilities in the relationships between identification family members with the firm and sustainable products and processes, and full mediation of firm capabilities in the relationship between binding social ties and sustainable products and processes, because the direct effect of identification family members with the firm on sustainable products and processes is significant ($c'_1 = 0.27^{**}$) but the direct effect of binding social ties on sustainable products and processes is not significant ($c'_2 = 0.12^{ns}$). Thus, H3a and H3b are supported, but H3c and H3d are not supported.

Regarding control variables, the results (Table 2) show that none of the control variables has a significant impact on SPP ($\beta = 0.11, p > 0.01$; $\beta = 0.09, p > 0.01$; $\beta = 0.08, p > 0.01$; $\beta = 0.05, p > 0.01$; $\beta = 0.11, p > 0.01$; $\beta = 0.07, p > 0.01$; $\beta = 0.04, p > 0.01$, for Age, Size, GEN, VLC, NFM, IT and PP, respectively).

INSERT TABLE 2 HERE

We use multigroup SEM, as suggested by Steenkamp and Baumgartner (1998), to examine the moderation effect of market turbulence on the relationship between firm capabilities and sustainable products and processes (H4). First, a median split is taken of market turbulence, resulting in two turbulent conditions, high ($n = 67$) vs. low ($n = 83$). The proposed model is then

estimated for high and low market turbulent conditions. Results indicate that firm capabilities have significant effect on sustainable products and processes under both market turbulent conditions ($\beta = 0.26, p < 0.01$ for low market turbulent conditions; $\beta = 0.28, p < 0.01$ for high market turbulent conditions). To determine whether this difference is significant, however, a second analysis based on the t-test proposed by authors such as Chin and Frye (2003) is performed. Results for this test indicate that market turbulence does not moderate the relationship between FC and SPP ($t = 0.13^{ns}$). Thus, H4 is not supported.

Discussion

Our paper contributes to the discussion pertaining to the MSEW endowment, capabilities, and environmental strategy through sustainable products and processes in family businesses. By integrating mindfulness theory into the research on SEW and its environmental consequences, the study pushes back the frontier of knowledge in the field of business strategy and the environment. First, our study offers evidence that mindfulness in protecting SEW, specifically in the identification of family members with the firm and binding social ties, provides a rich endowment that develops appropriate capabilities to produce sustainable products and processes. We enrich the literatures on organizational mindfulness, SEW in family firms, and their sustainable practices (e.g., Good et al., 2014; Duloca et al., 2017; Berrone et al., 2010; Block and Wagner 2014). Our findings illustrate the importance of capabilities when integrating MSEW and sustainable products and processes. The results from the mediating analysis extend solid support to resource-based scholars by highlighting the role of capabilities in family businesses, particularly related to sustainable practices (Duran et al., 2016; Aragón-Correa and Sharma, 2003; Sirmon et al., 2007; Ray et al., 2004; Surroca et al., 2010). The mediation analysis discloses new insights in the debate

over whether family firms are more environmentally active and socially responsible. Prior research (e.g., Berrone et al., 2010; Calza et al., 2016; Duloca et al., 2017 Uhlaner et al., 2012) has only examined the relationship by linking ownership forms with environmental and corporate social responsibility performance. Our findings show that a mediator such as firm's capabilities could bring inconsistencies to their results.

Second, this is a novel study that linked mindfulness theory with the SEW perspective in the family business. While Berrone et al. (2010) recognized the multidimensional nature of SEW and its role in family firms' environmental performance, they did not empirically examine its impact (or the individual impacts of its sub dimensions) on firm's environmental performance. The empirical analysis on four dimensions that we dubbed MSEW unveils that SEW is a multidimensional construct that contributes differentially to the development of a firm's capabilities, which in turn influence the development of sustainable products and processes. Though Le Breton-Miller & Miller (2016) propose that SEW may work against sustainable practices, our results reveal a contradicting view. As discussed earlier, the dimensions of family members' identification with the firm and binding social ties are found to influence capabilities, which lead to sustainable practices in family firms. With our analysis, we address calls to provide more empirical support for the dimensions of SEW. Our findings show that the dimensions of SEW should not be treated collectively in order to more accurately predict family firm behavior (Chua et al., 2015).

A mindful consideration of family firms' organizational identities and the family-to-firm identity fit (Deephouse and Jaskiewicz, 2013; Zellweger et al., 2014) develops capabilities that can produce sustainable products and processes. The intertwining of family and business is likely to have a key impact on a firm's internal processes and product offerings (Teal et al., 2003). Family

firms are concerned with their public image in order to protect long-term business profits and family wealth (Zellweger et al., 2012). Hence, they will ensure efficient management of resources and capabilities to produce sustainable products and processes, which in turn demonstrate their participation in environmental issues. The findings extend prior research where family firms are found to pollute less and have a higher level of product-related corporate social responsibility (Berrone et al., 2010; Block and Wagner, 2014), by highlighting the importance of close identification of the family with the firm. Such close identification could encourage more sustainability and environmental behavior in family firms.

Social ties that are mindfully developed offer adequate resources such as advice and information, external talents, and community support network, which are vital to developing rare and difficult-to-imitate capabilities. The climate of trust and confidence between the customer and the firm is fundamental to ensuring business longevity (Fombrun, 1996). A family firm's social relationships offer collective benefits extended to a wide set of communities; this also results in putting the family firm's reputation and image in the front line. As such, family firms are expected to pursue the benefit of those who surround them, which includes having a proactive environmental strategy such as producing sustainable products and processes. Prior studies have suggested that social capital theory is most appropriate for the study of corporate social responsibility (e.g., Sen and Cowley, 2013; Perrini, 2006). Our study provides empirical support by showing that strong social ties that foster cooperation and trust help to develop the firm's capabilities, which are critical for sustainable products and processes. We extend the applicability of social capital theory in a more specific compendium of CSR and in the family business context. The discovery of novelty in these MSEW dimensions offers new insights on environmental strategy in the family business, by incorporating the mediating function of capabilities, hence enriching the current literature on

the role of MSEW as an antecedent (Berrone et al., 2012; Fitz-Koch and Nordqvist, 2017; Gast et al., 2018) in family business theory.

Our study also attempts to examine market turbulence as a moderator in the relationship between capabilities and sustainable products and processes, but the result is not significant. Still, we can infer that irrespective of how turbulent (or not) the market is, the firm's capabilities are a key determinant of sustainable products and processes. Though market pressure, especially from customers, appears to be a driving force in sustainable development, as evidenced in prior studies, this study shows that internal capabilities are more important when compared to external market forces. Our results contradict the proposal of González-Benito and González-Benito (2006), who suggest that stakeholder pressure is the core determining factor for environmental proactivity. The reason could be that our study focuses on one particular stakeholder: customers; thus, it generates a different outcome. In the current context, firms operating in turbulent or nonturbulent market conditions require relevant capabilities to develop sustainable products and processes successfully.

Family businesses account for more than 90% of commercial activities in the Gulf region (Rettab and Azzam, 2011). There are huge differences among family businesses across cultures, religions, and legal systems (Randerson et al., 2016). Currently, there are limited studies that examine the field of business strategy and the environment in this region. We used a sample of 150 family businesses in the United Arab Emirates to investigate the role of MSEW in firm's capabilities and sustainable products and processes. This study offers a greater understanding of family firms' sustainable strategy in the Arab region, fulfilling the call of Nordqvist and Melin (2010) by broadening the geographical and cultural base.

This study also offers two important managerial implications. First, family firms that aim to adopt a proactive environmental strategy should utilize the endowment from two of the MSEW

dimensions. Family members' identification with the firm, which creates a unique firm identity, has to be encouraged. Strong cohesion and commitment to the firm from family members generate distinctive capabilities that will ensure successful implementation of a business strategy such as sustainable products and processes. From a practical standpoint, mindfulness-driven social ties with internal and external stakeholders enable family firms to improve their functional knowledge and expertise, to implement strategies that consider the environment as well as the business and family interest. In addition, they enhance business stability and build a trustful relationship with a wide set of constituencies. This will ensure long-term implementation of sustainable business practices. Second, the moderation and mediation analysis shows that family firms that are keen on developing sustainable products and processes should hone the relevant capabilities. They should constantly pursue distinctive capabilities generated from the MSEW endowment, irrespective of whether they are currently facing turbulence in their chosen market or not.

Conclusions

This study analyses from a mindfulness point of view the impact of SEW endowment on sustainable strategy in the family business context, as well as to empirically test the mediating role of firm's capabilities in the relationship. In addition, the moderating effect of market turbulence on firm's capabilities and sustainable practices is also examined. The empirical findings are particularly relevant for both the scholarly literature and business practice. The relationship linking capabilities and sustainable products and processes is confirmed in the family business context, while two of the MSEW dimensions provide significant endowment for the development of firm's capabilities.

Despite its substantial contributions, this study is not without its limitations. Though the sample size is acceptable for statistical analysis, the results may not be representative enough to explain the family firm's sustainable practices. The limited sample size could not provide much explanation that distinguishes family businesses based on certain characteristics such as single- and multigenerational family firms, or the extent and mode of family involvement in ownership and management (e.g., Nordqvist et al., 2014). The heterogeneity of family firms has important implications in prioritizing financial and/or nonfinancial dimensions such as sustainable practices (Sharma & Nordqvist, 2008). Future endeavor to obtain data from family businesses to a larger extent that is based on several key characteristics of family firms would provide better comparisons and generalize the conclusions.

Second, the number of Arab family businesses participating in this study is also considered small in scale compared to other regional studies of family businesses (Goel et al., 2013). It is, however, important to note that data collection in this region is rather restricted due to its conservative business environment compared to Western countries. Many Arab business owners are quite reserved and reluctant to share their views and family business information. Future research may extend to non-Arab family businesses operating in this region. A similar business environment, but different family values and backgrounds, may offer different sustainable behaviors.

The limitation in using quantitative research is that respondents have limited options for responses and it is perceptions based. Our research focuses on how MSEW dimensions influence firm's capabilities and then sustainable products and processes. The assumptions and constructs examined are predetermined. As such, future research using a qualitative method is necessary to provide in-depth understanding of the motivations behind the sustainable behavior of family firms.

Some future research questions such as how family firms develop the MSEW dimensions, and what specific capabilities are needed to offer sustainable products and processes, would be useful to clarify the important processes of sustainable behavior in family firms.

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APPENDIX. Questionnaire items and reliability and validity test for the complete data					
Constructs	Indicators	Outer	α	CR	AVE
		Loadings			
Sustainable products and process (SPP) (adapted from Robinson and Pearce, 1988)	SPP1. Process-oriented R&D	0.85	0.84	0.89	0.65
	SPP2. Efficiency in manufacturing process	0.83			
	SPP3. Innovation in manufacturing process	0.79			
	SPP4. Develop and refine established products	0.78			
	SPP5. Strict quality control	0.77			
Identification of family members (IFM) (adapted from Berrone et.al.,2012)	IFM1. Family members have a strong sense of belongings to my family business.	0.81	0.85	0.89	0.62
	IFM2. Family members feel that the family business's success is their own success.	0.86			
	IFM3. My family business has a great deal of personal meaning for family members.	0.81			
	IFM4. Being a member of the family business helps define who we are.	0.71			
	IFM5. Family members are proud to tell others that we are part of the family business	0.74			
	IFM6. Customers often associate the family name with the family business's products and services.	0.52			
Binding social ties (BST) (adapted from Berrone et.al.,2012)	BST1. My family business is very active in promoting social activities at the community level.	0.79	0.77	0.85	0.62
	BST2. In my family business, nonfamily employees are treated as part of the family.	0.77			
	BST3. In my family business, contractual relationships are mainly based on trust and norms of reciprocity.	0.76			
	BST4. Building strong relationships with other institutions (i.e. other companies, professional associations, government agents,	0.78			
	BST5. Contracts with suppliers are based on enduring long-term relationships in my family business.	0.82			
Emotional attachment of family members (EAFM) (adapted from Berrone et.al.,2012)	EAFM1. Emotions and sentiments often affect decision-making processes in my family business.	0.79	0.75	0.82	0.58
	EAFM2. Protecting the welfare of family members is critical to us, apart from personal contributions to the business.	0.74			
	EAFM3. In my family business, the emotional bonds between family members are very strong.	0.78			
	EAFM4. In my family business, affective considerations are often as important as economic considerations.	0.73			
	EAFM5. Strong emotional ties among family members help us maintain a positive self-concept.	0.74			
	EAFM6. In my family business, family members feel warmth for each other.	0.77			
Renewal of family bonds (RFB) (adapted from Berrone et.al.,2012)	RFB1. Continuing the family legacy and traditional is an important goal for my family business.	0.78	0.72	0.82	0.66
	RFB2. Family owners are less likely to evaluate their investment on a short-term basis.	0.81			
	RFB3. Family members would be unlikely to consider selling the family business.	0.84			
	RFB4. Successful business transfer to the next generation is an important goal for family members.	0.66			
Firm capabilities (FC) (adapted from Carmeli and Tishler, 2004)	FC1. The firm attracts and retains highly qualified and competent managers.	0.83	0.82	0.87	0.80
	FC2. The firm develops and communicates the organization's purpose in a clear way to which all members can relate.	0.87			
	FC3. The firm develops a system of strategic plans throughout the organization that is effective for the organization's general development.	0.88			
	FC4. The firm develops training programs for the organization's members.	0.92			
	FC5. The firm introduces control mechanism.	0.93			
	FC6. The firm has effective operational planning.	0.91			
	FC7. The firm introduces new technologies to improve efficiency.	0.92			
Market turbulence (MT) (adapted from Jaworski and Kohli, 1993)	MT1: In our kind of business, customers' product preferences change quite a bit over time.	0.87	0.84	0.89	0.73
	MT2: Our customers tend to look for new products and services all the time.	0.88			
	MT3: New customer tends to have product-related needs that are different from those of our existing customers.	0.81			
	MT4: We witnessed the demand for our products and services from customers who never bought them before.	0.85			

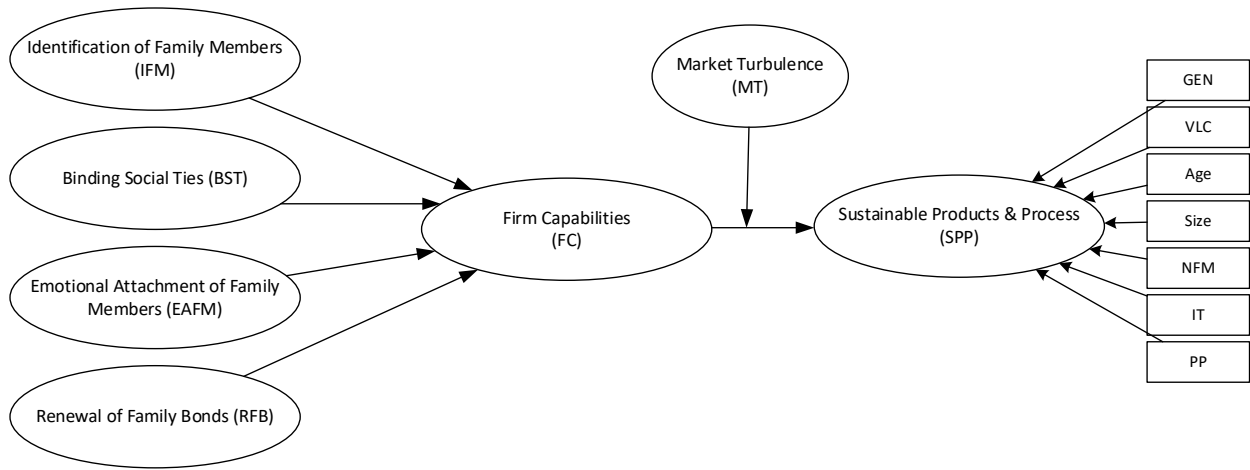


Figure 1: Proposed research model

Note = GEN: Generation; VLC: Venture life cycle; NFM: Number of family members currently working in the firm; IT: Industry type; PP: Primary product.

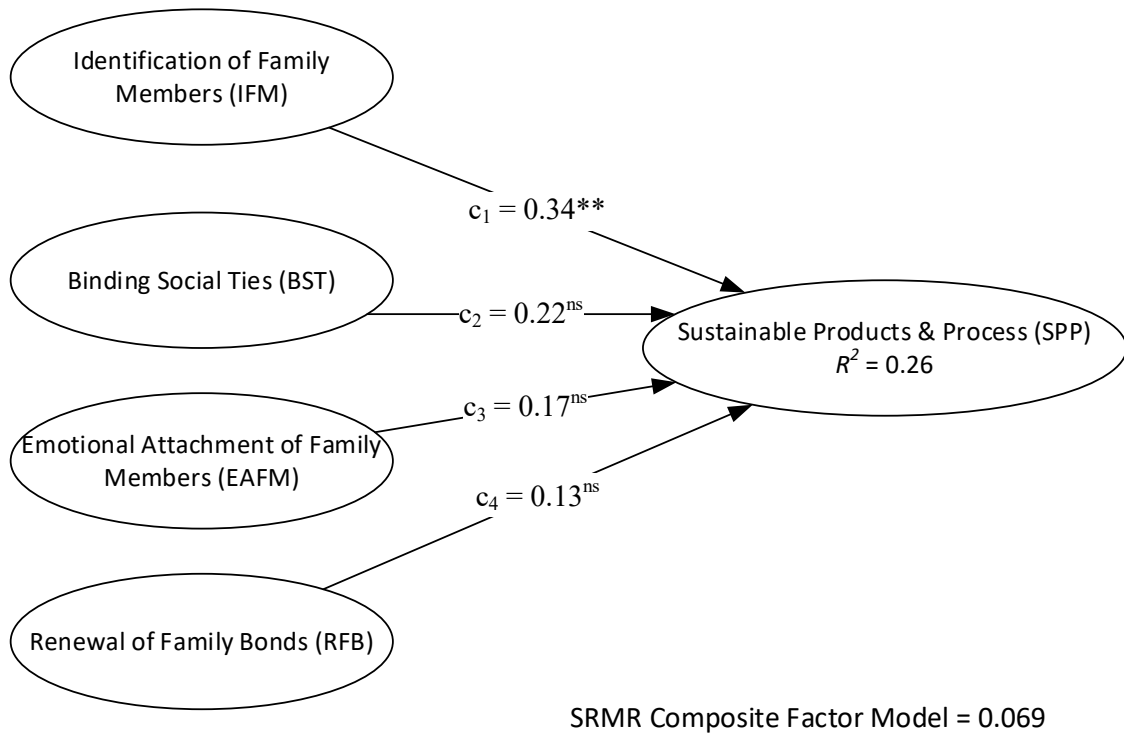


Figure 2. Results of model with total effects illustrating the relationships between FIBER dimensions and performance (Model 1). The values in the figure represent standardized coefficients. Paths between indicators and latent variables, and control variables are excluded for clarity.

* $p < .05$. ** $p < .01$.

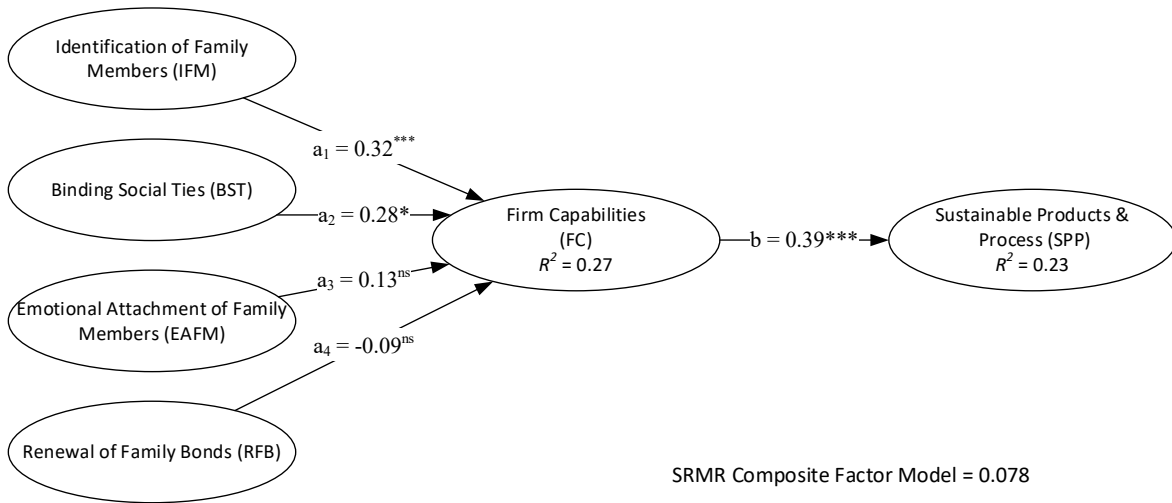


Figure 3. Results of fully mediated model (Model 2). The values in the figure represent standardized coefficients. Paths between indicators and latent variables, and control variables are excluded for clarity. * $p < .05$. ** $p < .01$.

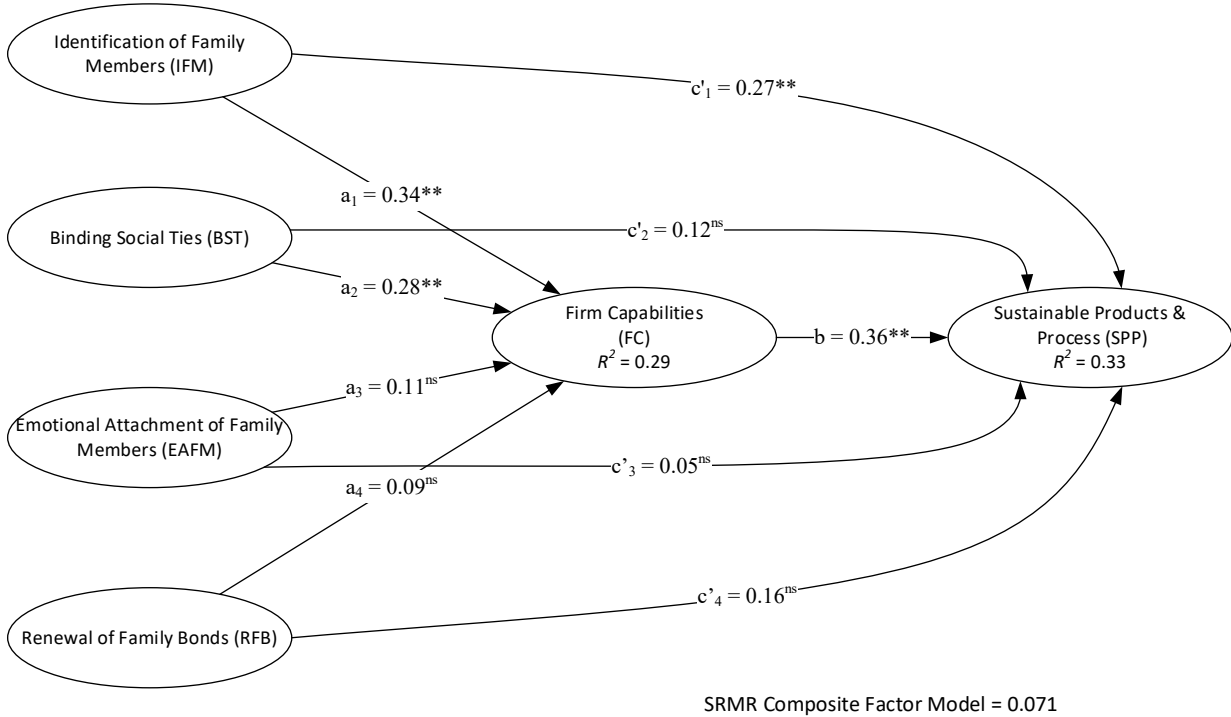


Figure 4. Results of partially mediated model (Model 3). The values in the figure represent standardized coefficients. Paths between indicators and latent variables, and control variables are excluded for clarity. * $p < .05$. ** $p < .01$.

Table 1: Measurement model. Discriminant validity.

	Fornell-Larcker Criterion													Heterotrait-monotrait ratio (HTMT)																
	Age	GEN	Size	VLC	NFM	IT	PP	SPP	IFM	BST	EAFM	RFB	FC	MT	Age	GEN	Size	VLC	NFM	IT	PP	SPP	IFM	BST	EAFM	RFB	FC	MT		
Age	n.a.														0.04															
GEN	-0.04	n.a.													0.32	0.05														
Size	0.32	-0.05	n.a.												0.06	0.05	0.13													
VLC	0.06	0.05	-0.13	n.a.											0.11	0.12	0.14	0.17												
NFM	0.04	0.09	0.03	0.08	n.a.										0.21	0.13	0.22	0.19	0.09											
IT	0.11	0.04	0.07	0.12	0.09	n.a.									0.28	0.22	0.18	0.13	0.16	0.21										
PP	0.05	0.07	0.13	0.14	0.09	0.08	n.a.								0.22	0.08	0.16	0.09	0.18	0.19	0.34									
SPP	-0.13	0.02	-0.09	0.13	0.14	0.12	0.17	0.81							0.21	0.09	0.28	0.11	0.22	0.21	0.55	0.48								
IFM	-0.21	-0.02	-0.26	0.10	0.11	0.08	0.17	0.43**	0.78						0.19	0.06	0.25	0.12	0.17	0.23	0.25	0.41	0.80							
BST	-0.17	0.03	-0.23	0.07	0.02	0.02	0.02	0.17	0.55**	0.78					0.25	0.08	0.16	0.17	0.18	0.27	0.29	0.48	0.45	0.53						
EAFM	-0.22	-0.05	-0.10	-0.18	0.09	0.12	0.09	0.11	0.37*	0.39*	0.76				0.17	0.11	0.14	0.07	0.23	0.34	0.33	0.65	0.65	0.70	0.63					
RFB	-0.15	-0.05	-0.14	0.06	0.13	0.15	0.12	0.09	0.49**	0.50**	0.45**	0.81			0.05	0.19	0.16	0.17	0.32	0.33	0.47	0.29	0.44	0.60	0.39	0.36				
FC	-0.07	-0.10	-0.13	0.01	0.09	0.01	0.05	0.47**	0.47**	0.41**	0.17	0.19	0.89		0.08	0.15	0.30	0.19	0.22	0.39	0.38	0.47	0.48	0.58	0.37	0.51	0.54			
MT	0.03	0.08	-0.27	0.10	0.01	0.07	0.06	0.25	0.19	0.24	0.23	0.28	0.27	0.85																

Notes = GEN: Generation; VLC: Venture life cycle; NFM: Number of family members currently working in the firm; IT: Industry type; PP: Primary product; SPP: Sustainable products and process; IFM: Identification of family members; BST: Binding social ties; EAFM: Emotional attachment of family members; RFB: Renewal of family members bonds; FC: Firm capabilities; MT: Market turbulence.
 * p < 0.05
 ** p < 0.01

Table 2. Summary of mediating effect tests

	Total effects on SPP (Model 1)				Direct Effects on SPP (Model 3)				Indirect Effects on SPP (Model 3)							
	Path	t	BCCI		Path	t	BCCI		Path	t	BCCI					
			Lower	Upper			Lower	Upper			Lower	Upper	Sig	VAF		
IFM (c)	0.34**	3.44	-0.45	0.08	IFM (c')	0.27**	2.28	-0.42	-0.09	H3a: IFM: a ₂ b ₁ (via FC)	0.13***	2.67	0.03	0.25	Yes	87.19%
BST (c)	0.22*	2.09	0.14	0.36	BST (c')	0.12 ^{ns}	1.22	-0.09	0.39	H3b: BST: a ₃ b ₁ (via FC)	0.10**	1.99	-0.02	0.19	Yes	84.55%
EAFM (c)	0.17 ^{ns}	0.89	-0.18	0.27	EAFM (c')	0.05 ^{ns}	0.35	-0.22	0.13	H3c: EAFM: a ₄ b ₁ (via FC)	0.08 ^{ns}	1.22	-0.01	0.13	No	16.23%
RFB (c)	0.13 ^{ns}	0.71	-0.18	0.42	RFB (c')	0.16 ^{ns}	1.33	-0.02	0.45	H3d: RFB: a ₅ b ₁ (via FC)	-0.05 ^{ns}	0.65	-0.12	0.06	No	8.33%
<i>Control variables</i>																
GEN	0.08 ^{ns}	0.93	-0.03	0.29	GEN	0.10 ^{ns}	1.32	-0.05	0.26							
VLC	0.05 ^{ns}	0.54	-0.13	0.27	VLC	0.06 ^{ns}	0.56	-0.14	0.2							
Age	0.11 ^{ns}	1.09	-0.03	0.41	Age	0.15 ^{ns}	1.32	0.03	0.35							
Size	0.09 ^{ns}	0.88	-0.33	0.37	Size	-0.14 ^{ns}	1.10	-0.53	0.23							
NFM	0.11 ^{ns}	1.03	-0.23	0.37	NFM	0.08 ^{ns}	1.26	-0.13	0.19							
IT	0.07 ^{ns}	0.92	-0.25	0.31	IT	0.09 ^{ns}	1.27	-0.17	0.23							
PP	0.04 ^{ns}	0.42	0.12	0.28	PP	0.15 ^{ns}	1.67	-0.15	0.49							

Notes = GEN: Generation; VLC: Venture life cycle; NFM: Number of family members currently working in the firm; IT: Industry type; PP: Primary product; SPP: Sustainable products and process; IFM: Identification of family members; BST: Binding social ties; EAFM: Emotional attachment of family members; RFB: Renewal of family members bonds; FC: Firm capabilities.
 ns = not significant based on t (4999), two-tailed test; * p < 0.05 = significant based on t (1.645, 4999), two-tailed test; ** p < 0.01 = significant based on t (1.96, 4999), two-tailed test; *** p < 0.001 = significant based on t (2.57, 4999), two-tailed test.